



Scotchflex Product Specifications

Electronic Products Division/3M
3M Center, St. Paul, Minnesota 55101

SECTION I - SCOTCHFLEX FLAT CABLE

<u>PRODUCT REFERENCE</u>	<u>SPECIFICATION DRAWING NUMBER</u>	<u>REVISION NUMBER</u>
<u>ROUND CONDUCTOR FLAT CABLE</u>		
3365-28 AWG Stranded	1000	6
3365-28 AWG Stranded Double Hump	1000A	3
3405-24 AWG Stranded	1001	7
3350-30 AWG Solid	1003	8
3451-24 AWG Stranded	1011	8
3401-28 AWG Stranded	1013	5
3306-26 AWG Solid	1022	3
3349-26 AWG Solid	1023	3
3348-26 AWG Solid	1026	2
3507-28 AWG Stranded	1032	1
<u>ROUND CONDUCTOR FLAT CABLE WITH GROUND PLANE</u>		
3380-30 AWG Solid	1002	5
3469-28 AWG Stranded	1016	5
3476-28 AWG Stranded With Drain Wire	1017	4
3353-28 AWG Stranded With Double Drain Wire	1024	3
<u>ROUND CONDUCTOR COLOR CODED FLAT CABLE</u>		
3302-28 AWG Stranded	1025	4
3389-28 AWG Stranded	1028	3
3301-28 AWG Stranded	1030	2
3384-26 AWG Solid	1031	3
<u>ROUND CONDUCTOR JACKETED CABLE</u>		
3517-28 AWG Stranded With Ground Plane	1035	3
3603-28 AWG Stranded	1037	2

Issue 7

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Flat Cable

PRODUCT REFERENCE

SECTION II - SCOTCHFLEX CONNECTORS

SOCKET CONNECTORS

SPECIFICATION DRAWING NUMBER

REVISION NUMBER

3441	2004		3
.150" X .150" (3.81 mm X 3.81mm) Post Pattern	2004A		2
3450 (Body)	2017		4
3450 (Cover)	2017A		5
.125" X .250" (3.18 mm X 6.35 mm) Post Pattern	2017B		4
3471	2019		4
.100" X .200" (2.54 mm X 5.08 mm) Post Pattern	2019A		3
3407	2020		4
.100" X .300" (2.54 mm X 7.62 mm) Post Pattern	2020A		3
3327	2040		2
.100" X .300" (2.54 mm X 7.62 mm) Post Pattern	2040A		2
3332 Body	2041		2
3332 Cover	2041A		1
.100" X .200" (2.54 mm X 5.08mm) Post Pattern	2041B		2
3307	2042		1
.100" X .200" (2.54 mm X 5.08 mm) Post Pattern	2042A		1
3473, 3385, 3452, 3421, 3399, 3414, 3417, 3425, 3334	2051	Issue 7	3
3473, 2385, 3452, 3421, 3399, 3414, 3417, 3425, 3334 (Cover)	2051A	Index	3
.100" X .100" (2.54 mm X 2.54 mm) Post Pat	2051B	Connectors	1

SECTION II - SCOTCHFLEX CONNECTORS (Continued)

<u>PRODUCT REFERENCE</u>	<u>SPECIFICATION DRAWING NUMBER</u>	<u>REVISION NUMBER</u>
3424	2054	1
3525-0000	2057	1
.125" X .125" (3.18 MM X 3.18 mm) Post Pattern	2057A	-
3525-1000	2058	1
.125" X .125" (3.18 mm X 3.18 mm) Post Pattern	2058A	1
<u>PRINTED CIRCUIT BOARD (PCB) CONNECTORS</u>		
3418, 3422	2002	5
Hole Pattern (3418)	2002A	3
Hole Pattern (3422)	2002B	3
3426, 3434	2003	6
Hole Pattern (3426)	2003A	4
Hole Pattern (3434)	2003B	3
3474	2011	5
Hole Pattern (3474)	2011A	3
3378	2018	5
Hole Pattern (3378)	2018A	3
3468	2036	2
Hole Pattern (3468)	2036A	1
3470	2037	2
Hole Pattern (3470)	2037A	1

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SECTION II - SCOTCHFLEX CONNECTORS (Continued)

<u>PRODUCT REFERENCE</u>	<u>SPECIFICATION DRAWING NUMBER</u>	<u>REVISION NUMBER</u>
3402	2038	5
Hole Pattern (3402)	2038A	3
<u>DUAL IN-LINE PACKAGE (DIP) CONNECTORS</u>		
3406, 3416	2000	5
3460	2016	5
3498	2049	1
Hole Pattern (3498)	2049A	1
3508	2050	1
<u>EDGE CARD CONNECTORS</u>		
3415	2010	8
Card-Edge Pattern	2010A	4
3461-3462-3463-3464	2012	5
3533-0000	2056	2
<u>HEADERS</u>		
3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372		
Straight Wrap Post	2005	9
W/Non-Strain Relief Ejector	2005A	9
W/Strain-Relief Ejector	2005B	9
W/Ejector Only	2005C	1

SECTION II - SCOTCHFLEX CONNECTORS (Continued)

<u>PRODUCT REFERENCE</u>	<u>SPECIFICATION DRAWING NUMBER</u>	<u>REVISION NUMBER</u>
3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372		
Right Angle Wrap Post	2006	8
W/Non-Strain Relief Ejector	2006A	8
W/Strain Relief Ejector	2006B	8
W/Ejector Only	2006C	1
3346, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372		
Straight PCB Post	2007	8
W/Non-Strain Relief Ejector	2007A	8
W/Strain Relief Ejector	2007B	8
W/Ejector Only	2007C	1
3346, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372		
Right Angle PCB Post	2008	8
W/Non-Strain Relief Ejector	2008A	8
W/Strain Relief Ejector	2008B	8
W/Ejector Only	2008C	1
3491, 3492, 3493, 3494, 3495, 3496 Straight Wrap Post	2022	2
3491, 3492, 3493, 3494, 3495, 3496 Right Angle Wrap Post	2023	2
3491, 3492, 3493, 3494, 3495, 3496 Straight PCB Post	2024	2
3491, 3492, 3493, 3494, 3495, 3496 Right Angle PCB Post	2025	2
3466 Straight Wrap Post	2028	2
3466 Straight PCB Post	2030	3
3466 Right Angle PCB Post	2031	3
3467 Straight Wrap Post	2032	2
3467 Straight PCB Post	2034	3
3467 Right Angle PCB Post	2035	3

SECTION II - SCOTCHFLEX CONNECTORS (Continued)

<u>PRODUCT REFERENCE</u>	<u>SPECIFICATION DRAWING NUMBER</u>	<u>REVISION NUMBER</u>
<u>COMPONENT CONNECTOR</u>		
<u>RACK AND PANEL</u>		
3483-1000 & 3503-1000	2026	4
3483-1000, 3482-1000 & 3502-1000	2027	4
3488-1001	2046	1
3488-1002	2047	1
3489	2048	1
3564-1001	2061	1
3564-1002	2062	1
3565-1000	2063	1
<u>PLUG CONNECTOR</u>		
3324-3325-3326-3328-3329-3331	2055	2
<u>BREADBOARD CONNECTOR</u>		
3355	2043	1
Hole Pattern (3355)	2043A	1
3370	2052	1
3397-0800	2053	1
Hole Pattern (3397-0800)	2053A	1
3397-1800	2059	2
Hole Pattern (3397-1800)	2059A	2

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Connectors

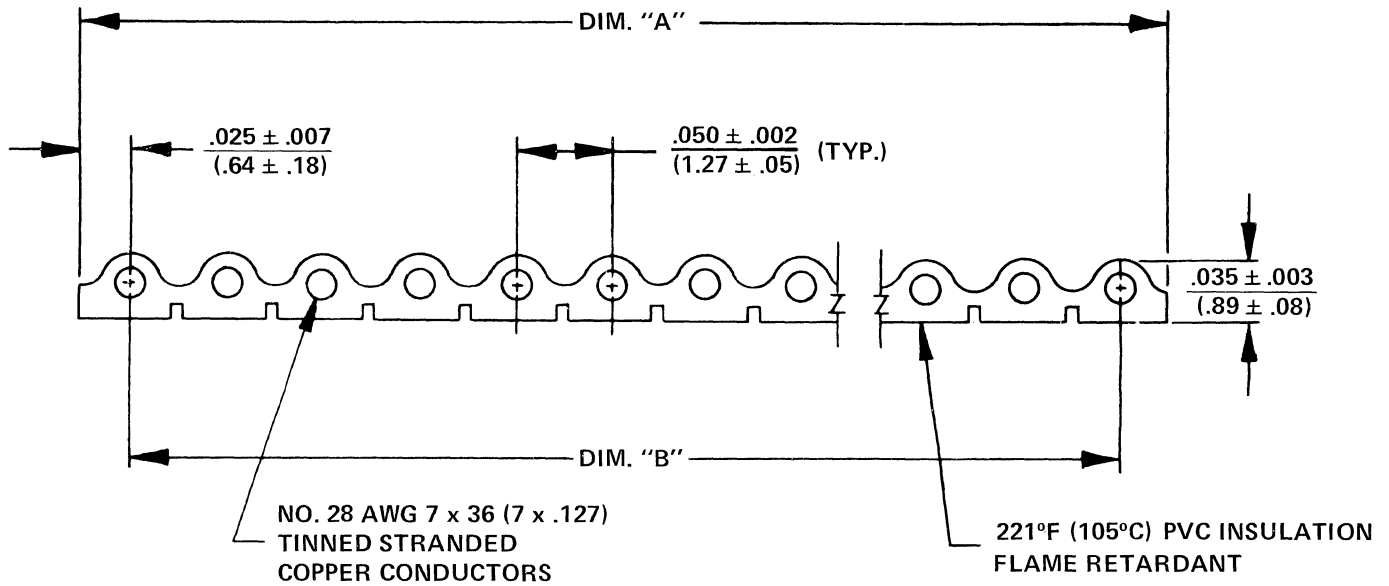
SECTION III - SCOTCHFLEX ACCESSORIES

<u>PRODUCT REFERENCE</u>	<u>SPECIFICATION DRAWING NUMBER</u>		<u>REVISION NUMBER</u>
3448-1 Strain Relief (3441)	3000		3
3448-2 Strain Relief (3450)	3001		3
3448-3 Strain Relief (3407)	3002		3
3448-5 Strain Relief (3471)	3004		3
3448-6 Strain Relief (3482-1000, 3483-1000)	3005		2
3448-7 Strain Relief (3406)	3006		3
3448-8 Strain Relief (3327, 3416, 3498)	3007		3
3485 Junction Shell (3482-1000, 3483-1000)	3008		2
3435, 3439 Polarizing Key	3009		6
3484 Cable Retainer	3010		1
3448 Strain Relief (3332)	3011		4
3352 Dielectric Spacer	3012		3
3439-1 & 3497-1 Polarizing Key	3015		3
3404 Polarizing Header	3016		2
3490 Pull Tab	3018		4
3505 Header Clip	3019	Issue 7	1
3448-18 Strain Relief	3021	Index	2
3448-15 Strain Relief	3022	Accessories	3
3412 Dust Cover (3488, 3489)	3023	Section III Page 1	1

SECTION III - SCOTCHFLEX ACCESSORIES (Continued)

<u>PRODUCT REFERENCE</u>	<u>SPECIFICATION DRAWING NUMBER</u>	<u>REVISION NUMBER</u>
3518 Header Key	3024	2
3448 Strain Relief	3025	3
3505 Retainer Clip	3026	2
3526 Keying Header	3027	1
3485 Junction Shell	3028	1
3448-22 Strain Relief	3029	1
3504 Cable Clamp	3031	1
3448-23, 24, 26, 32 Strain Relief	3032	3
3505-4 Ejector	3034	1

3M PART NO. 3365



NOTE: RED MARKING ON ONE EDGE OF CABLE.

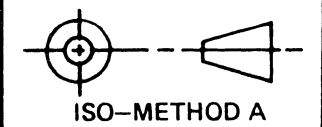
3M Part Number	DIM. "A"	DIM. "B"
3365/10	.500 ± .010 (12.70 ± .25)	.450 ± .007 (11.43 ± .18)
3365/14	.700 ± .010 (17.28 ± .25)	.650 ± .007 (16.51 ± .18)
3365/16	.800 ± .015 (20.32 ± .38)	.750 ± .011 (19.05 ± .28)
3365/20	1.000 ± .015 (25.40 ± .38)	.950 ± .011 (24.13 ± .28)
3365/24	1.200 ± .015 (30.48 ± .38)	1.150 ± .011 (29.21 ± .28)
3366/26	1.300 ± .015 (33.02 ± .38)	1.250 ± .011 (31.75 ± .28)
3365/34	1.700 ± .020 (43.18 ± .51)	1.650 ± .015 (41.91 ± .38)
3365/40	2.000 ± .020 (50.80 ± .51)	1.950 ± .015 (49.53 ± .38)
3365/50	2.500 ± .020 (63.50 ± .51)	2.450 ± .015 (62.23 ± .38)
3365/60	3.000 ± .020 (76.20 ± .51)	2.950 ± .015 (74.93 ± .38)
3365/64	3.200 ± .020 (81.28 ± .51)	3.100 ± .015 (78.74 ± .38)

USED ON

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///
DEC.	± .1	± .01	± .005

ANGULAR ± ° ' "



All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.



ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

INCH
(mm)

SCALE /

DR. *SK*

APP.

A

JAN. 12, 1976

6

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

CABLE SPECIFICATION
U.L. STYLE NO. 2651

1000

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3365 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating VW-1 (Old FR-1)

COLOR Gray

CONDUCTORS 28 AWG 7 x 36 (7 x .127) stranded

CONDUCTOR PLATING Tin

MARKING Red edge

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^{10}\Omega$ / 10 ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 150 Ω

CAPACITANCE 7.7 pF/ft (25.3 pF/m)

INDUCTANCE .29 μ H/ft (.95 μ H/m)

PROPAGATION DELAY 1.38 ns/ft (4.53 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 105 Ω

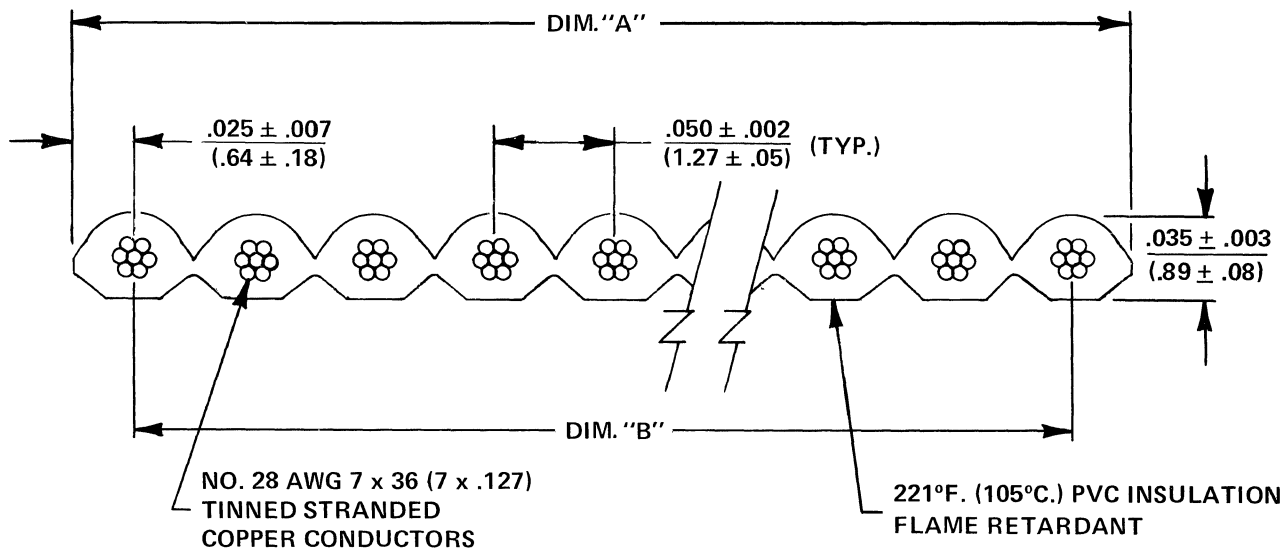
CAPACITANCE 15.0 pF/ft (49 pF/m)

INDUCTANCE .20 μ H/ft (.66 μ H/m)

PROPAGATION DELAY 1.40 ns/ft (4.59 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +221°F (-20°C to +105°C)



NOTE: RED MARKING ON ONE EDGE OF CABLE

3M Part Number	DIM. "A"	DIM. "B"
3365/10	.500 ± .010 (12.70 ± .25)	.450 ± .007 (11.43 ± .18)
3365/14	.700 ± .010 (17.78 ± .25)	.650 ± .007 (16.51 ± .18)
3365/16	.800 ± .015 (20.32 ± .38)	.750 ± .011 (19.05 ± .28)
3365/20	1.000 ± .015 (25.40 ± .38)	.950 ± .011 (24.13 ± .28)
3365/24	1.200 ± .015 (30.48 ± .38)	1.150 ± .011 (29.21 ± .28)
3365/25	1.250 ± .015 (31.75 ± .38)	1.200 ± .011 (30.48 ± .28)
3365/26	1.300 ± .015 (33.02 ± .38)	1.250 ± .011 (31.75 ± .28)
3365/34	1.700 ± .020 (43.18 ± .51)	1.650 ± .015 (41.91 ± .38)
3365/37	1.850 ± .020 (46.99 ± .51)	1.800 ± .015 (45.72 ± .38)
3365/40	2.000 ± .020 (50.80 ± .51)	1.950 ± .015 (49.53 ± .38)
3365/50	2.500 ± .020 (63.50 ± .51)	2.450 ± .015 (62.23 ± .38)
3365/60	3.000 ± .020 (76.20 ± .51)	2.950 ± .015 (74.93 ± .38)
3365/64	3.200 ± .020 (81.28 ± .51)	3.150 ± .015 (80.01 ± .38)

USED ON

IMPORTANT NOTICE TO PURCHASER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:

Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. No statement or recommendation not contained herein shall have any force or effect until in an agreement signed by officers of seller and manufacturer.

Electronic Products Division

3M

	MAY 8, 1978	3
ISSUE	ISSUE DATE AND CHANGE RECORD	REV. CH.

CABLE SPECIFICATION
3M PART NO. 3365

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .02	± .005
mm	± .5	± .13	///

DR.

APP.

SJS
PKR

A

1000 A

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3365 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (Old FR-1)

COLOR Gray

CONDUCTORS 28 AWG 7 x 36 (7 x .127) stranded

CONDUCTOR PLATING Tin

MARKING Red edge

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^{10}\Omega$ / 10 ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 155 Ω

CAPACITANCE 6.6 pF/ft (21.7 pF/m)

INDUCTANCE .26 μ H/ft (.85 μ H/m)

PROPAGATION DELAY 1.34 ns/ft (4.40 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 105 Ω

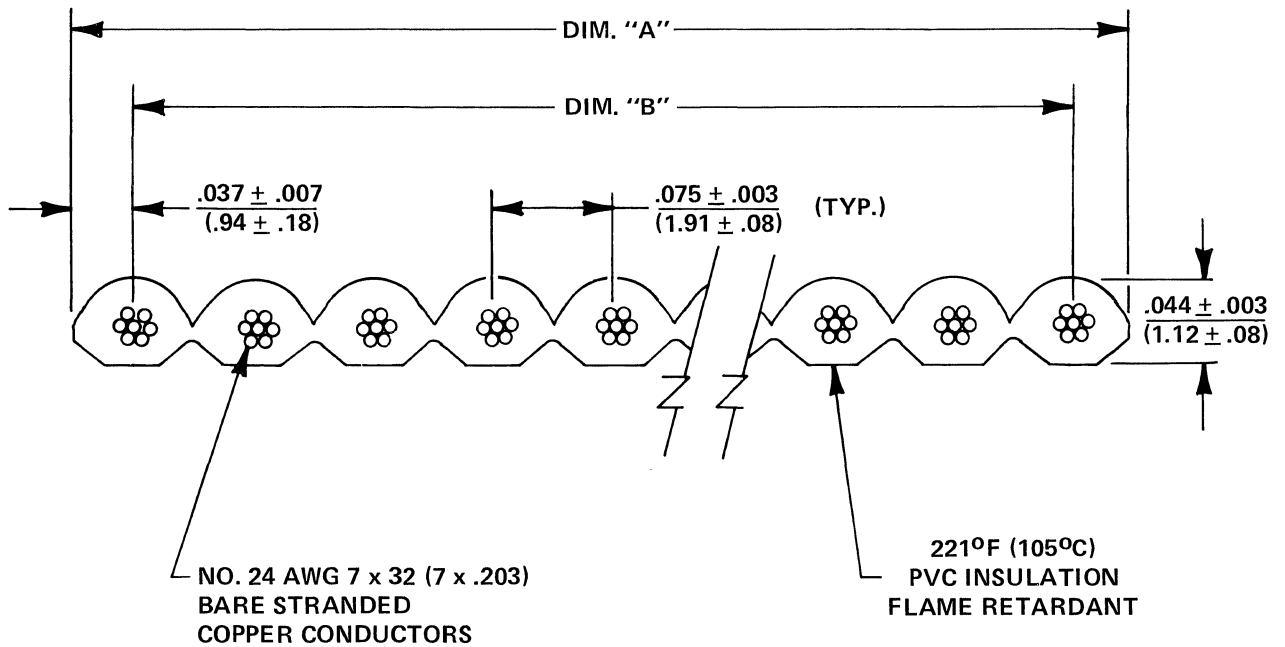
CAPACITANCE 12.6 pF/ft (41.3 pF/m)

INDUCTANCE .17 μ H/ft (.56 μ H/m)

PROPAGATION DELAY 1.37 ns/ft (4.49 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +221°F (-20°C to +105°C)



NOTE: RED MARKING ON ONE EDGE OF CABLE.

3M Part Number	DIM. "A"	DIM. "B"
3405/28	2.100 ± .015 (53.34 ± .38)	2.025 ± .011 (51.43 ± .28)
3405/36	2.700 ± .020 (68.58 ± .51)	2.625 ± .015 (66.68 ± .38)

USED ON

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Electronic Products Division



	JULY 2, 1979	7	
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.

CABLE SPECIFICATION
3M PART NO. 3405

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE \times

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///

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RKR

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1001

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3405 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .075" (1.91 mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating VW-1 (Old FR-1)

COLOR Gray

CONDUCTORS 24 AWG 7 \times 32 (7 \times .203) stranded

MARKING Red edge

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^{10}\Omega/$ 10 ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 150 Ω

CAPACITANCE 7.0 pF/ft (23.0 pF/m)

INDUCTANCE .26 μ H/ft (.85 μ H/m)

PROPAGATION DELAY 1.31 ns/ft (4.30 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 100 Ω

CAPACITANCE 13 pF/ft (43 pF/m)

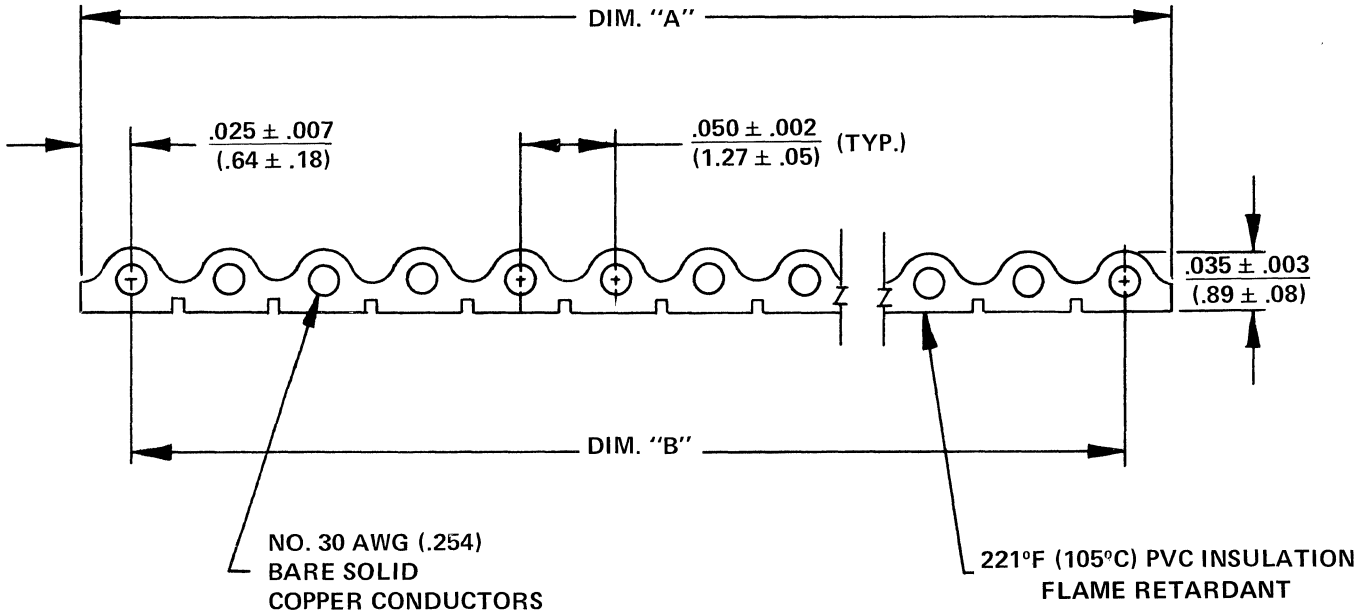
INDUCTANCE .17 μ H/ft (.56 μ H/m)

PROPAGATION DELAY 1.33 ns/ft (4.36 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4 $^{\circ}$ F to +221 $^{\circ}$ F (-20 $^{\circ}$ C to +105 $^{\circ}$ C)

3M PART NO. 3350



NOTE: RED MARKING ON ONE EDGE OF CABLE.

3M Part Number	DIM. "A"	DIM. "B"
3350/10	.500 ± .010 (12.70 ± .25)	.450 ± .007 (11.43 ± .18)
3350/14	.700 ± .010 (17.78 ± .25)	.650 ± .007 (16.51 ± .18)
3350/16	.800 ± .015 (20.32 ± .38)	.750 ± .011 (19.05 ± .28)
3350/20	1.000 ± .015 (25.40 ± .38)	.950 ± .011 (24.13 ± .28)
3350/24	1.200 ± .015 (30.48 ± .38)	1.150 ± .011 (29.21 ± .28)
3350/26	1.300 ± .015 (33.02 ± .38)	1.250 ± .011 (31.75 ± .28)
3350/34	1.700 ± .020 (43.18 ± .51)	1.650 ± .015 (41.91 ± .38)
3350/40	2.000 ± .020 (50.80 ± .51)	1.950 ± .015 (49.53 ± .38)
3350/50	2.500 ± .020 (63.50 ± .51)	2.450 ± .015 (62.23 ± .38)
3350/60	3.000 ± .020 (76.20 ± .51)	2.950 ± .015 (74.93 ± .38)

USED ON

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Electronic Products Division



	DEC. 1, 1978	8	
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
<p>CABLE SPECIFICATION U. L. STYLE NO. 2651</p>			
		1003	

TOLERANCE UNLESS NOTED			
	INCH (mm)		
	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

SCALE

DR. *S.S.S.*

APP. *R.R.R.*

A

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3350 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating VW-1 (Old FR-1)

COLOR Gray

CONDUCTORS 30 AWG solid

MARKING Red edge

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^{10}\Omega$ / 10 ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 175 Ω

CAPACITANCE 6.5 pF/ft (21.3 pF/m)

INDUCTANCE .33 μ H/ft (1.08 μ H/m)

PROPAGATION DELAY 1.41 ns/ft (4.62 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 125 Ω

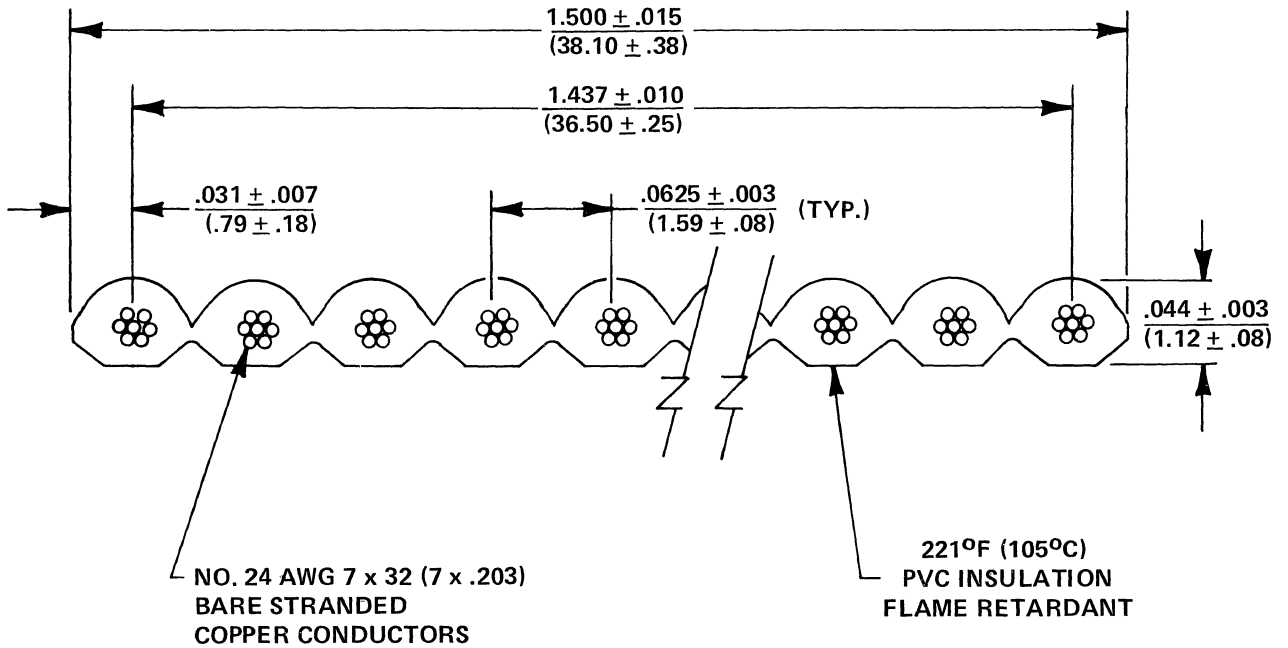
CAPACITANCE 12.0 pF/ft (39 pF/m)

INDUCTANCE .23 μ H/ft (.75 μ H/m)

PROPAGATION DELAY 1.42 ns/ft (4.66 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +221°F (-20°C to +105°C)



NOTE: RED MARKING ON ONE EDGE OF CABLE

USED ON

MAY 4, 1979

8

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Electronic Products Division

3M

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

CABLE SPECIFICATION
3M PART NO. 3451/24

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE \times

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

DR.

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1011

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3451 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .0625" (1.588 mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating W-1 (old FR-1)

COLOR Gray

CONDUCTORS 24 AWG 7 x 32 (7 x .203) stranded

MARKING Red edge

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^{10}\Omega$ / 10 ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 130 Ω

CAPACITANCE 9.2 pF/ft (30.2 pF/m)

INDUCTANCE .30 μ H/ft (.98 μ H/m)

PROPAGATION DELAY 1.22 ns/ft (4.00 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 85 Ω

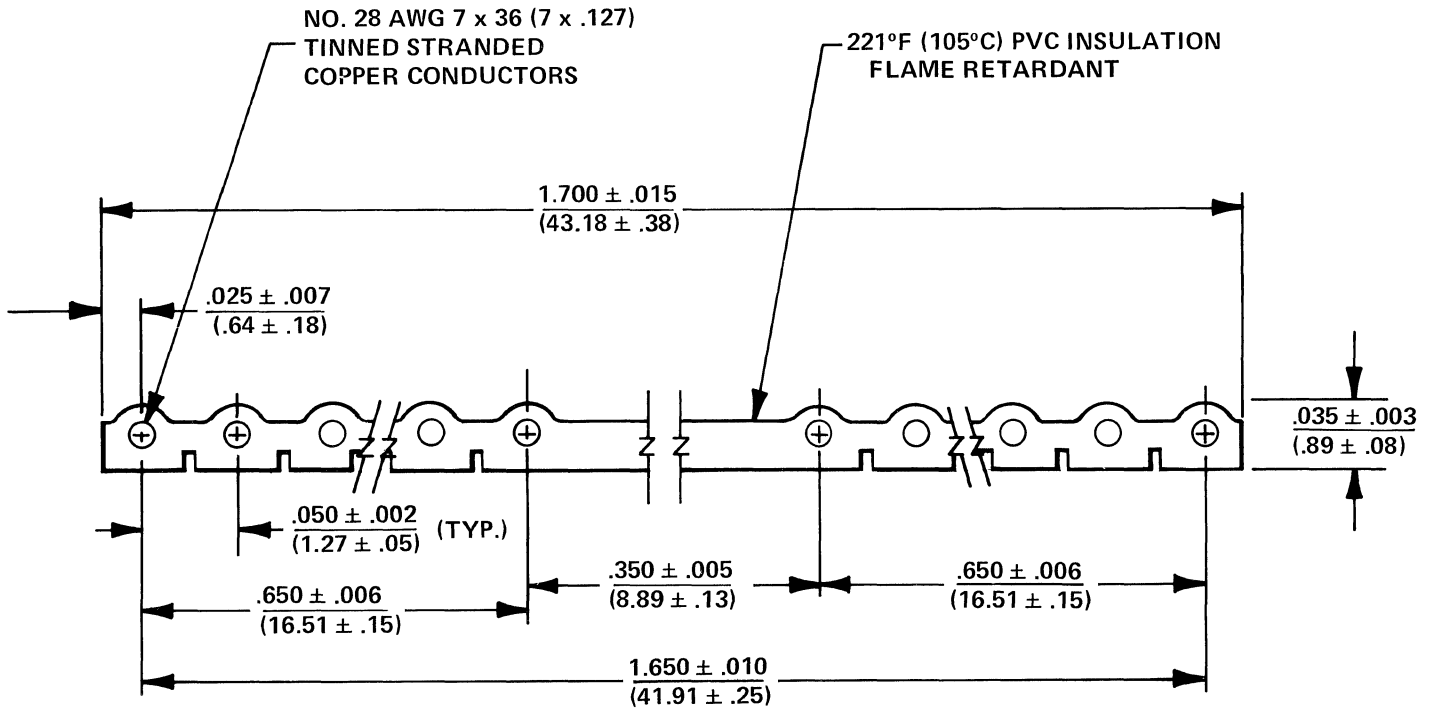
CAPACITANCE 16.0 pF/ft (52 μ H/m)

INDUCTANCE .17 μ H/ft (.56 μ H/m)

PROPAGATION DELAY 1.29 ns/ft (4.23 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +221°F (-20°C to +105°C)



USED ON

DEC. 10, 1976

5

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///
ANGULAR	±	±	±

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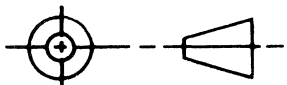
CH.

TITLE

CABLE SPECIFICATION
U. L. STYLE NO. 2651

INCH
(mm)

SCALE /



ISO-METHOD A

DR.

SOS

APP.

RJM

A

1013

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3401 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (Pld FR-1)

COLOR Gray

CONDUCTORS 28 AWG 7 x 36 (7 x .127) stranded

CONDUCTOR PLATING Tin

MARKING Red edge

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE >10¹⁰Ω/ 10 ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 150Ω

CAPACITANCE 7.7 pF/ft (25.3 pF/m)

INDUCTANCE .29 μH/ft (.95 μH/m)

PROPAGATION DELAY 1.38 ns/ft (4.53 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 105Ω

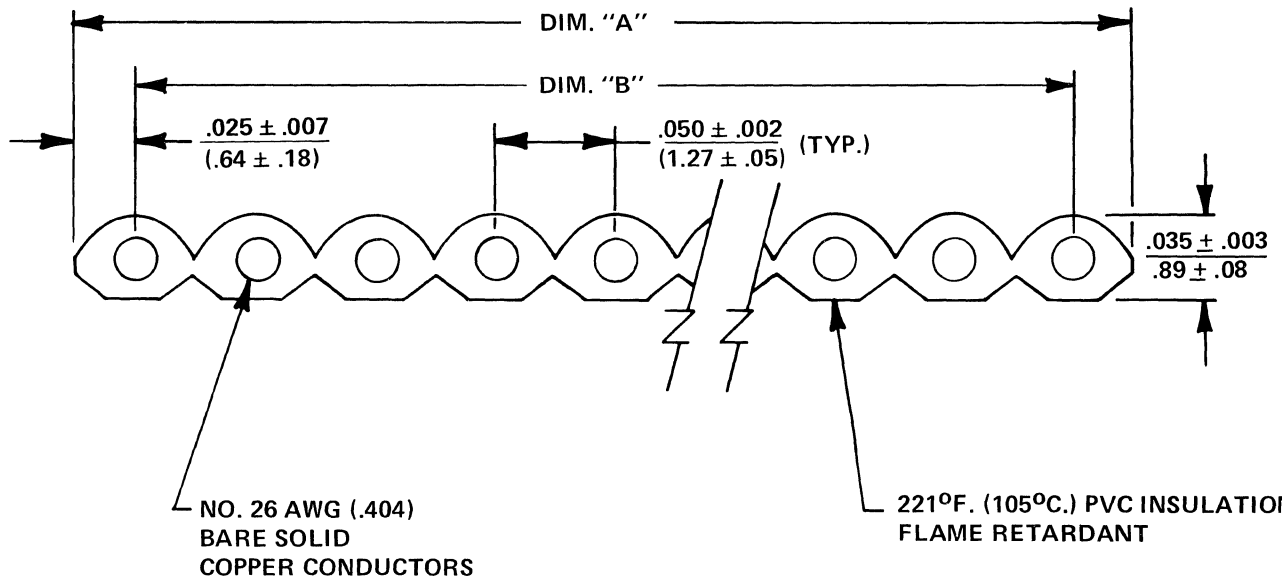
CAPACITANCE 15.0 pF/ft (49 pF/m)

INDUCTANCE .20 μH/ft (.66 μH/m)

PROPAGATION DELAY 1.40 ns/ft (4.59 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +221°F (-20°C to +105°C)



NOTE: RED MARKING ON ONE EDGE OF CABLE.

3M Part Number	DIM. "A"	DIM. "B"
3306/10	.500 ± .010 (12.70 ± .25)	.450 ± .007 (11.43 ± .18)
3306/14	.700 ± .010 (17.78 ± .25)	.650 ± .007 (16.51 ± .18)
3306/16	.800 ± .015 (20.32 ± .38)	.750 ± .011 (19.05 ± .28)
3306/20	1.000 ± .015 (25.40 ± .38)	.950 ± .011 (24.13 ± .28)
3306/24	1.200 ± .015 (30.48 ± .38)	1.150 ± .011 (29.21 ± .28)
3306/26	1.300 ± .015 (33.02 ± .38)	1.250 ± .011 (31.75 ± .28)
3306/34	1.700 ± .020 (43.18 ± .51)	1.650 ± .015 (41.91 ± .38)
3306/40	2.000 ± .020 (50.80 ± .51)	1.950 ± .015 (49.53 ± .38)
3306/50	2.500 ± .020 (63.50 ± .51)	2.450 ± .015 (62.23 ± .38)
3306/60	3.000 ± .020 (76.20 ± .51)	2.950 ± .015 (74.93 ± .38)

USED ON

APRIL 3, 1979

3

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CABLE SPECIFICATION
3M PART NO. 3306

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE \times

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR. *S.S.S.*
APP. *R.K.R.*

A

1022

Scotchflex Round Conductor Flat Cable

Product Number 3306
UL Style 2651

Scope: This specification details the requirements for a multiposition round conductor flat cable with .050" (1.27mm) conductor spacing.

Specifications:

Physical:

Insulation Material: Polyvinyl Chloride (PVC)

UL Flammability Rated VW-1

Color: Gray

Marking: Red Edge

Conductors: 26 AWG (.404mm) Solid Copper

Electrical:

Voltage Rating: 300 V

Insulation Resistance: $> 1 \times 10^{10} \Omega/10 \text{ ft. (3m)}$

*Characteristic Impedance: 100Ω

*Capacitance: 13.3 pF/ft. (43.6 pF/m)

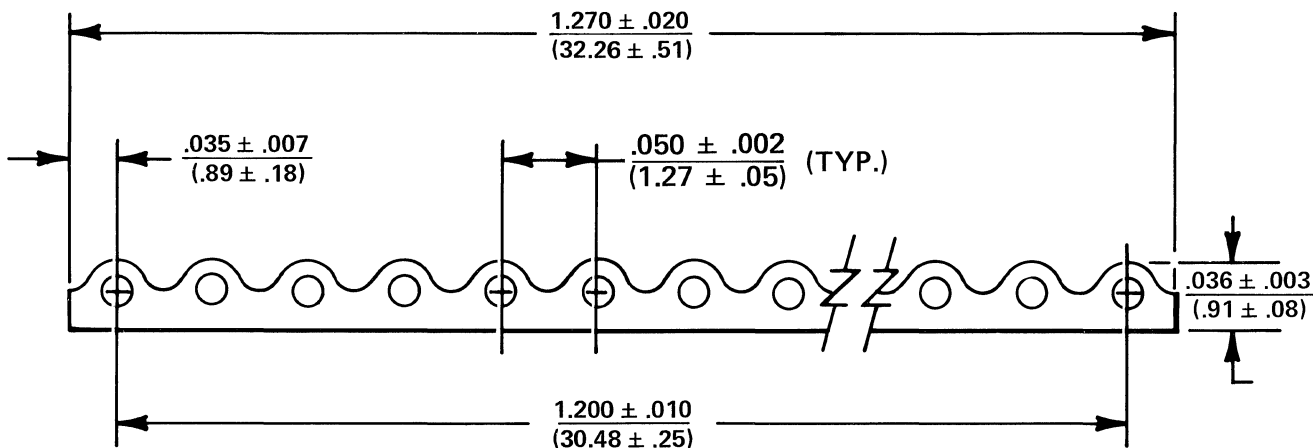
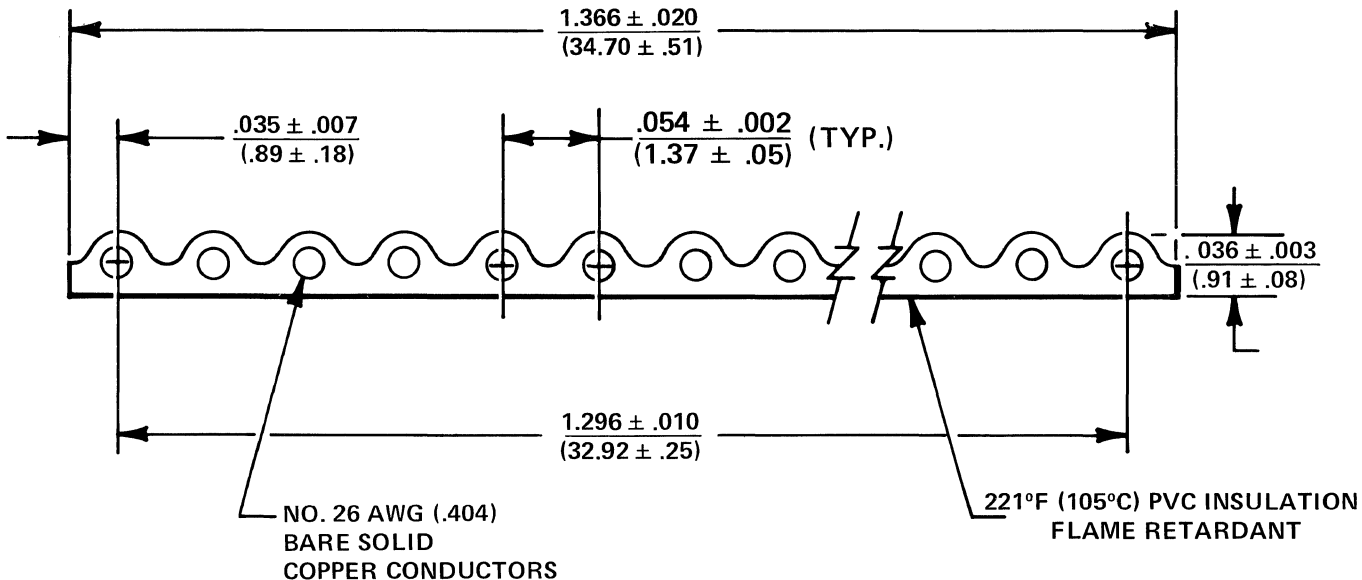
*Inductance: .17 $\mu\text{H}/\text{ft. (.56} \mu\text{H/m)}$

*Propagation Delay: 1.38 ns/ft. (4.53 ns/m)

*Note: These values measured with conductors connected in ground
— signal — ground configuration (GSG).

Environmental:

Temperature Rating: -4°F to +221°F (-20°C to +105°C)



NOTES:

1. LINEAL LENGTH OF .054 (1.37) SPACING = $6.69 \pm .25$ (169.9 ± 6.4)
2. LINEAL LENGTH OF .050 (1.27) SPACING = $6.69 \pm .25$ (169.9 ± 6.4)
3. TRANSITION LENGTH (NO ASSEMBLY ZONE) BETWEEN .054 (1.37) AND .050 (1.27) SPACING = $2.69 \pm .20$ (68.3 ± 5.1) WITH NINE RIB-LIKE FEATURES.
4. PATTERN REPEATS ITSELF EVERY $18.76 \pm .35$ (476.5 ± 8.9)
5. CABLE MARKING IS RED STRIPE DOWN .050 (1.27) SPACING FOR A LINEAL LENGTH OF $6.00 \pm .30$ (152.4 ± 7.6)

USED ON

JAN. 12 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

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TITLE

CABLE SPECIFICATION
U.L. STYLE NO. 2651

GULAR ± 0

INCH
(mm)

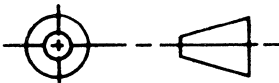
SCALE /

DR. *SSS*

APP. *RLM*

A

1023



ISO-METHOD A

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3349 UL STYLE 2651

SCOPE: This specification details the requirements for a multiposition round conductor flat cable varying from .054" (1.37 mm) conductor center to center spacing to .050" (1.27 mm) center to center.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating VW-1 (Old FR-1)

COLOR Gray

CONDUCTORS 26 AWG (.404) solid

MARKING Red stripe down .050" (1.27 mm) conductor
spacing, raised lines across cable width

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^{10}\Omega/10$ ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 137 Ω

CAPACITANCE 8.0 pF/ft (26.3 pF/m)

INDUCTANCE .25 μ H/ft (.82 μ H/m)

PROPAGATION DELAY 1.42 ns/ft (4.66 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 94 Ω

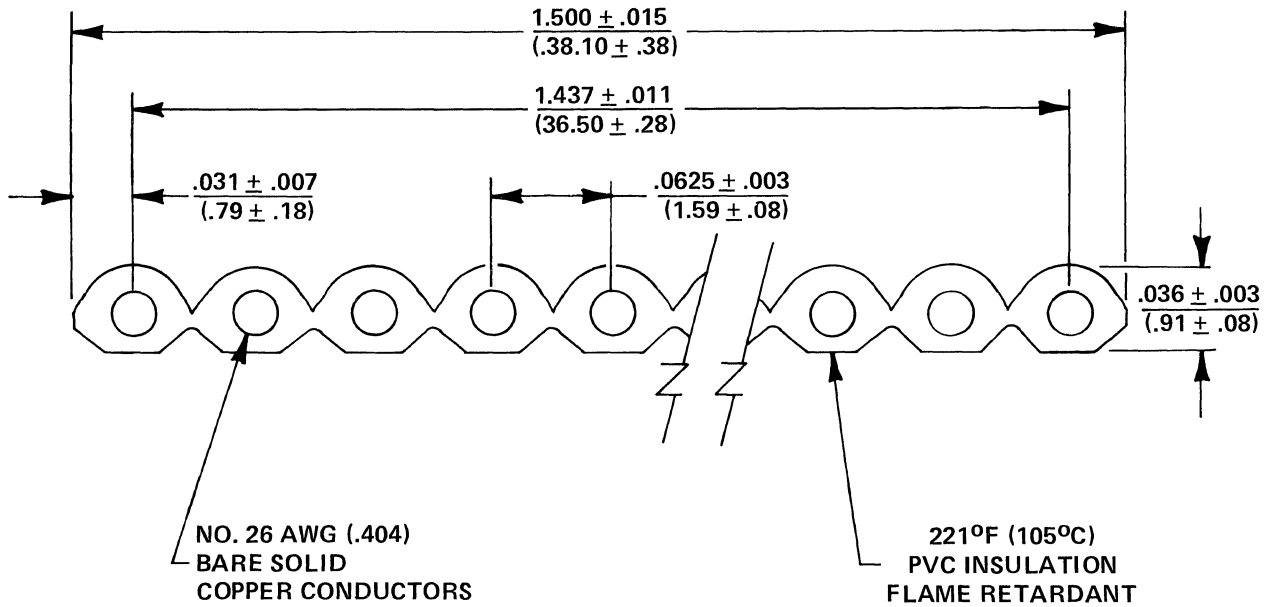
CAPACITANCE 14.6 pF/ft (47.9 pF/m)

INDUCTANCE .16 μ H/ft (.52 μ H/m)

PROPAGATION DELAY 1.46 ns/ft (4.79 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +221°F (-20°C to
+105°C)



NOTE: RED MARKING ON ONE EDGE OF CABLE.

USED ON

JULY 2, 1979

2

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3M

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**CABLE SPECIFICATION
3M PART NO. 3348/24**

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE \times

	.0	.00	.000
INCH	$\pm .1$	$\pm .01$	$\pm .005$
mm	$\pm .3$	$\pm .13$	$\pm .05$

DR.

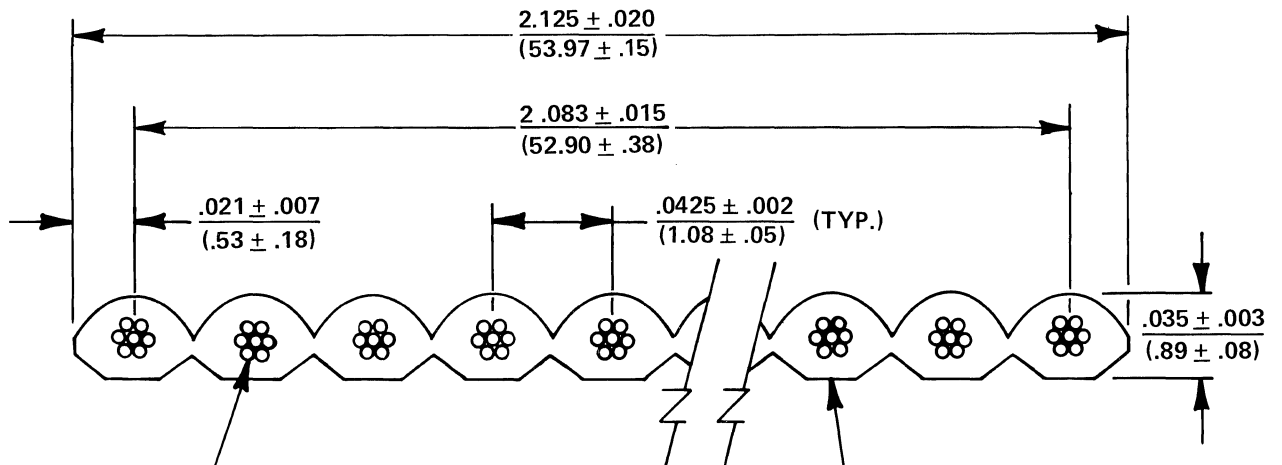
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APP.

RKR

A

1026



NO. 28 AWG 7 x 36 (7 x .127)
TINNED STRANDED
COPPER CONDUCTORS

221°F. (105°C.) PVC INSULATION
FLAME RETARDANT

NOTE: RED MARKING ON ONE EDGE
OF CABLE

USED ON

MARCH 3, 1980

2

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CABLE SPECIFICATION
3M PART NO. 3558/50

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE \times

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

DR. *JOS*
APP. *RKR*

A

1033

Scotchflex Round Conductor Flat Cable

Product Number 3558
UL Style 2651 (105°C)

Scope: This specification details the requirements for a multiposition round conductor flat cable with .050" (1.27mm) conductor spacing.

Specifications:

Physical:

Insulation Material: Polyvinylchloride (PVC)

Color: Gray

Conductors: 28 AWG 7 × 36 (7 × .127) Tinned Stranded

Electrical:

Voltage Rating: 300 Volts

Insulation Resistance: $> \times 10^{10} \Omega/10 \text{ ft. (3m)}$

*Characteristic Impedance: 95Ω

*Capacitance: 15.1 pF/ft. (49.5 pF/m)

*Inductance: $.17 \mu\text{H/ft. (.56} \mu\text{H/m)}$

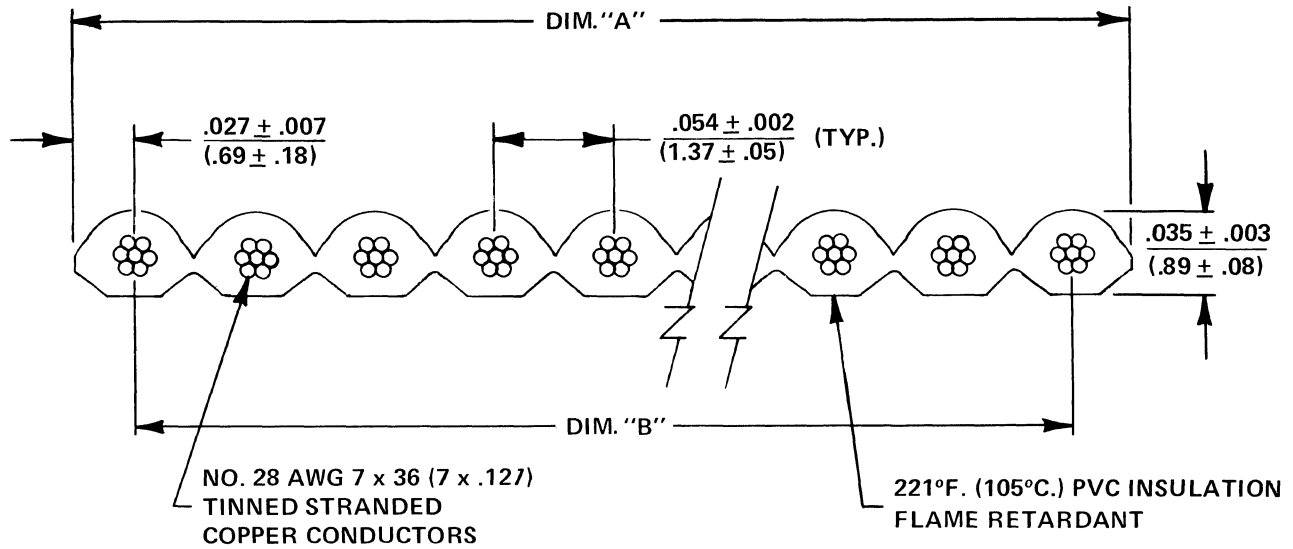
*Propagation Delay: 1.32 ns/ft. (4.33 ns/m)

*Note: These values measured with conductors connected in ground
—signal—ground configuration (GSG)

Environmental:

Temperature Rating: $-4^\circ\text{F to } +221^\circ\text{F } (-20^\circ\text{C to } +105^\circ\text{C})$

3M PART NO. 3312



NOTE: RED MARKING ON ONE EDGE OF CABLE

3M Part Number	DIM. "A"	DIM. "B"
3312/25	1.350 ± .015 (34.29 ± .38)	1.296 ± .011 (32.92 ± .28)
3312/37	1.998 ± .020 (50.75 ± .51)	1.944 ± .015 (49.37 ± .38)

USED ON

July 15, 1978

1

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CABLE SPECIFICATION
U.L. STYLE NO. 2651

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .02	± .005
mm	± .5	± .13	///

DR.

SAS
RJR

APP.

A

1032

Scotchflex Round Conductor Flat Cable

Product Number 3312
UL Style 2651

Scope: This specification details the requirements for a multiposition round conductor flat cable with .054" (1.37mm) conductor spacing.

Specifications:

Physical:

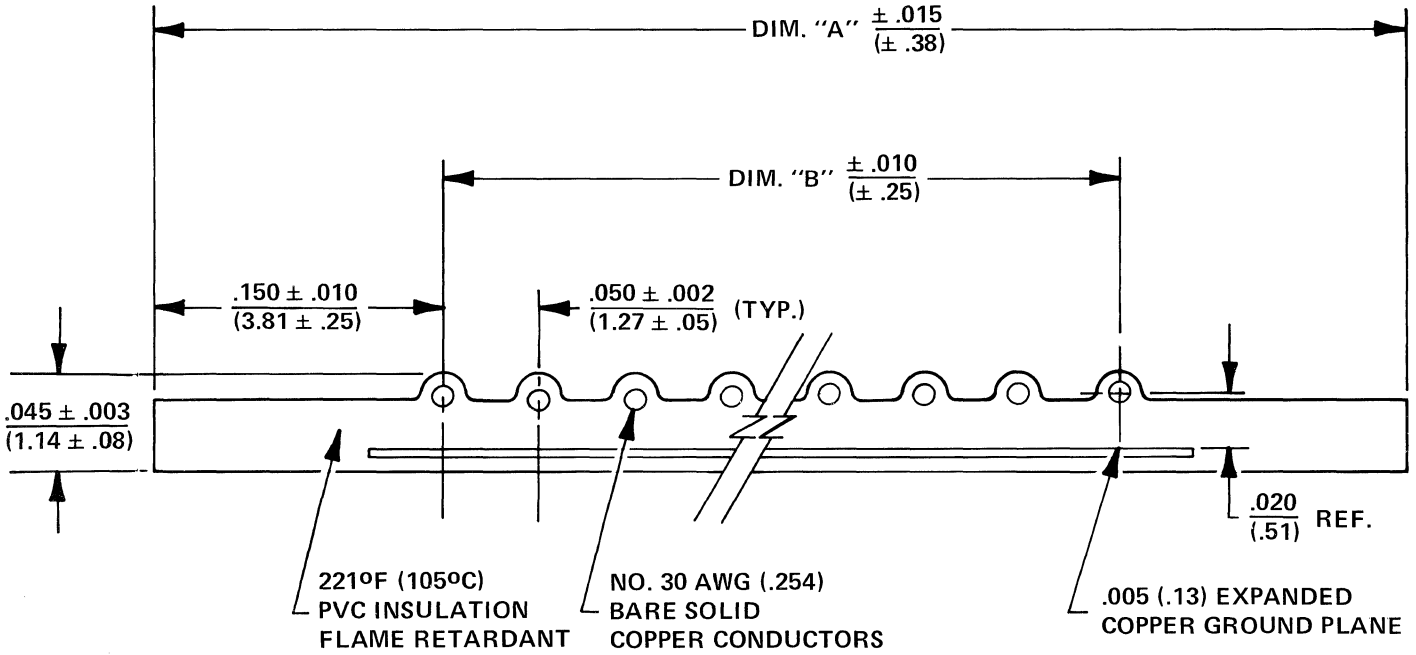
Insulation Material: Polyvinyl Chloride (PVC)
UL Flammability rated VW-1
Color: Gray
Conductors: 28 AWG 7 x 36 (7 x .127) tinned stranded

Electrical:

Voltage Rating: 300 Volts
Insulation Resistance: $> 1 \times 10^{10} \Omega / 10 \text{ ft. (3m)}$
*Characteristic Impedance: 110 Ω
*Capacitance: 11.3 pF/ft. (37.1 pF/m)
*Inductance: .18 $\mu\text{H}/\text{ft. (.59 } \mu\text{H/m)}$
*Propagation Delay: 1.40 ns/ft. (4.59 ns/m)
*Note: These values measured with conductors connected in ground — signal
— ground configuration (GSG)

Environmental:

Temperature Rating: -40°F to $+221^{\circ}\text{F}$ (-20°C to $+105^{\circ}\text{C}$)



NOTE: GREEN LINE ON INSULATION ABOVE ONE EDGE CONDUCTOR.

3M Part Number	DIM. "A"	DIM. "B"
3380/40	2.250 (57.15)	1.950 (49.53)
3380/50	2.750 (69.85)	2.450 (62.23)

USED ON

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	$\pm .1$	$\pm .01$	$\pm .005$
mm	$\pm .3$	$\pm .13$	▨
ANGULAR	\pm	0	1

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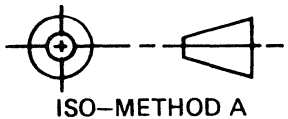
INCH (mm)

SCALE /

DR. *JAS*
APP. *JTM*

A

ISSUE	DEC. 10, 1976	5	
TITLE	CABLE SPECIFICATION U. L. STYLE NO. 2682		
ISSUE DATE AND CHANGE RECORD	REV.	CH.	



1002

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3380 UL STYLE 2682

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing with a ground plane running parallel to the conductors.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating VW-1 (Old FR-1)

COLOR Gray

CONDUCTORS 30 AWG solid

MARKING Green line on insulation above one edge
conductor

GROUND PLANE Expanded copper

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^9\Omega$ / 10 ft (3m) sample

Signal with ground plane configuration (S_G)

CHARACTERISTIC IMPEDANCE 75 Ω

CAPACITANCE 22.0 pF/ft (72.2 pF/m)

INDUCTANCE .19 μ H/ft (.62 μ H/m)

PROPAGATION DELAY 1.68 ns/ft (5.51 ns/m)

Ground Signal with ground plane configuration (GS_G)

CHARACTERISTIC IMPEDANCE 75 Ω

CAPACITANCE 24.0 pF/ft (78.7 pF/m)

INDUCTANCE .18 μ H/ft (.59 μ H/m)

PROPAGATION DELAY 1.68 ns/ft (5.51 ns/m)

Ground Signal Ground with ground plane configuration (GSG_G)

CHARACTERISTIC IMPEDANCE 75 Ω

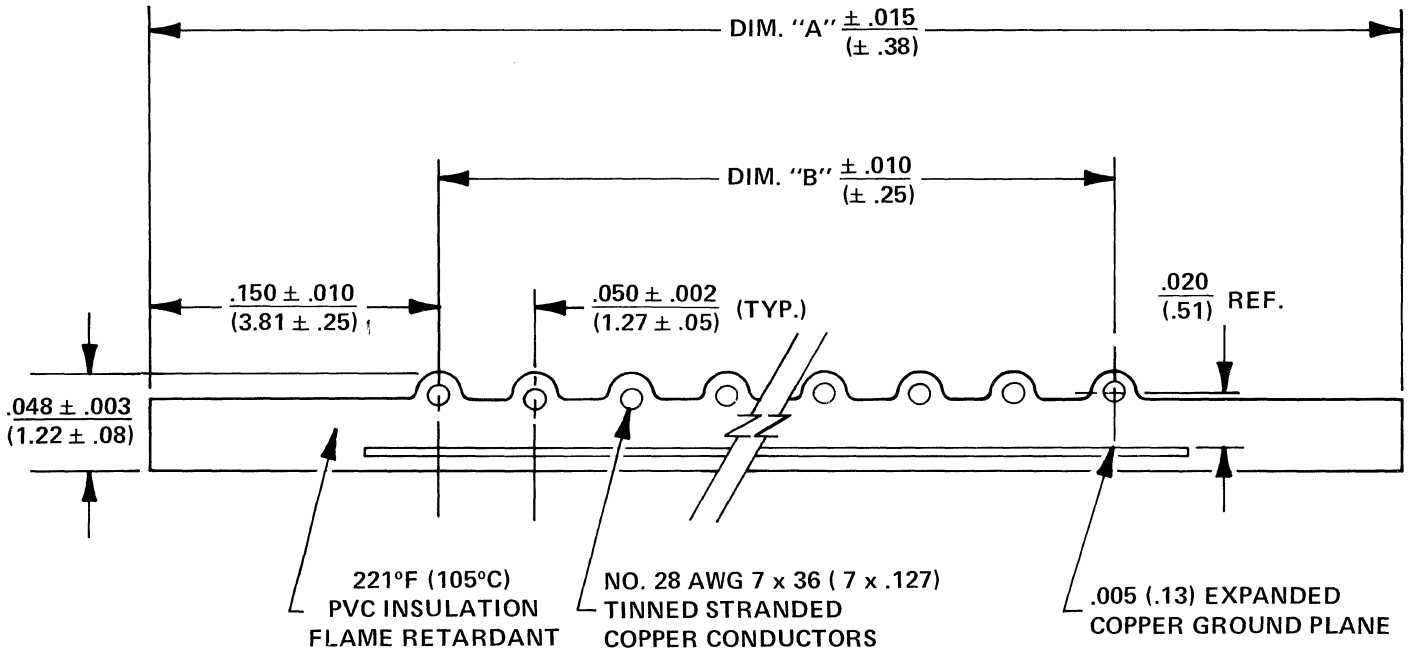
CAPACITANCE 26.0 pF/ft (85.3 pF/m)

INDUCTANCE .17 μ H/ft (.56 μ H/m)

PROPAGATION DELAY 1.68 ns/ft (5.51 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +221°F (-20°C to +105°C)



NOTE: RED LINE ON INSULATION ABOVE ONE EDGE CONDUCTOR.

3M Part Number	DIM."A"	DIM."B"
3469/14	0.950 (24.13)	0.650 (16.51)
3469/16	1.050 (26.67)	0.750 (19.05)
3469/20	1.250 (31.75)	0.950 (24.13)
3469/26	1.550 (39.37)	1.250 (31.75)
3469/34	1.950 (49.53)	1.650 (41.91)
3469/40	2.250 (57.15)	1.950 (49.53)
3469/50	2.750 (69.85)	2.450 (62.23)
3469/60	3.250 (82.55)	2.950 (74.93)

USED ON

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**CABLE SPECIFICATION
U. L. STYLE NO. 2682
3M PART NO. 3469**

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///

DR.

APP.

S.S.S.
R.P.M.

A

1016

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3469 UL STYLE 2682

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing with a ground plane running parallel to the conductors.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating VW-1 (Old FR-1)

COLOR Gray

CONDUCTORS 28 AWG 7 \times 36 (7 \times .127) stranded

CONDUCTOR PLATING Tin

MARKING Red line on insulation above one edge
conductor

GROUND PLANE Expanded copper

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^9$ Ω / 10 ft (3m) sample

Signal with ground plane configuration (S_G)

CHARACTERISTIC IMPEDANCE 65 Ω

CAPACITANCE 25.0 pF/ft (82.0 pF/m)

INDUCTANCE .17 μ H/ft (.56 μ H/m)

PROPAGATION DELAY 1.70 ns/ft (5.58 ns/m)

Ground Signal with ground plane configuration (GS_G)

CHARACTERISTIC IMPEDANCE 65 Ω

CAPACITANCE 27.0 pF/ft (88.6 pF/m)

INDUCTANCE .16 μ H/ft (.52 μ H/m)

PROPAGATION DELAY 1.66 ns/ft (5.45 ns/m)

Ground Signal Ground with ground plane configuration (GSG_G)

CHARACTERISTIC IMPEDANCE 65 Ω

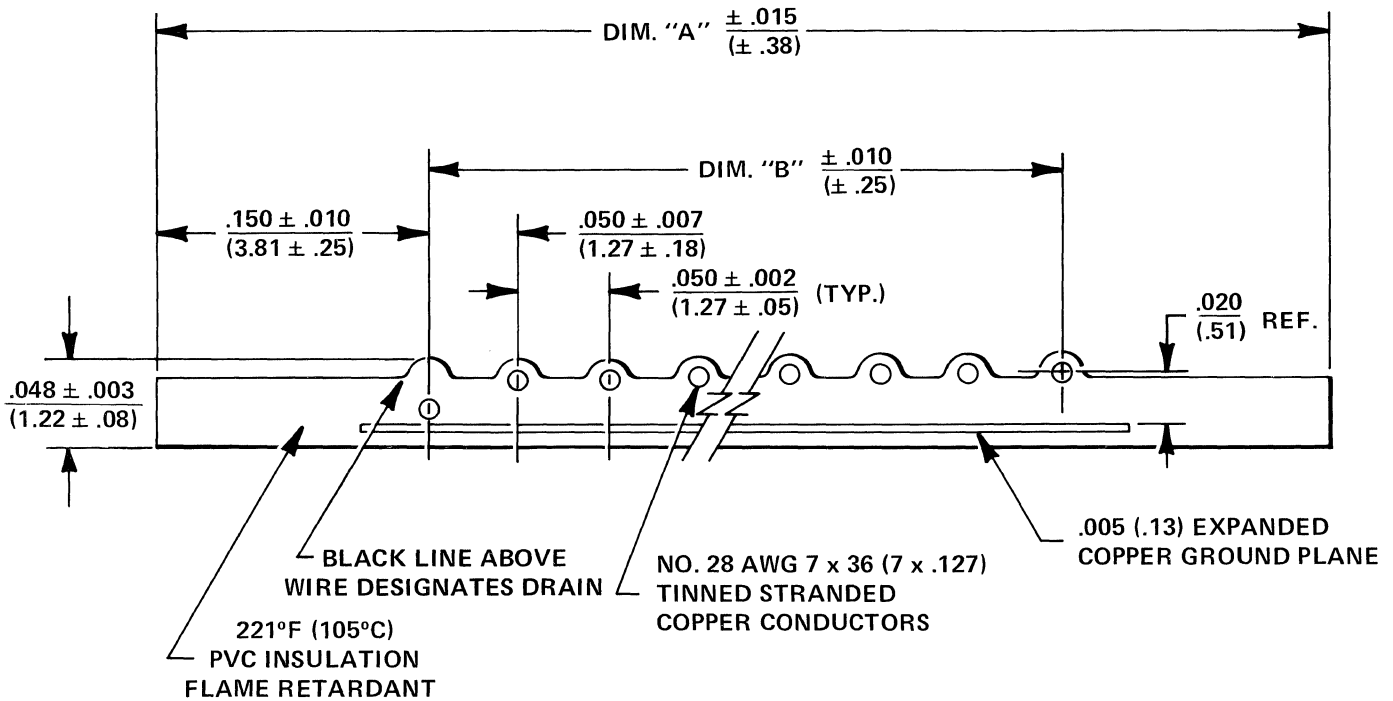
CAPACITANCE 29.0 pF/ft (95.1 pF/m)

INDUCTANCE .15 μ H/ft (.49 μ H/m)

PROPAGATION DELAY 1.65 ns/ft (5.41 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +221°F (-20°C to +105°C)



3M Part Number	DIM. "A"	DIM. "B"
3476/20	1.250 (31.75)	0.950 (24.13)
3476/26	1.550 (39.37)	1.250 (31.75)
3476/34	1.950 (49.53)	1.650 (41.91)
3476/40	2.250 (57.15)	1.950 (49.53)
3476/50	2.750 (69.85)	2.450 (62.23)
3476/60	3.250 (82.55)	2.950 (74.93)

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**CABLE SPECIFICATION
U. L. STYLE NO. 2682
3M PART NO. 3476**

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///

DR. *SOS*
APP. *REM*

A

1017

Scotchflex Round Conductor Flat Cable With Ground Plane

Product Number 3476
UL Style 2682

Scope: This specification details the requirements for a multiposition round conductor flat cable with .050" (1.27mm) conductor spacing, a ground plane and drain wire.

Specifications:

Physical:

Insulation Material: Polyvinyl Chloride (PVC)
UL Flammability rated VW-1
Color: Gray
Marking: Black line on insulation above one edge conductor

Conductors: 28 AWG (7 x 36) tinned stranded copper

Ground Plane: Expanded copper

Electrical:

Voltage Rating: 300 Volts

Insulation Resistance: $> 1 \times 10^9 \Omega/10 \text{ ft.}$ (3M)

Signal to ground plane configuration (S_G)

Characteristic Impedance: 65Ω

Capacitance: 25.0 pF/ft. (82.0 pF/m)

Inductance: $.17 \mu\text{H}/\text{ft.}$ ($.56 \mu\text{H}/\text{m}$)

Propagation Delay: 1.70 ns/ft. (5.58 ns/m)

Ground — signal — ground to ground plane configuration (GSG_G)

Characteristic Impedance: 65Ω

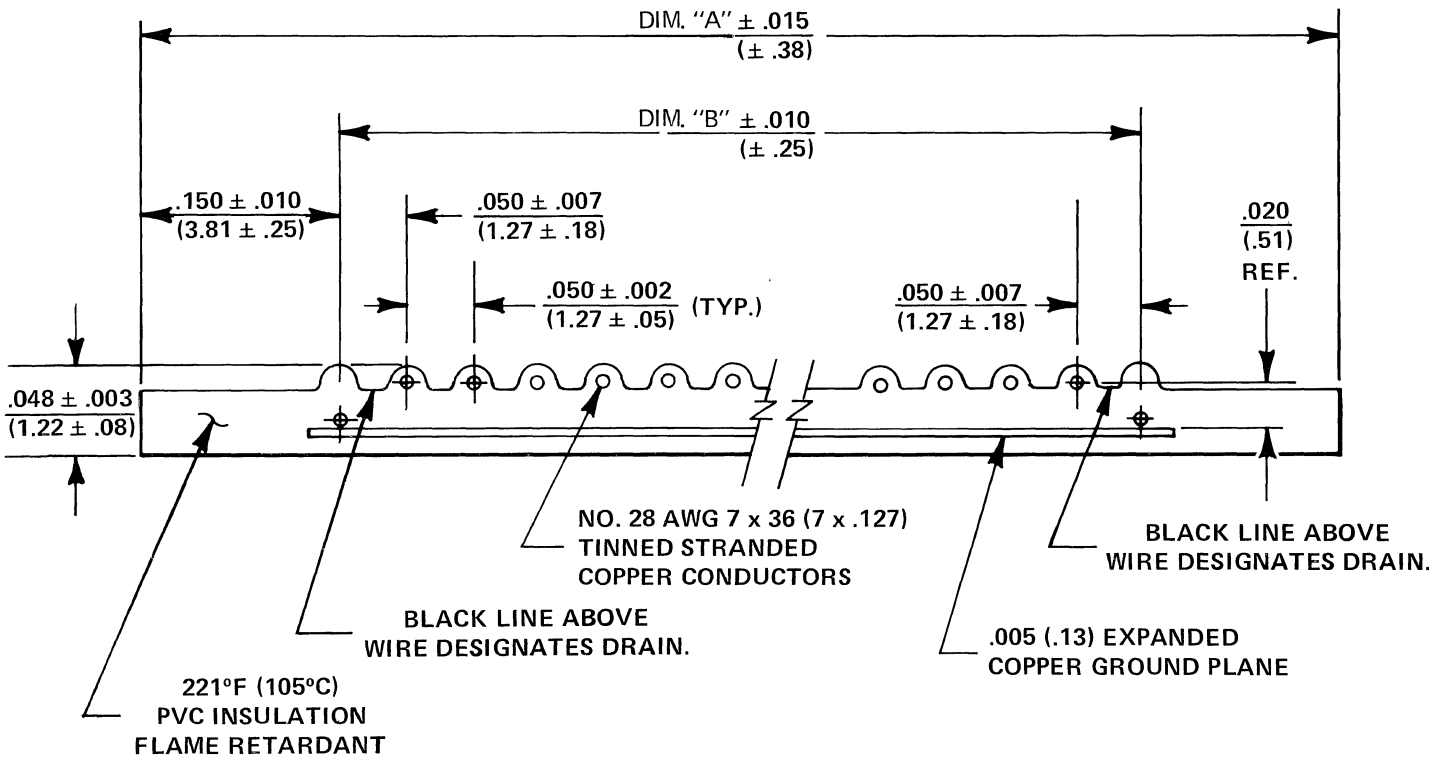
Capacitance: 29.0 pf/ft. (95.1 pF/m)

Inductance: $.15 \mu\text{H}/\text{ft.}$ ($.49 \mu\text{H}/\text{m}$)

Propagation Delay: 1.65 ns/ft. (5.41 ns/m)

Environmental:

Temperature Rating: -4°F to 221°F (-20°C to $+ 105^\circ\text{C}$)



3M Part Number	DIM. "A"	DIM. "B"
3353/50	2.750 (69.85)	2.450 (62.23)
3353/60	3.250 (82.55)	2.950 (74.93)
3353/64	3.450 (87.63)	3.150 (80.01)

USED ON

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Electronic Products Division



DEC. 1, 1978

3

ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

**CABLE SPECIFICATION
U.L. STYLE NO. 2682
3M PART NO. 3353**

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

DR. *SAS*
APP. *RJM*

A

1024

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION
CABLE NUMBER 3353 UL STYLE 2682

SCOPE: This specification details the requirements for a multiposition round conductor flat cable on .050" (1.27 mm) wire to wire spacing with a ground plane running parallel to the conductors and a drain line on either side.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating VW-1 (Old FR-1)

COLOR Gray

CONDUCTORS 28 AWG 7 \times 36 (7 \times .127) stranded

MARKING Black line on insulation above both edge
conductors

GROUND PLANE Expanded copper

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^9 \Omega$ / 10 ft (3m) sample

Signal with ground palne configuration (S_G)

CHARACTERISTIC IMPEDANCE 65 Ω

CAPACITANCE 25.0 pF/ft (82.0 pF/m)

INDUCTANCE .17 μ H/ft (.56 μ H/m)

PROPAGATION DELAY 1.70 ns/ft (5.58 ns/m)

Ground Signal with ground plane configuration (GS_G)

CHARACTERISTIC IMPEDANCE 65 Ω

CAPACITANCE 27.0 pF/ft (88.6 pF/m)

INDUCTANCE .16 μ H/ft (.52 μ H/m)

PROPAGATION DELAY 1.66 ns/ft (5.45 ns/m)

Ground Signal Ground with ground plane configuration (GSG_G)

CHARACTERISTIC IMPEDANCE 65 Ω

CAPACITANCE 29.0 pF/ft (95.1 pF/m)

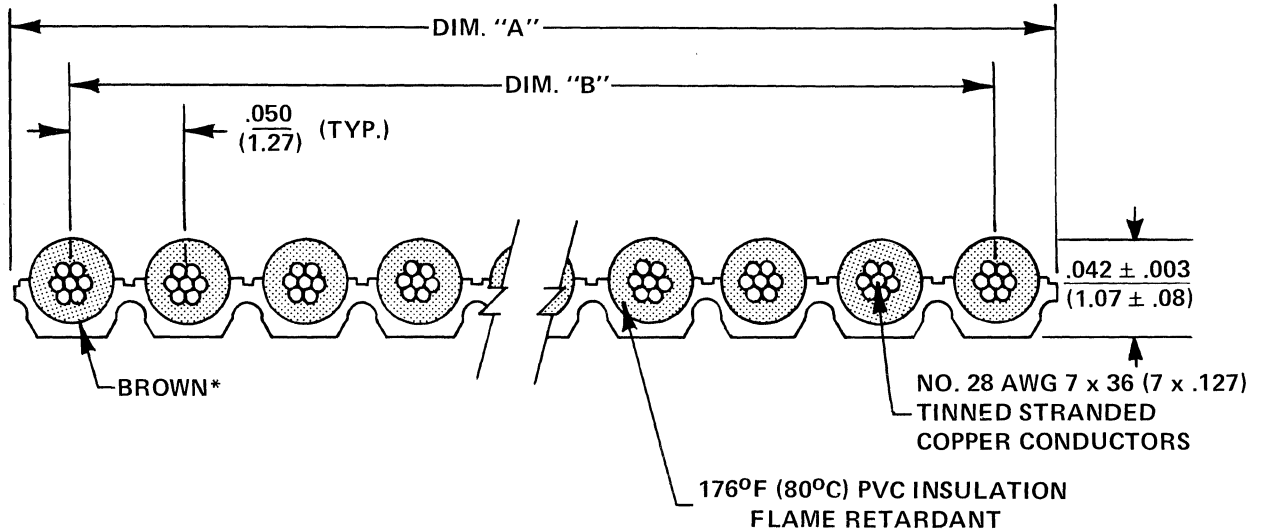
INDUCTANCE .15 μ H/ft (.49 μ H/m)

PROPAGATION DELAY 1.65 ns/ft (5.41 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +221°F (-20°C to +105°C)

3M PART NO. 3302



3M Part Number	DIM. "A"	DIM. "B"
3302/10	.500 ± .015 (12.70 ± .38)	.450 ± .010 (11.43 ± .25)
3302/14	.700 ± .015 (17.78 ± .38)	.650 ± .010 (16.51 ± .25)
3302/16	.800 ± .020 (20.32 ± .51)	.750 ± .015 (19.05 ± .38)
3302/20	1.000 ± .020 (25.40 ± .51)	.950 ± .015 (24.13 ± .38)
3302/24	1.200 ± .020 (30.48 ± .51)	1.150 ± .015 (29.21 ± .38)
3302/26	1.300 ± .020 (33.02 ± .51)	1.250 ± .015 (31.75 ± .38)
3302/34	1.700 ± .025 (43.18 ± .63)	1.650 ± .020 (41.91 ± .51)
3302/40	2.000 ± .025 (50.80 ± .63)	1.950 ± .020 (49.53 ± .51)
3302/50	2.500 ± .025 (63.50 ± .63)	2.450 ± .020 (62.23 ± .51)
3302/60	3.000 ± .025 (76.20 ± .63)	2.950 ± .020 (74.93 ± .51)
3302/64	3.200 ± .025 (81.28 ± .63)	3.100 ± .020 (78.74 ± .51)

- * 10 Color Repeat
- Brown
 - Red
 - Orange
 - Yellow
 - Green
 - Blue
 - Violet
 - Gray
 - White
 - Black

USED ON

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SEPT. 1, 1978

4

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

CABLE SPECIFICATION
U.L. STYLE NO. 2776

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	±.1	±.02	±.005
mm	±.5	±.13	///

DR.

APP.

SQS
PSM

A

1025

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3302 UL STYLE 2776

SCOPE: This specification details the requirements for a multiposition color coded round conductor flat cable on .050" (1.27 mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating VW-1 (Old FR-1)

COLOR 10 color repeat, clear carrier

CONDUCTORS 28 AWG 7 \times 36 (7 \times .127) stranded

CONDUCTOR PLATING Tin

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $10^9 \Omega$ / 10 ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 150 Ω

CAPACITANCE 7.3 pF/ft (23.9 pF/m)

INDUCTANCE .26 μ H/ft (.85 μ H/m)

PROPAGATION DELAY 1.37 ns/ft (4.49 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 105 Ω

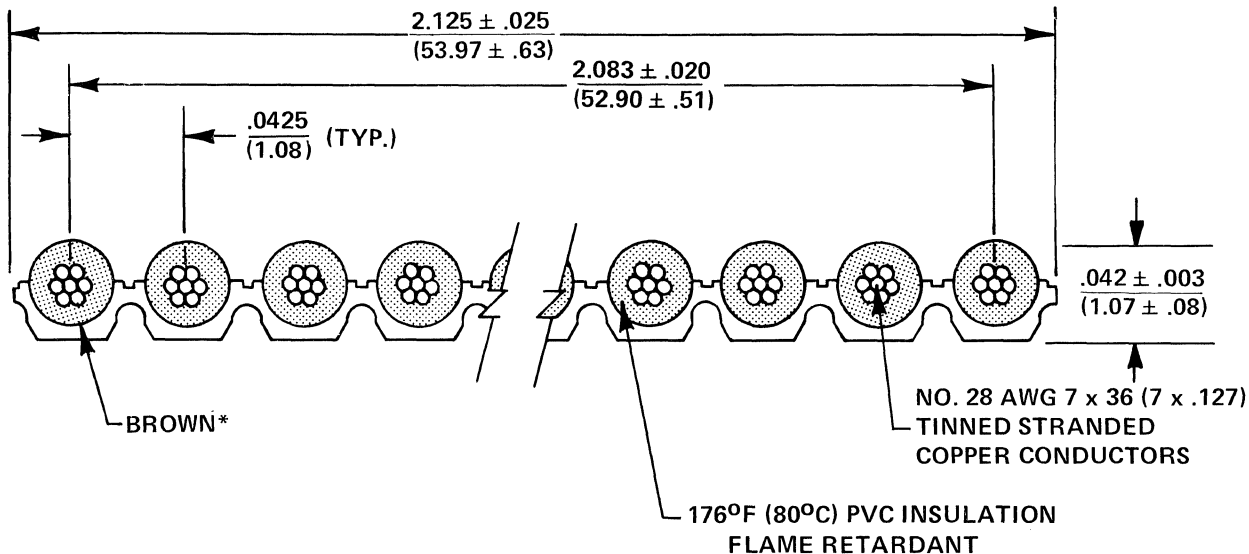
CAPACITANCE 12.9 pF/ft (42.3 pF/m)

INDUCTANCE .17 μ H/ft (.56 μ H/m)

PROPAGATION DELAY 1.39 ns/ft (4.56 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +176°F (-20°C to +80°C)



* 10 Color Repeat

- Brown
- Red
- Orange
- Yellow
- Green
- Blue
- Violet
- Gray
- White
- Black

USED ON

SEPT. 1, 1978

3

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ISSUE

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CH.

CABLE SPECIFICATION
U.L. STYLE NO. 2776

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .02	± .005
mm	± .5	± .13	///

DR

APP

SAS
CSM

A

1028

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3389 UL STYLE 2776

SCOPE: This specification details the requirements for a multiposition color coded round conductor flat cable on .0425" (1.08mm) spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L. flammability rating VW-1 (Old FR-1)

COLOR 10 color repeat, clear carrier

CONDUCTORS 28 AWG 7 x 36 (7 x .127) stranded

CONDUCTOR PLATING Tin

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^9 \Omega$ / 10 ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 135 Ω

CAPACITANCE 9.0 pF/ft (29.5 pF/m)

INDUCTANCE .23 μ H/ft (.75 μ H/m)

PROPAGATION DELAY 1.40 ns/ft (4.59 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 95 Ω

CAPACITANCE 17.3 pF/ft (56.8 pF/m)

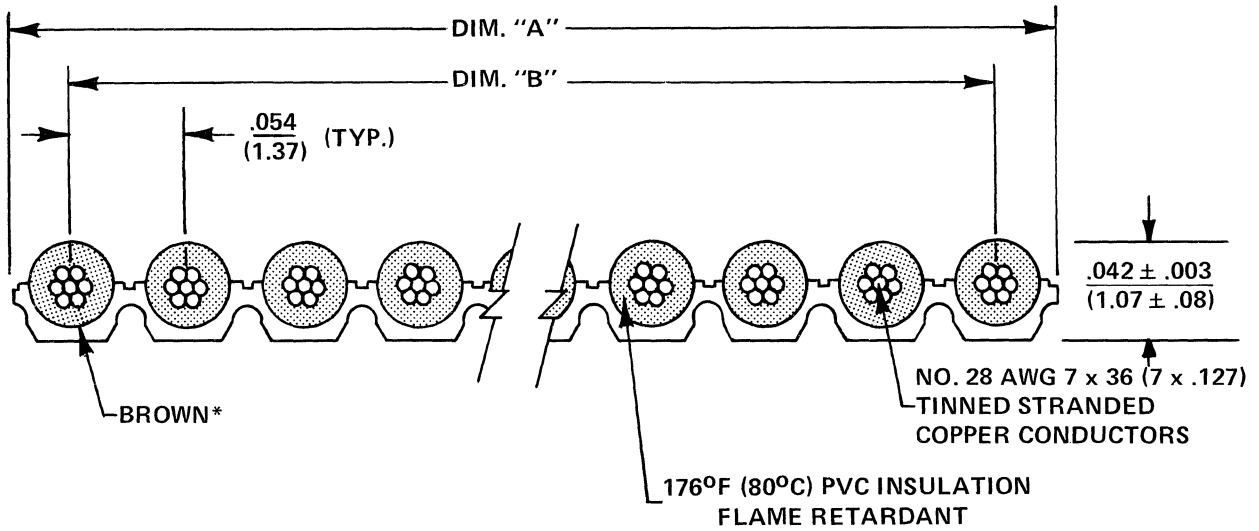
INDUCTANCE .16 μ H/ft (.52 μ H/m)

PROPAGATION DELAY 1.43 ns/ft (46.9 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +176°F (-20°C to +80°C)

3M PART NO. 3301



3M Part Number	DIM. "A"	DIM. "B"
3301/25	1.350 ± .020 (34.29 ± .51)	1.296 ± .015 (32.92 ± .38)
3301/37	1.998 ± .025 (50.75 ± .63)	1.944 ± .020 (49.37 ± .51)

- * 10 Color Repeat
- Brown
 - Red
 - Orange
 - Yellow
 - Green
 - Blue
 - Violet
 - Gray
 - White
 - Black

USED ON

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SEPT. 1, 1978

2

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

CABLE SPECIFICATION
U.L. STYLE NO. 2776

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .02	± .005
mm	± .5	± .13	///

INCH (mm)

SCALE

DR

APP.

SOS
RBM

A

1030

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3301 UL STYLE 2776

SCOPE: This specification details the requirements for a multiposition color coded round conductor flat cable on .054" (1.37 mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating VW-1 (old FR-1)

COLOR 10 color repeat, clear carrier

CONDUCTORS 28 AWG 7 x 36 (7 x .127) stranded

CONDUCTOR PLATING Tin

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $10^9 \Omega$ /10 ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 160 Ω

CAPACITANCE 6.9 pF/ft (22.64 pF/m)

INDUCTANCE .27 μ H/ft (.89 μ H/m)

PROPAGATION DELAY 1.33 ns/ft (4.36 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 110 Ω

CAPACITANCE 12.7 pF/ft (41.7 pF/m)

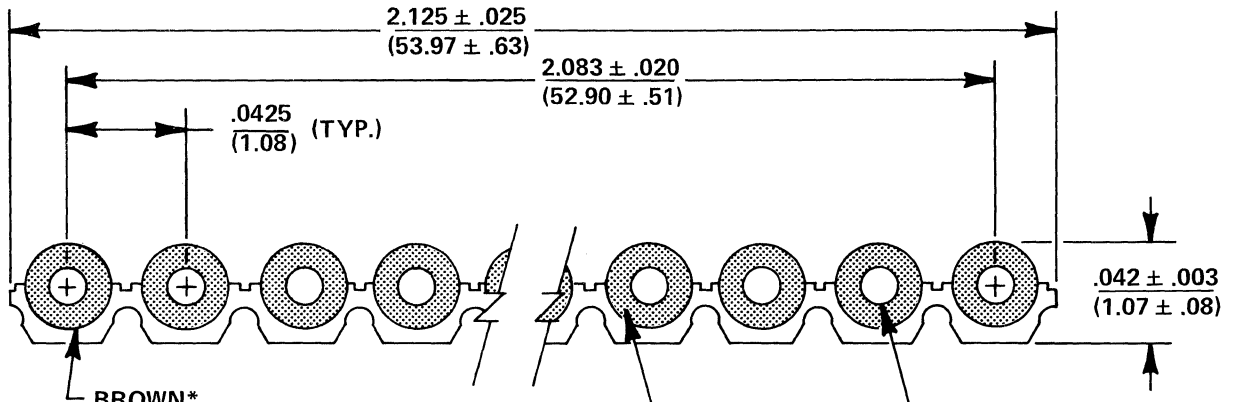
INDUCTANCE .18 μ H/ft (.59 μ H/m)

PROPAGATION DELAY 1.38 ns/ft (4.53 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +176°F (-20°C to +80°C)

3M PART NO. 3384/50



- * 10 Color Repeat
- Brown
 - Red
 - Orange
 - Yellow
 - Green
 - Blue
 - Violet
 - Gray
 - White
 - Black

USED ON

SEPT. 1, 1978

3

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ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
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CABLE SPECIFICATION
U.L. STYLE NO. 2776

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	$\pm .1$	$\pm .02$	$\pm .005$
mm	$\pm .5$	$\pm .13$	$\pm .03$

DR

APP

SAS
RBM

A

1031

SCOTCHFLEX ROUND CONDUCTOR FLAT CABLE SPECIFICATION

CABLE NUMBER 3384 UL STYLE 2776

SCOPE: This specification details the requirements for a multiposition color coded round conductor flat cable on .0425" (1.08mm) wire to wire spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Polyvinyl chloride (PVC) U.L.
flammability rating VW-1 (Old FR-1)

COLOR 10 color repeat, clear carrier

CONDUCTORS 26 AWG (.404) solid

ELECTRICAL

VOLTAGE RATING 300 V_{RMS}

INSULATION RESISTANCE $>10^9 \Omega$ / 10 ft (3m) sample

Ground Signal configuration (GS)

CHARACTERISTIC IMPEDANCE 120 Ω

CAPACITANCE 8.3 pF/ft (27.23 pF/m)

INDUCTANCE .21 μ H/ft (.69 μ H/m)

PROPAGATION DELAY 1.37 ns/ft (4.49 ns/m)

Ground Signal Ground configuration (GSG)

CHARACTERISTIC IMPEDANCE 85 Ω

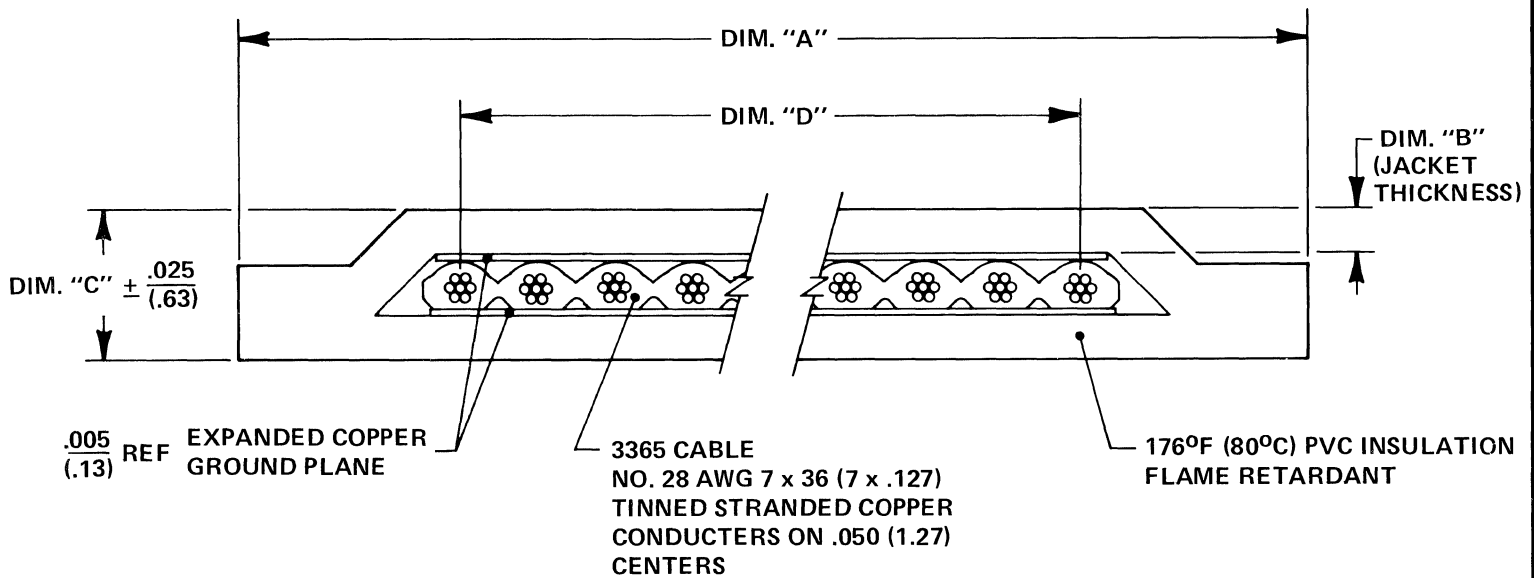
CAPACITANCE 15.7 pF/ft (51.5 pF/m)

INDUCTANCE .16 μ H/ft (.52 μ H/m)

PROPAGATION DELAY 1.41 ns/ft (4.63 ns/m)

ENVIRONMENTAL

TEMPERATURE RATING -4°F to +176°F (-20°C to +80°C)



3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"
3517/10	1.00 (25.4)	.032 (.81)	.11 (2.8)	.450 ± .007 (11.43 ± .18)
3517/14	1.30 (33.0)	.032 (.81)	.11 (2.8)	.650 ± .007 (16.51 ± .18)
3517/16	1.30 (33.0)	.032 (.81)	.11 (2.8)	.750 ± .011 (19.05 ± .28)
3517/20	1.50 (38.1)	.032 (.81)	.11 (2.8)	.950 ± .011 (24.13 ± .28)
3517/24	1.85 (47.0)	.032 (.81)	.11 (2.8)	1.150 ± .011 (29.21 ± .28)
3517/25	1.85 (47.0)	.032 (.81)	.11 (2.8)	1.200 ± .011 (30.48 ± .28)
3517/26	1.85 (47.0)	.032 (.81)	.11 (2.8)	1.250 ± .011 (31.75 ± .28)
3517/34	2.16 (54.9)	.047 (1.19)	.14 (3.6)	1.650 ± .015 (41.91 ± .38)
3517/37	2.31 (58.7)	.047 (1.19)	.14 (3.6)	1.800 ± .015 (45.72 ± .38)
3517/40	2.46 (62.5)	.047 (1.19)	.14 (3.6)	1.950 ± .015 (49.53 ± .38)
3517/50	2.96 (75.2)	.047 (1.19)	.14 (3.6)	2.450 ± .015 (62.23 ± .38)
3517/60	3.58 (90.9)	.062 (1.57)	.17 (4.3)	2.950 ± .015 (74.93 ± .38)
3517/64	3.78 (96.0)	.062 (1.57)	.17 (4.3)	3.150 ± .015 (80.01 ± .38)

USED ON

SEPT. 17, 1979

3

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ISSUE

ISSUE DATE AND CHANGE RECORD

REV. CH.

**CABLE SPECIFICATIONS
3M PART NO. 3517**

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE \approx

	.0	.00	.000
INCH	±.1	.05	.010
mm	.3	1.27	

DR. *SAS*
APP. *ARM*

A

1035

Scotchflex Jacketed Round Conductor Flat Cable

Product Number 3517
UL Style 2912

Scope: This specification details the requirements for a multiposition round conductor flat cable with .050" (1.27mm) conductor spacing which is encapsulated by a protective jacket.

Specifications:

Physical:

Jacketing Material: Polyvinyl Chloride (PVC)

UL Flammability rated VW-1

Color: Black

Inner Cable: Scotchflex Product No. 3365

28 AWG 7 x 36 (7 x .127) Conductors on .050 (1.27) centers

UL Style 2651

Shielding: Expanded copper above and below cable.

Electrical:

Voltage Rating: 150 Volts

*Characteristic Impedance: 55-80 Ω

*Capacitance: 58.3 pF/ft. (191.3 pF/m)

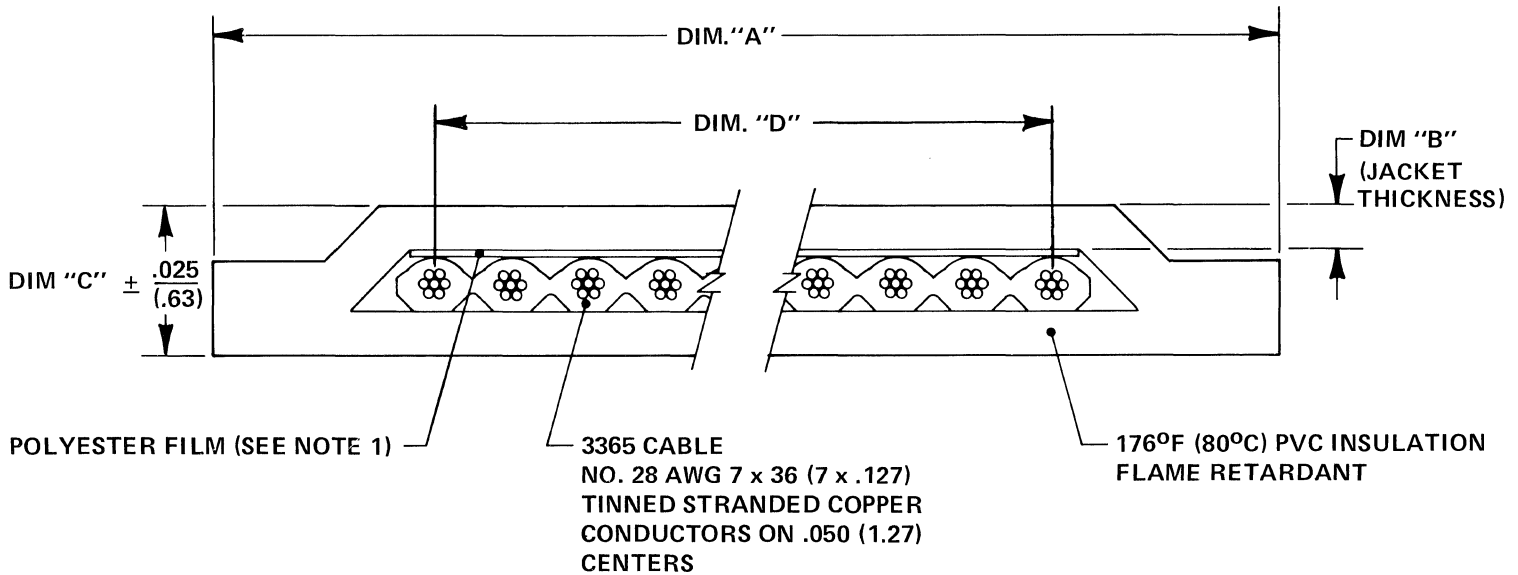
*Inductance: .08 μ H/ft. (.26 μ H/m)

*Propagation Delay: 1.45 ns/ft. (4.76ns/m)

*Note: These values measured with conductors connected in ground — signal
— ground configuration (GSG)

Environmental:

Temperature Rating: -4°F to + 176°F (-20°C to + 80°C)



3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"
3603/10	1.00 (25.4)	.032 (.81)	.10 (2.5)	.450 ± .007 (11.43 ± .18)
3603/14	1.30 (33.0)	.032 (.81)	.10 (2.5)	.650 ± .007 (16.51 ± .18)
3603/16	1.30 (33.0)	.032 (.81)	.10 (2.5)	.750 ± .011 (19.05 ± .28)
3603/20	1.50 (38.1)	.032 (.81)	.10 (2.5)	.950 ± .011 (24.13 ± .28)
3603/24	1.85 (47.0)	.032 (.81)	.10 (2.5)	1.150 ± .011 (29.21 ± .28)
3603/25	1.85 (47.0)	.032 (.81)	.10 (2.5)	1.200 ± .011 (30.48 ± .28)
3603/26	1.85 (47.0)	.032 (.81)	.10 (2.5)	1.250 ± .011 (31.75 ± .28)
3603/34	2.16 (54.9)	.047 (1.19)	.13 (3.3)	1.650 ± .015 (41.91 ± .38)
3603/37	2.31 (58.7)	.047 (1.19)	.13 (3.3)	1.800 ± .015 (45.72 ± .38)
3603/40	2.46 (62.5)	.047 (1.19)	.13 (3.3)	1.950 ± .015 (49.53 ± .38)
3603/50	2.96 (75.2)	.047 (1.19)	.13 (3.3)	2.450 ± .015 (62.23 ± .38)
3603/60	3.58 (90.9)	.062 (1.57)	.16 (4.1)	2.950 ± .015 (74.93 ± .38)
3603/64	3.78 (96.0)	.062 (1.57)	.16 (4.1)	3.150 ± .015 (80.01 ± .38)

NOTE 1:
POLYESTER FILM
NOT USED ON
60 AND 64
CONDUCTOR WIDTH

USED ON

SEPT. 17, 1979

2

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Products
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ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

CABLE SPECIFICATIONS
3M PART NO. 3603

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE \times

	.0	.00	.000
INCH	± .1	± .05	± .010
mm	± .3	1.27	1.27

DR. *SJS*
APP. *RBM*

A

1037

Scotchflex Jacketed Round Conductor Flat Cable

Product Number 3603

UL Style 2912

Scope: This specification details the requirements for a multiposition round conductor flat cable with .050" (1.27mm) conductor spacing which is encapsulated by a protective jacket.

Specifications:

Physical:

Jacketing Material: Polyvinyl Chloride (PVC)

UL Flammability rated VW-1

Color: Black

Inner Cable: Scotchflex Product No. 3365

28 AWG 7 x 36 (7 x .127) Conductors on .050 (1.27) centers

UL Style 2651

Electrical:

Voltage Rating: 150 Volts

*Characteristic Impedance: 97Ω

*Capacitance: 13.5 pF/ft (44.3 pF/m)

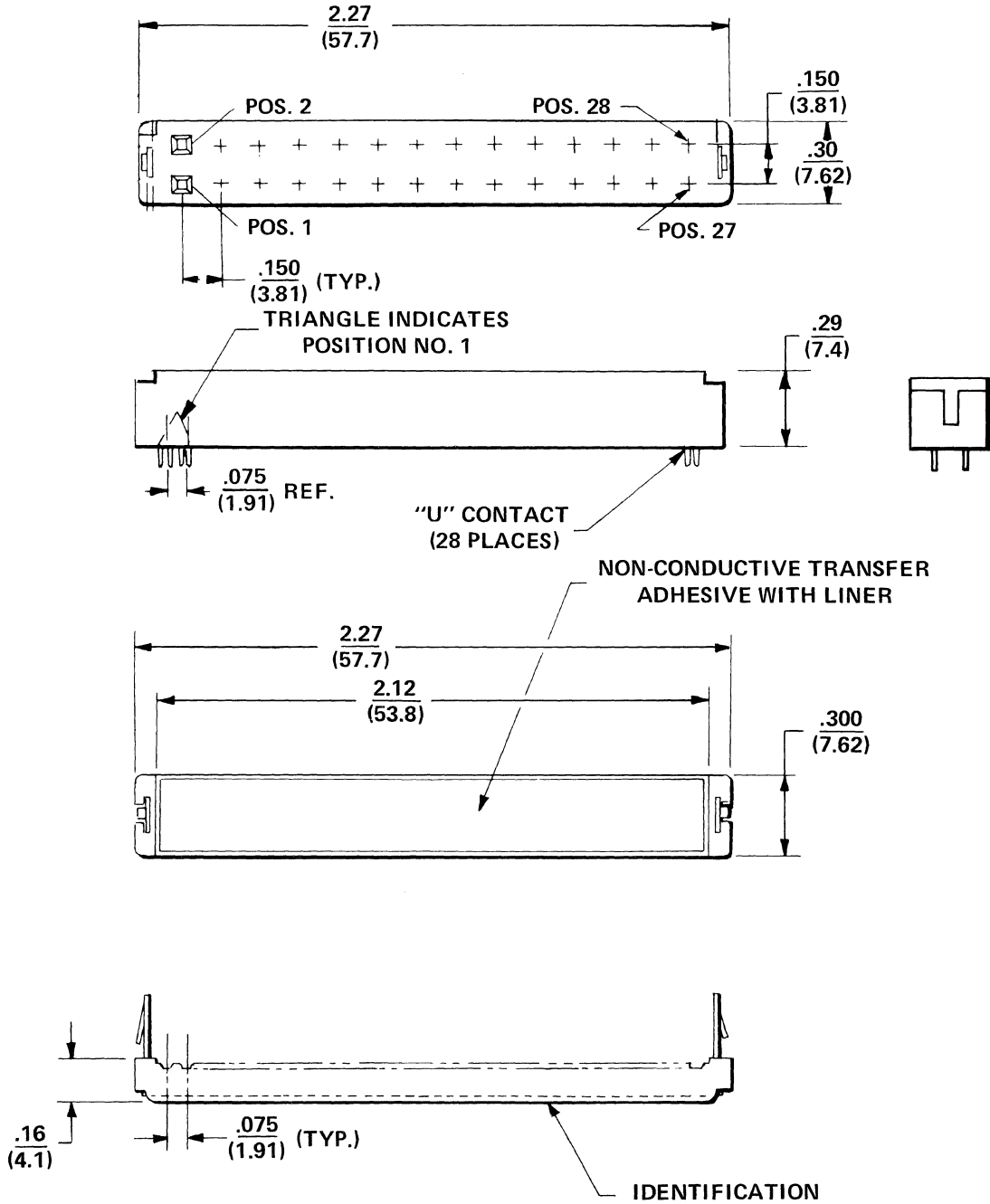
*Inductance: $.22\mu\text{H}/\text{ft}$. ($.72\mu\text{H}/\text{m}$)

*Propagation Delay: 1.45 ns/ft. (4.76ns/m)

*Note: These values measured with conductors connected in ground — signal
— ground configuration (GSG)

Environmental:

Temperature Rating: -4°F to + 176°F (-20°C to + 80°C)



USED ON

JANUARY 4, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
ANGULAR	±	°	'

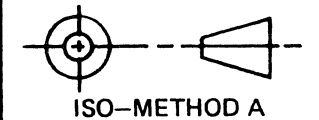
All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.



ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
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TITLE

SOCKET CONNECTOR SPECIFICATION



INCH (mm)
SCALE /
DR. *GL Olson*
APP. *RKR*

A

2004

SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition socket transition between round conductor flat cable on .075" (1.91 mm) centers and .025" (.64 mm) round or square wrap posts on .150" (3.81 mm) by .150" (3.81 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, contact position numbers and
orientation triangle

WIRE ACCOMMODATION 24 AWG stranded

INSERTION FORCE .16 lb (.71N) per contact typical

WITHDRAWAL FORCE .11 lb (.49N) per contact typical

ELECTRICAL

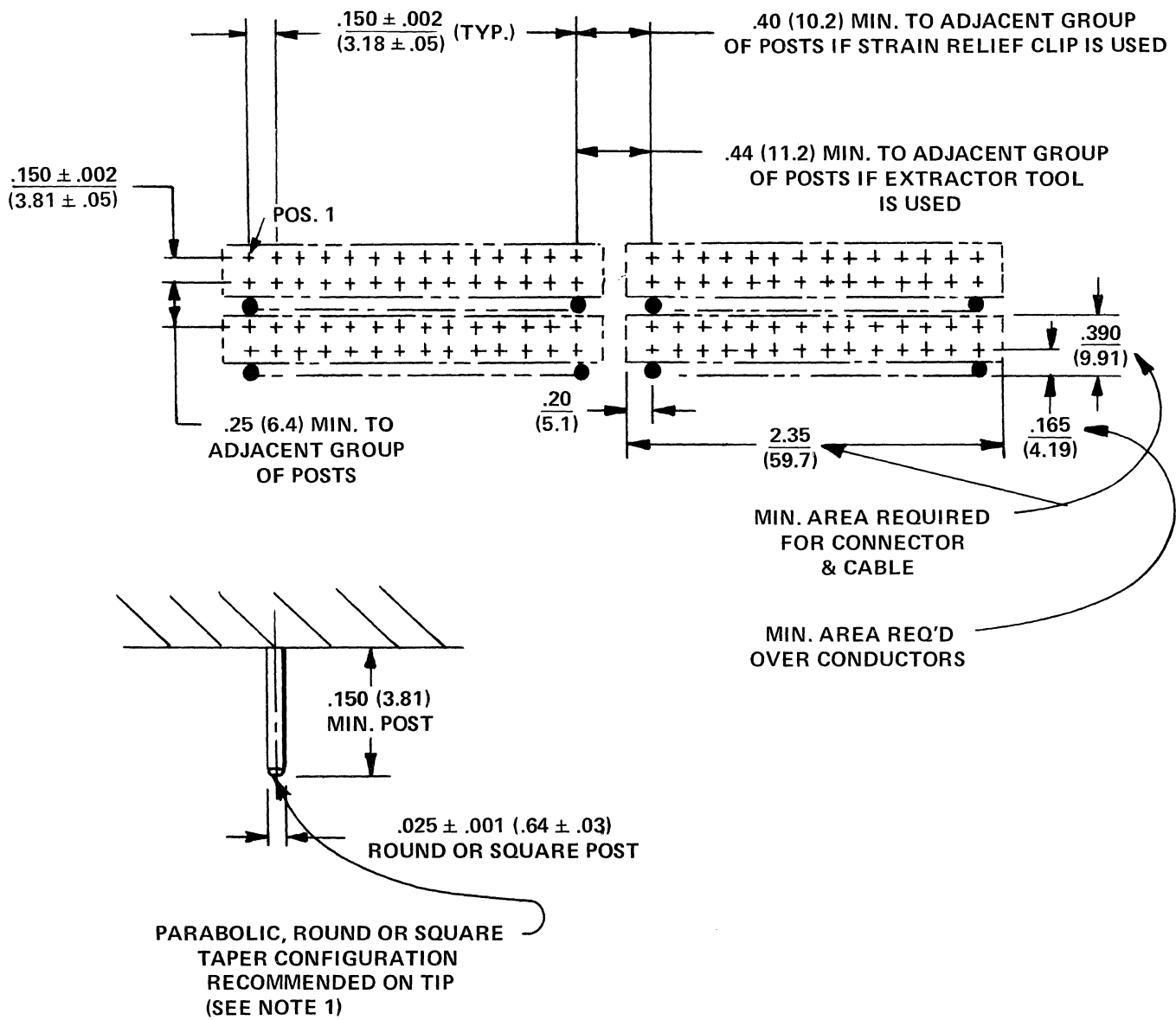
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

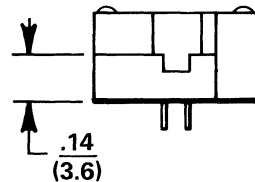
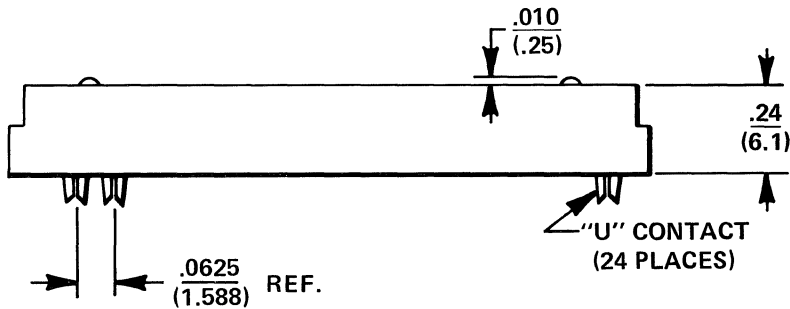
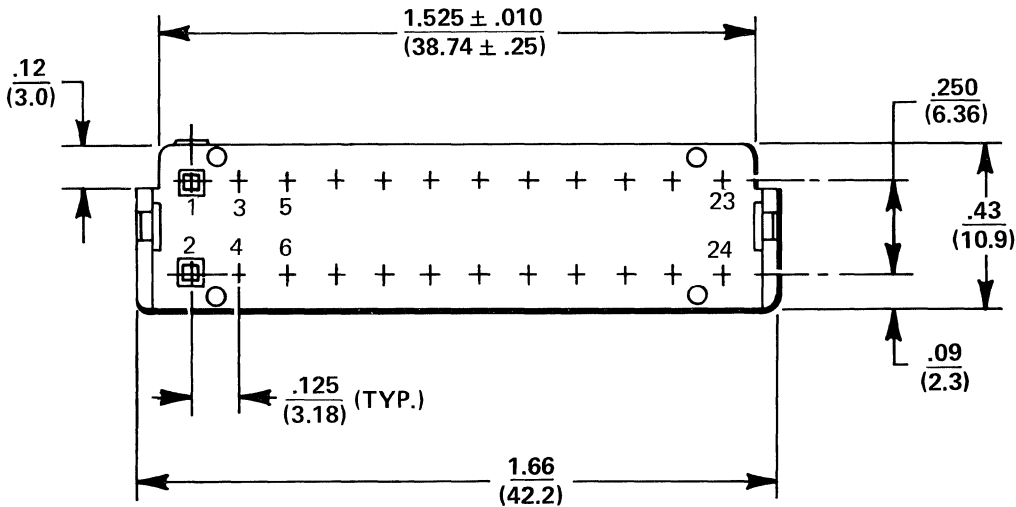
ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to +105°C)



NOTE:
 1 TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

USED ON		3M PART NO. 3441		JANUARY 4, 1977		2		
TOLERANCE UNLESS NOTED			 ELECTRONIC PRODUCTS DIVISION St. Paul Minnesota	ISSUE	ISSUE DATE AND CHANGE RECORD		REV.	CH.
	.0	.00		.000	TITLE POST PATTERN SPECIFICATION			
INCH	±.1	±.01		±.005				
mm	±.3	±.13		///				
ANGULAR	±	°	'	SCALE / DR. <i>B. L. Olson</i> APP. <i>RKR</i>				
 ISO-METHOD A			INCH (mm)					A



USED ON

DECEMBER 14, 1978

4

IMPORTANT NOTICE TO PURCHASER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:

Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. No statement or recommendation not contained herein shall have any force or effect until in an agreement signed by officers of seller and manufacturer.

Electronic Products Division



ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

SOCKET CONNECTOR BODY SPECIFICATION

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR.

APP.

A

2017

SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .0625" (1.588 mm) centers and .025" (.64 mm) round or square wrap posts on .125" (3.18 mm) by .250" (6.35 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000050" (1.27 μ m) gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μ m) nickel

MARKING Raised figures; 3M logo, part identification
number, contact position numbers, and
orientation triangle

WIRE ACCOMMODATION 24 AWG stranded
26 AWG solid

INSERTION FORCE .2 lb (.89 N) per contact typical

WITHDRAWAL FORCE .1 lb (.44 N) per contact typical

ELECTRICAL

CURRENT RATING 1A

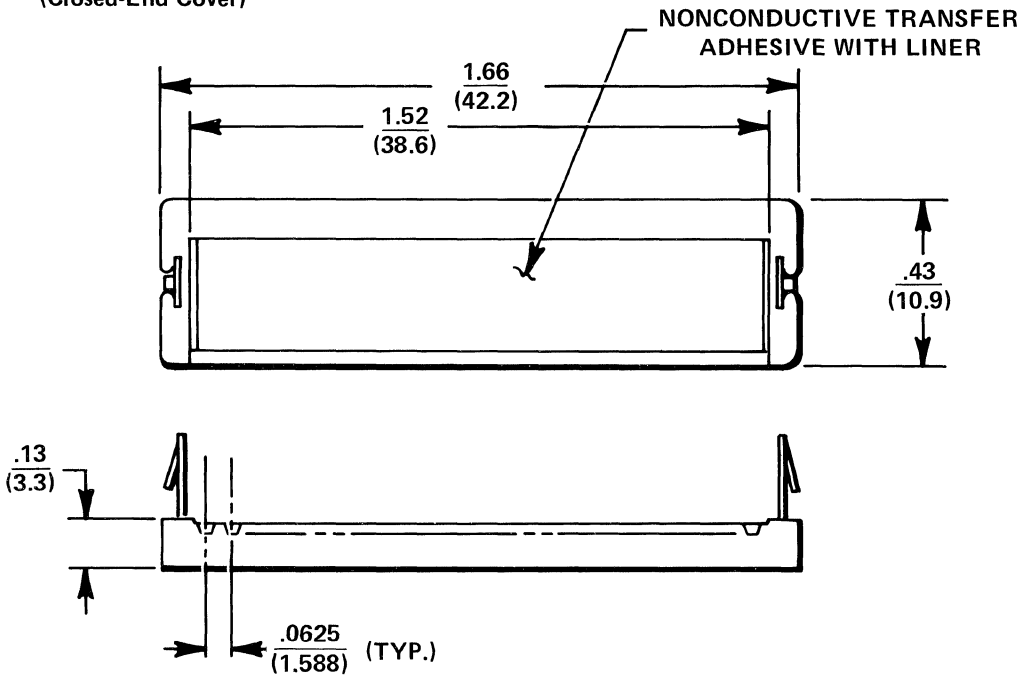
INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

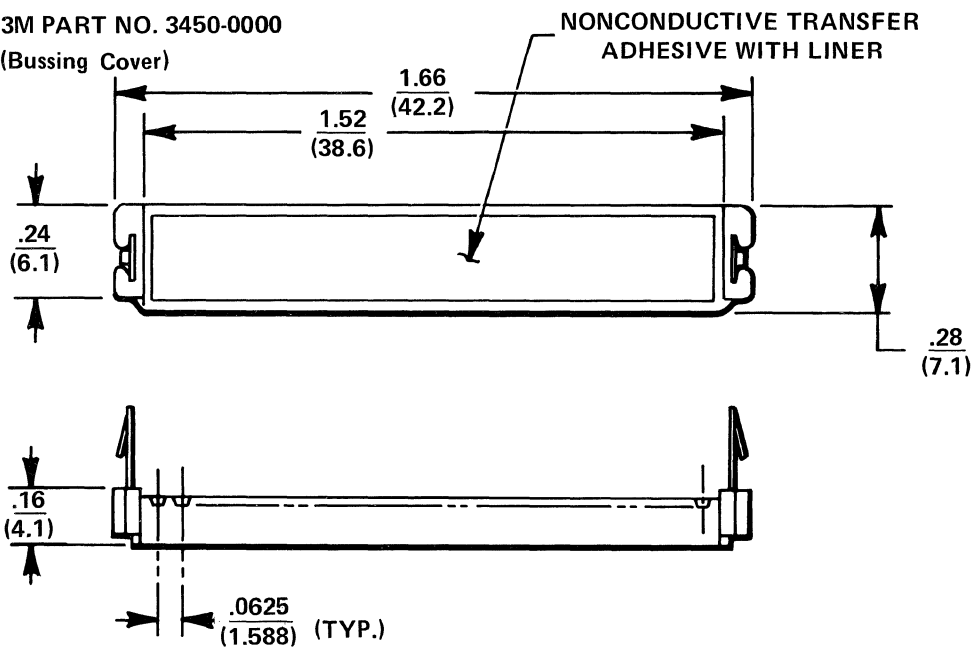
ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)

3M PART NO. 3450-0001
(Closed-End Cover)



3M PART NO. 3450-0000
(Bussing Cover)



USED ON

3M PART NO. 3450

JANUARY 4, 1977

5

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///
	±	±	±

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St. Paul
Minnesota

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ISSUE DATE AND CHANGE RECORD

REV.

CH.

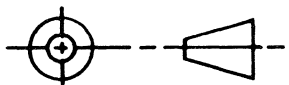
TITLE

SOCKET CONNECTOR
COVER SPECIFICATION

REGULAR ± 0

INCH
(mm)

SCALE /



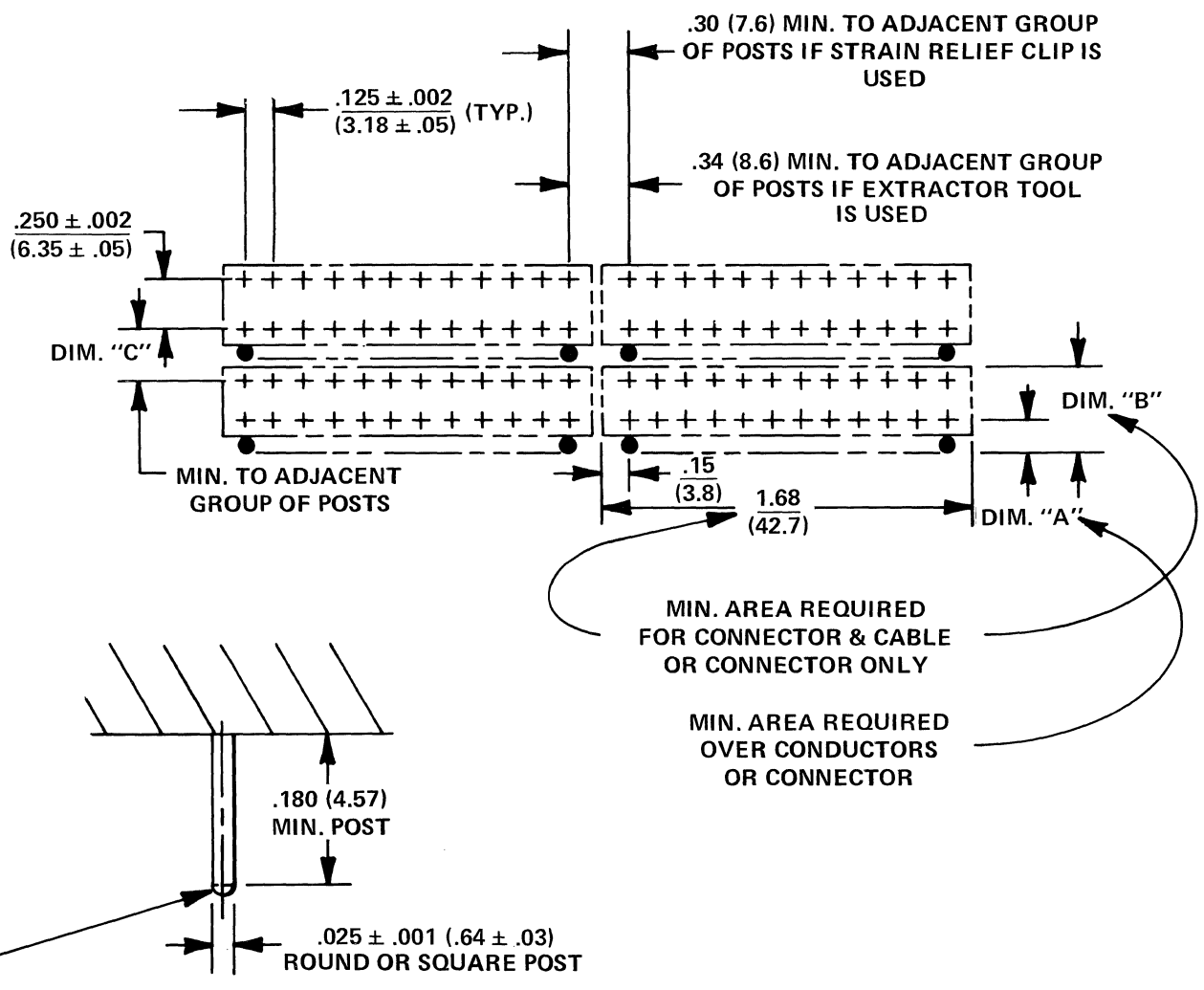
ISO-METHOD A

DR. *G. L. Olson*

APP. *RKR*

A

2017A



PARABOLIC, ROUND OR SQUARE TAPER CONFIGURATION RECOMMENDED ON TIP (SEE NOTE 1)

3M PART NO.	DIM. "A"	DIM. "B"	DIM. "C"
3450-0000	.100 (2.54)	.440 (11.18)	.20 (5.1)
3450-0001	.165 (4.19)	.510 (12.95)	.27 (6.9)

NOTE:
1 TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

USED ON

3M PART NO. 3450

JANUARY 4, 1977

4

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
	±	±	±

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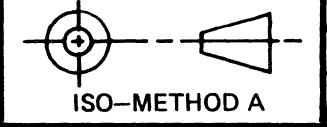
ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

TITLE
POST PATTERN SPECIFICATION

ANGULAR ± ° ' "

INCH (mm)

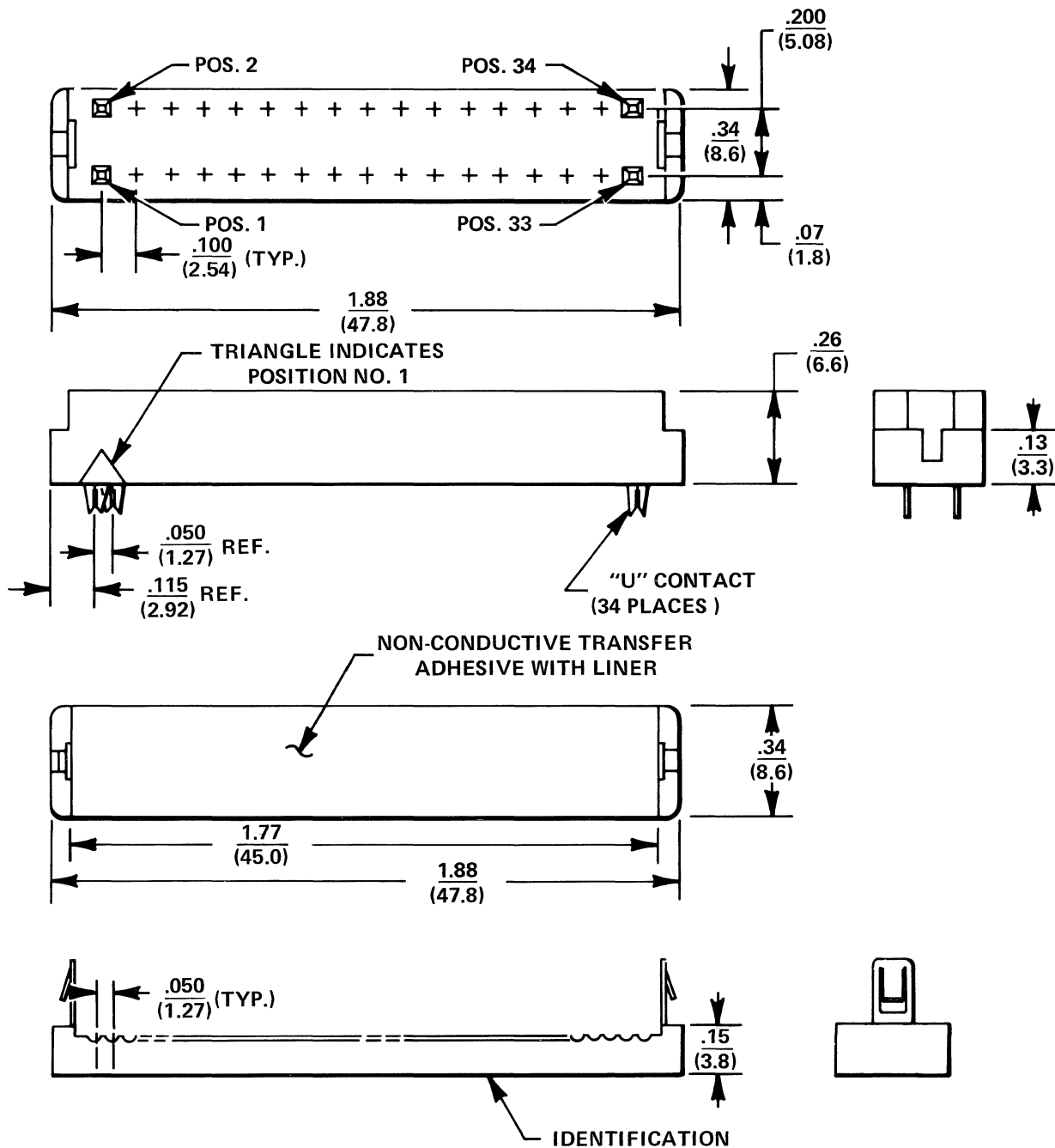
SCALE /



DR. *GL Olson*
APP. *RKR*

A

2017 B



USED ON

JANUARY 4, 1977

4

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
REGULAR	±	0	±

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St. Paul
Minnesota

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ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

SOCKET CONNECTOR SPECIFICATION

INCH
(mm)

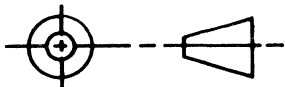
SCALE /

DR. *Gloman*

APP. *RKR*

A

2019



ISO-METHOD A

SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .200" (5.08 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030" (.762 μm) gold per
MIL-G-45204 Type II, class 0 over
0.000100" (2.54 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, contact position numbers and
orientation triangle.

WIRE ACCOMMODATION 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

INSERTION FORCE .5 lb (2.2 N) per contact typical

WITHDRAWAL FORCE .5 lb (2.2 N) per contact typical

ELECTRICAL

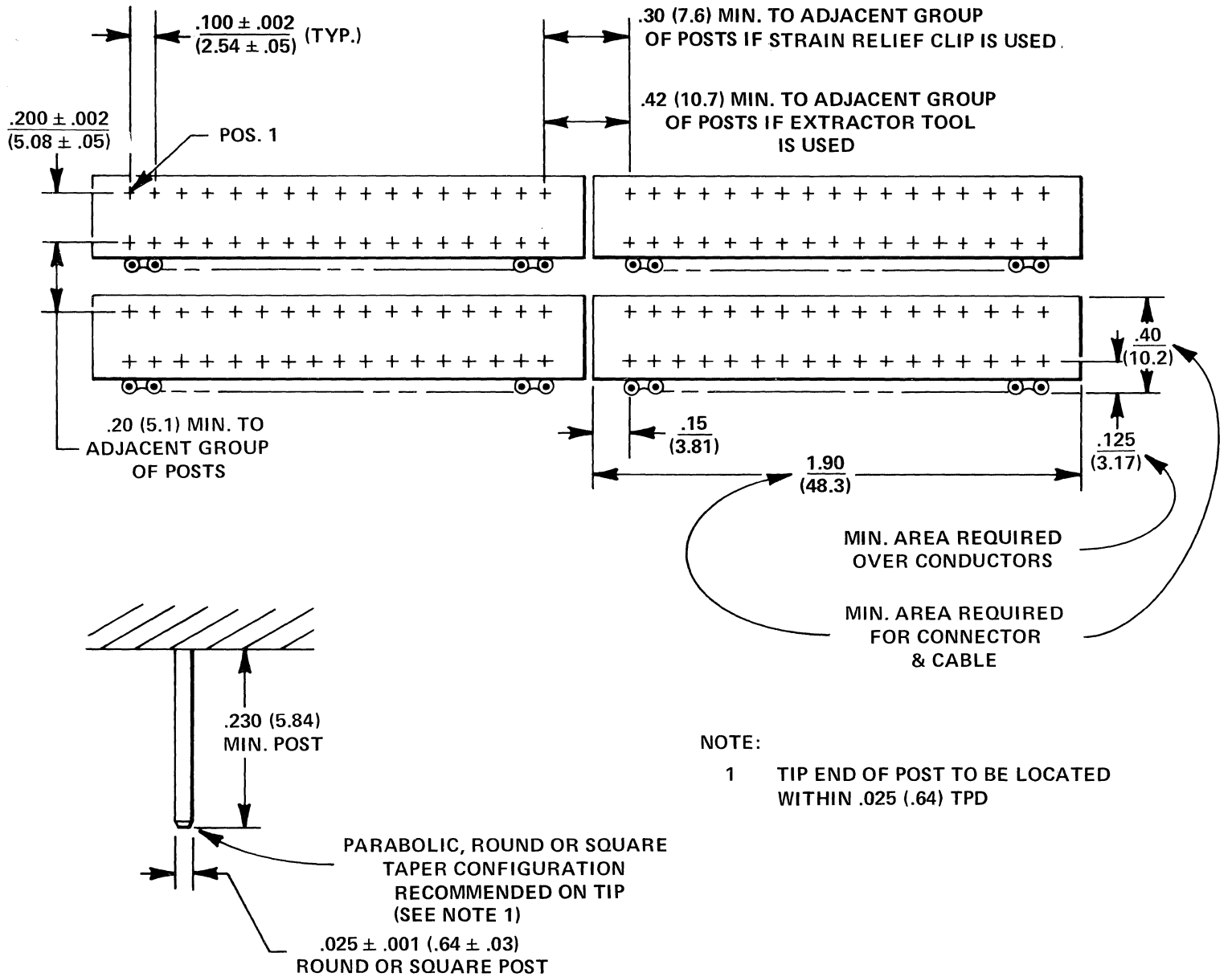
CURRENT RATING 1A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE $1000V_{\text{RMS}}$

ENVIRONMENTAL

TEMPERATURE RATING -67°F to $+221^\circ\text{F}$ (-55°C to
 $+105^\circ\text{C}$)



NOTE:
 1 TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

USED ON

3M PART NO. 3471

JANUARY 4, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	
ANGULAR	±	°	'

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St. Paul
Minnesota

INCH
(mm)

SCALE /

ISSUE

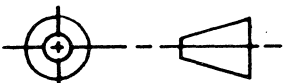
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

POST PATTERN SPECIFICATION



ISO-METHOD A

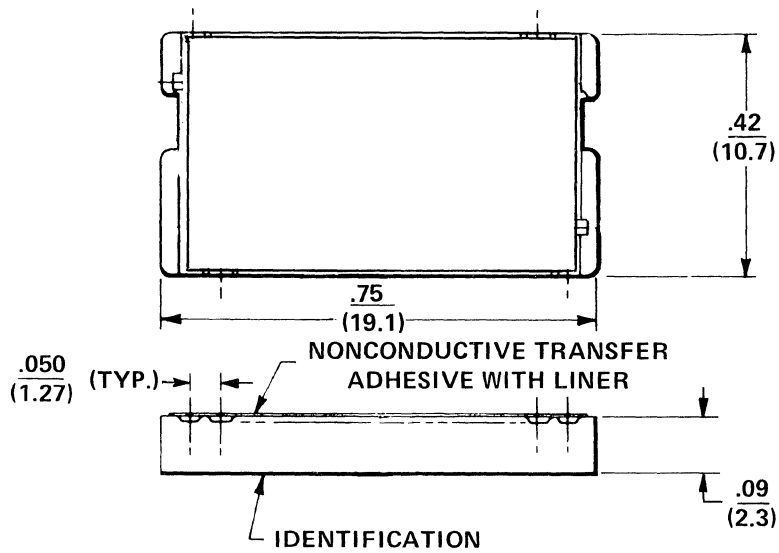
DR. *G. Glahn*

APP. *RKR*

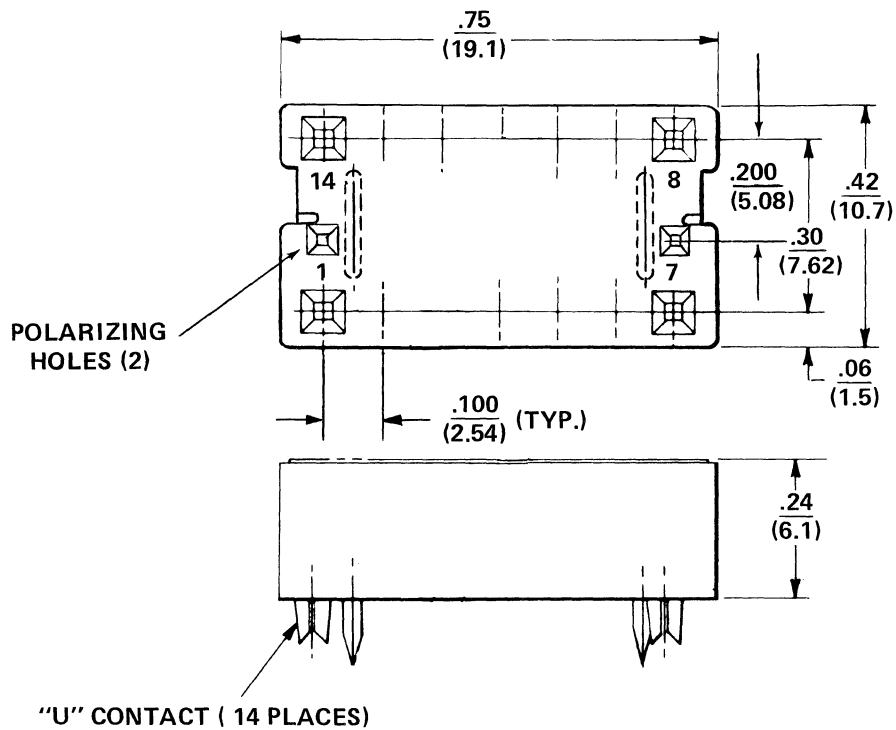
A

2019A

3M PART NO. 3407-0000



CONNECTOR COVER



CONNECTOR BODY

USED ON

JANUARY 4, 1977

4

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///
ANGULAR	±	0	'

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TITLE

SOCKET CONNECTOR SPECIFICATION

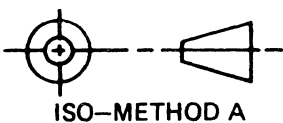
INCH
(mm)

SCALE /

DR. *G. Lohm*
APP. *RRR*

A

2020



ISO-METHOD A

SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .300" (7.62 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030" (.762 μm) per
MIL-G-45204 Type II, class 0 over
0.000100" (2.54 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, and contact position numbers

WIRE ACCOMMODATION 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

INSERTION FORCE .5 lb (2.2 N) per contact typical

WITHDRAWAL FORCE .5 lb (2.2 N) per contact typical

ELECTRICAL

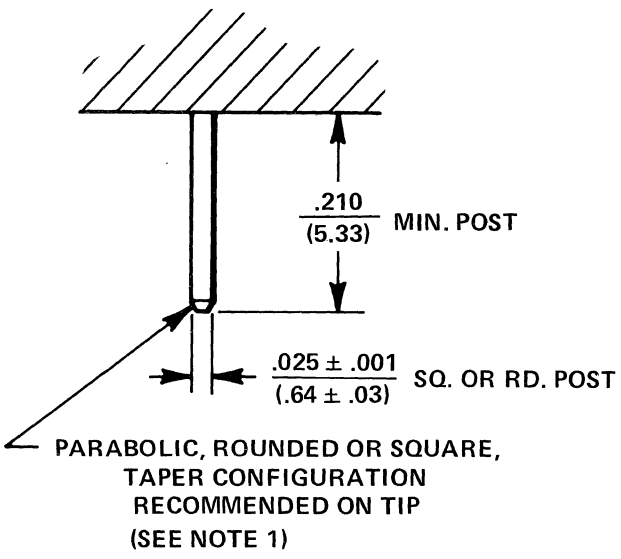
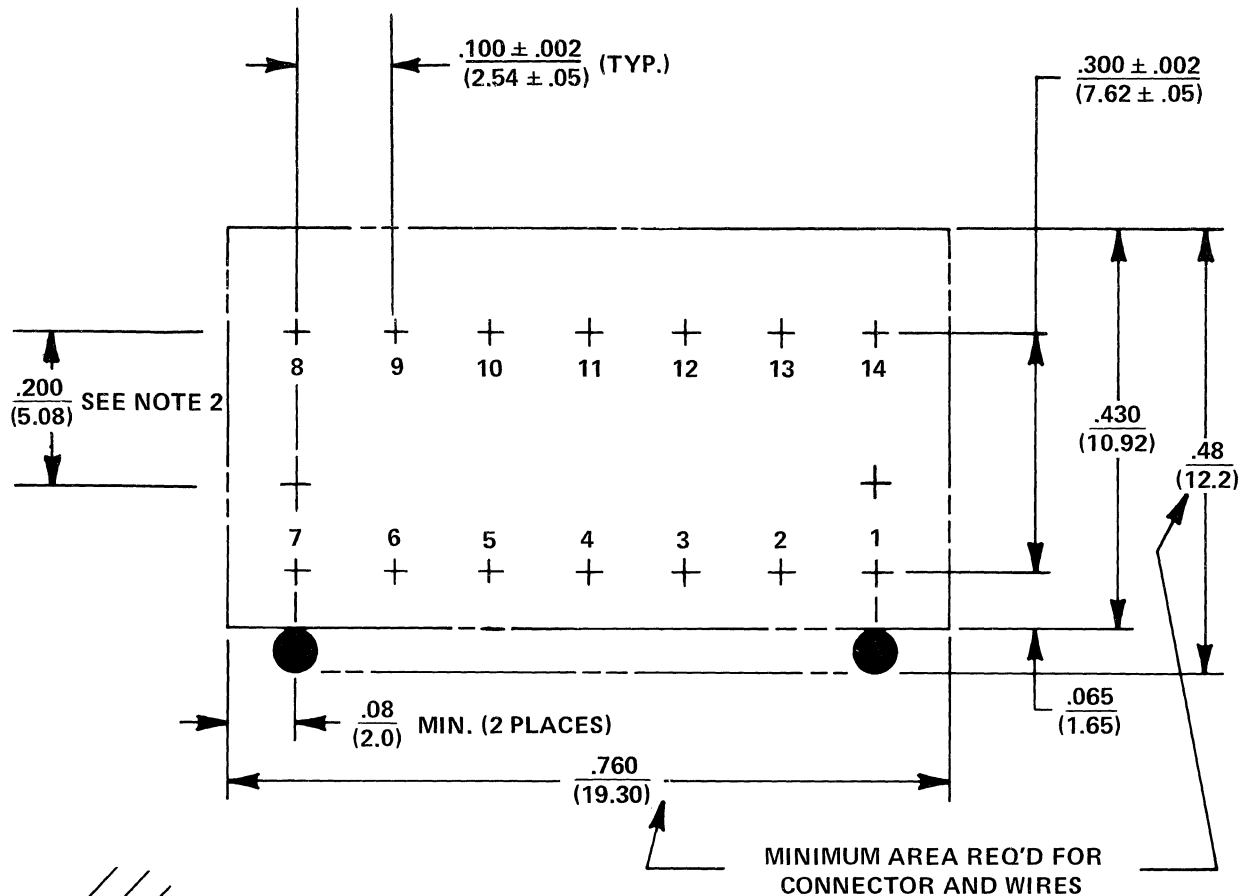
CURRENT RATING 1A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE $1000 V_{\text{RMS}}$

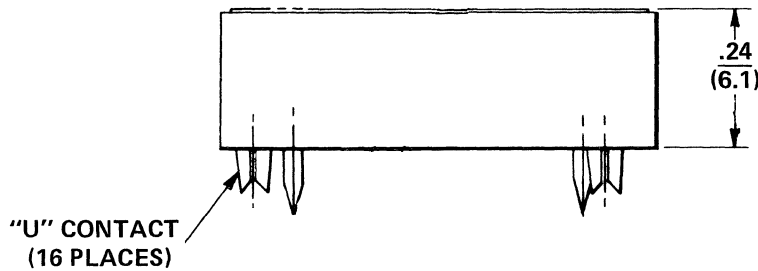
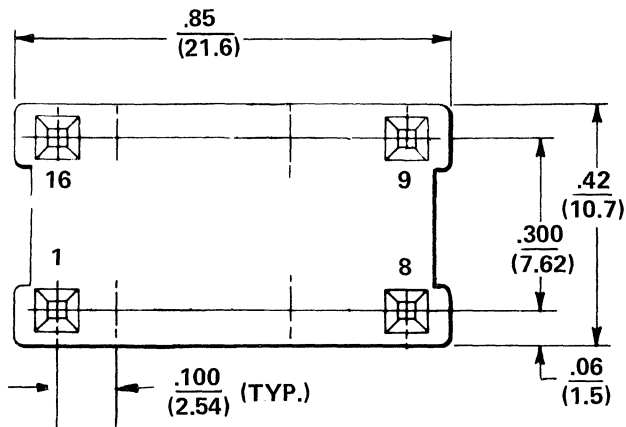
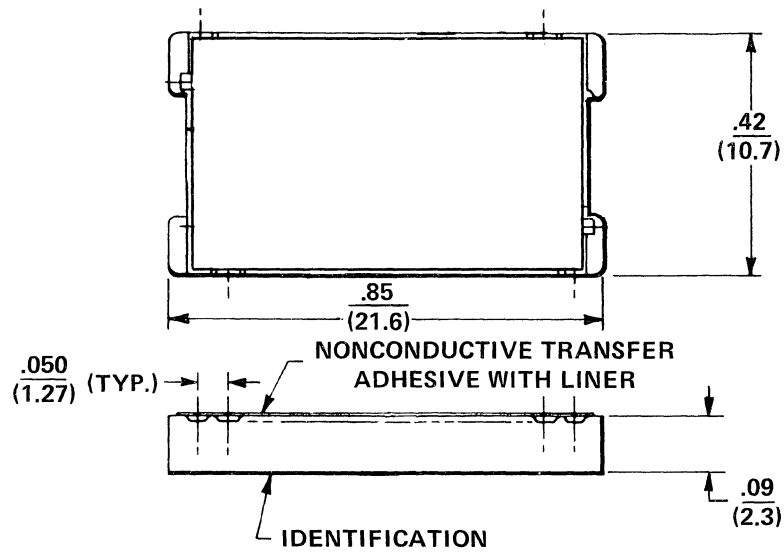
ENVIRONMENTAL

TEMPERATURE RATING -67°F to $+221^\circ\text{F}$ (-55°C to
 $+105^\circ\text{C}$)



- NOTE:
- 1) END OF POSTS TO BE LOCATED WITHIN .025 (.64) TPD AT TIP END
 - 2) OPTIONAL POLARIZING POSTS (2)

USED ON		3M PART NO. 3407		JANUARY 4, 1977		3				
TOLERANCE UNLESS NOTED		 ELECTRONIC PRODUCTS DIVISION St. Paul Minnesota		ISSUE		ISSUE DATE AND CHANGE RECORD		REV.	CH.	
	.0			.00	.000	TITLE POST PATTERN SPECIFICATION				
INCH	± .1			± .01	± .005					
mm	± .3			± .13						
ANGULAR ± ° ' "		INCH (mm)		SCALE /		2020 A				
 ISO-METHOD A		DR. <i>GL Olson</i>		APP. <i>RKR</i>					A	



USED ON

JANUARY 4, 1977

2

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
	±	±	±

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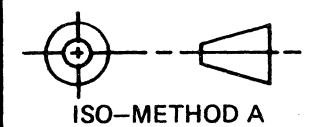
ISSUE DATE AND CHANGE RECORD

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TITLE

SOCKET CONNECTOR
SPECIFICATION



DR. *G. Olson*
APP. *RKR*

SCALE /

A

2040

SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .300" (7.62 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030" (.762 μ m) per
MIL-G-45204 Type II, class 0 over
0.000100" (2.54 μ m) nickel

MARKING Raised figures; 3M logo, part identification
number, and contact position numbers

WIRE ACCOMMODATION 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

INSERTION FORCE .5 lb (2.2 N) per contact typical

WITHDRAWAL FORCE .5 lb (2.2 N) per contact typical

ELECTRICAL

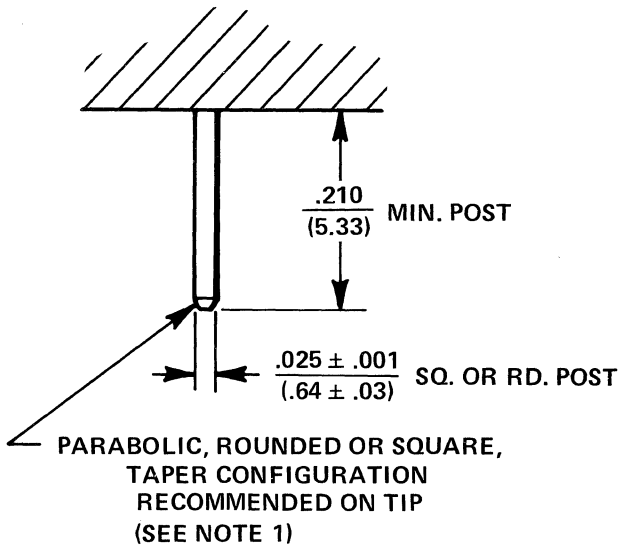
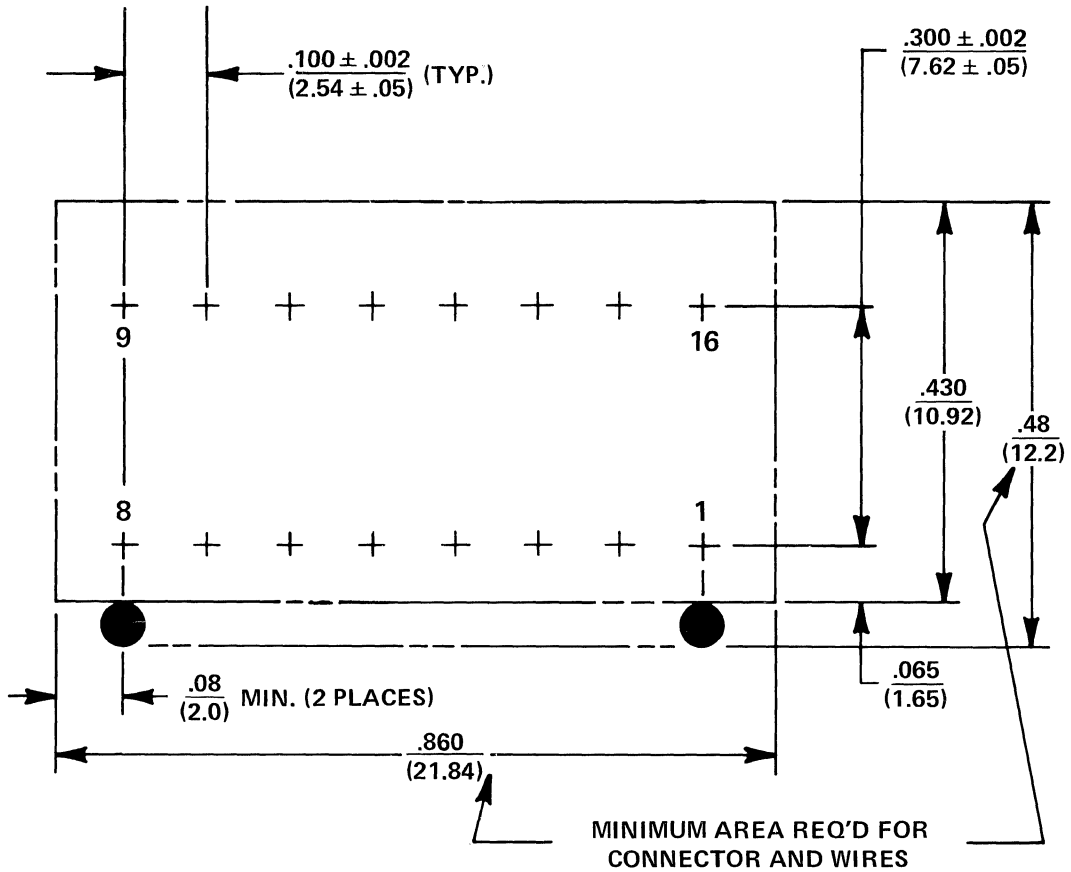
CURRENT RATING 1A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



NOTE:
1 END OF POSTS TO BE LOCATED WITHIN .025 (.64) TPD AT TIP END

USED ON

3M PART NO. 3327

JANUARY 4, 1977

2

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
ANGULAR	±	°	'

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TITLE

POST PATTERN SPECIFICATION

INCH
(mm)

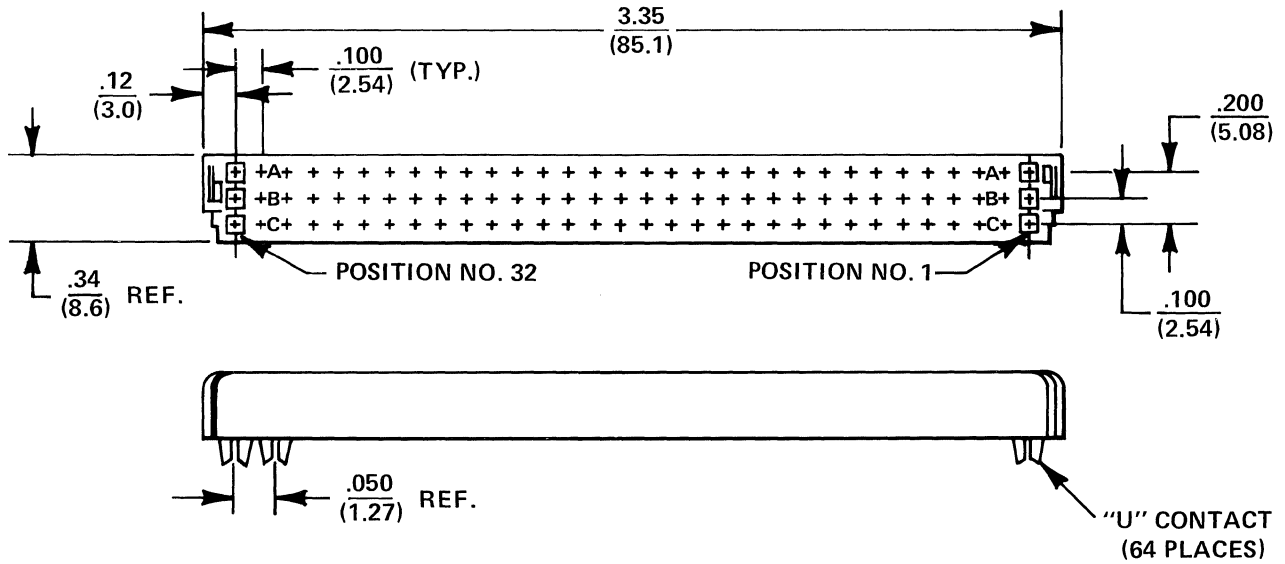
SCALE /

DR. *Gl Alon*

APP. *RKR*

A

2040 A



USED ON

JANUARY 4, 1977

2

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±	±.005
mm	±.3	±.13	
ANGULAR	±	°	'

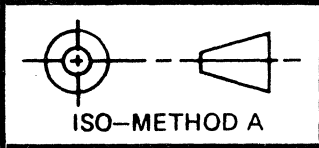
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ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

TITLE

SOCKET CONNECTOR SPECIFICATION



INCH (mm)
 DR. *GLabon*
 APP. *RKR*

A

PART NO. 2041

SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .200" (5.08 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030" (.762 μm) gold per
MIL-G-45204 Type II, class 0 over
0.000050" (1.27 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, contact position numbers and
orientation triangle.

WIRE ACCOMMODATION 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

INSERTION FORCE 1bs (N) per contact typical

WITHDRAWAL FORCE 1bs (N) per contact typical

ELECTRICAL

CURRENT RATING 1 A

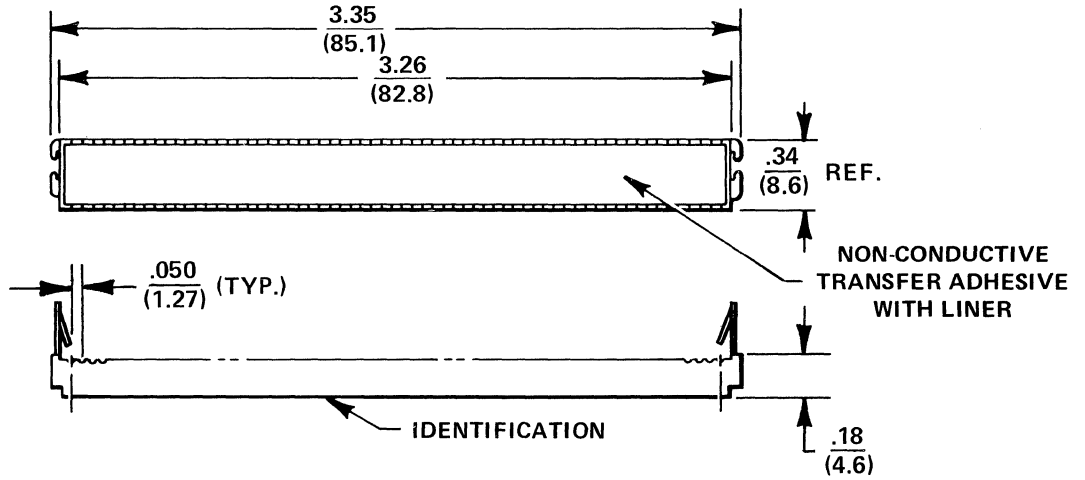
INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

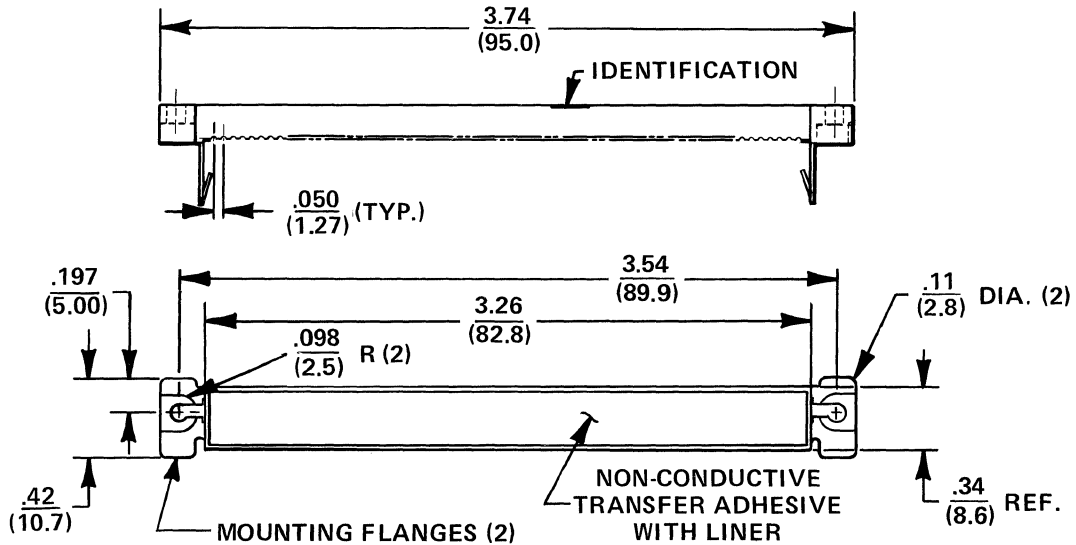
ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)

3M PART NO. 3332-0000
(Without Mounting Flanges)



3M PART NO. 3332-0001
(With Mounting Flanges)



USED ON 3332-

JANUARY 4, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	±.05
ANGULAR	±	0	

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ELECTRONIC PRODUCTS

St. Paul
Minnesota

INCH
(mm)

SCALE /

ISSUE

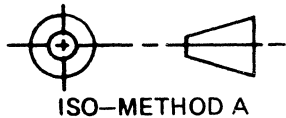
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

SOCKET CONNECTOR
COVER SPECIFICATION



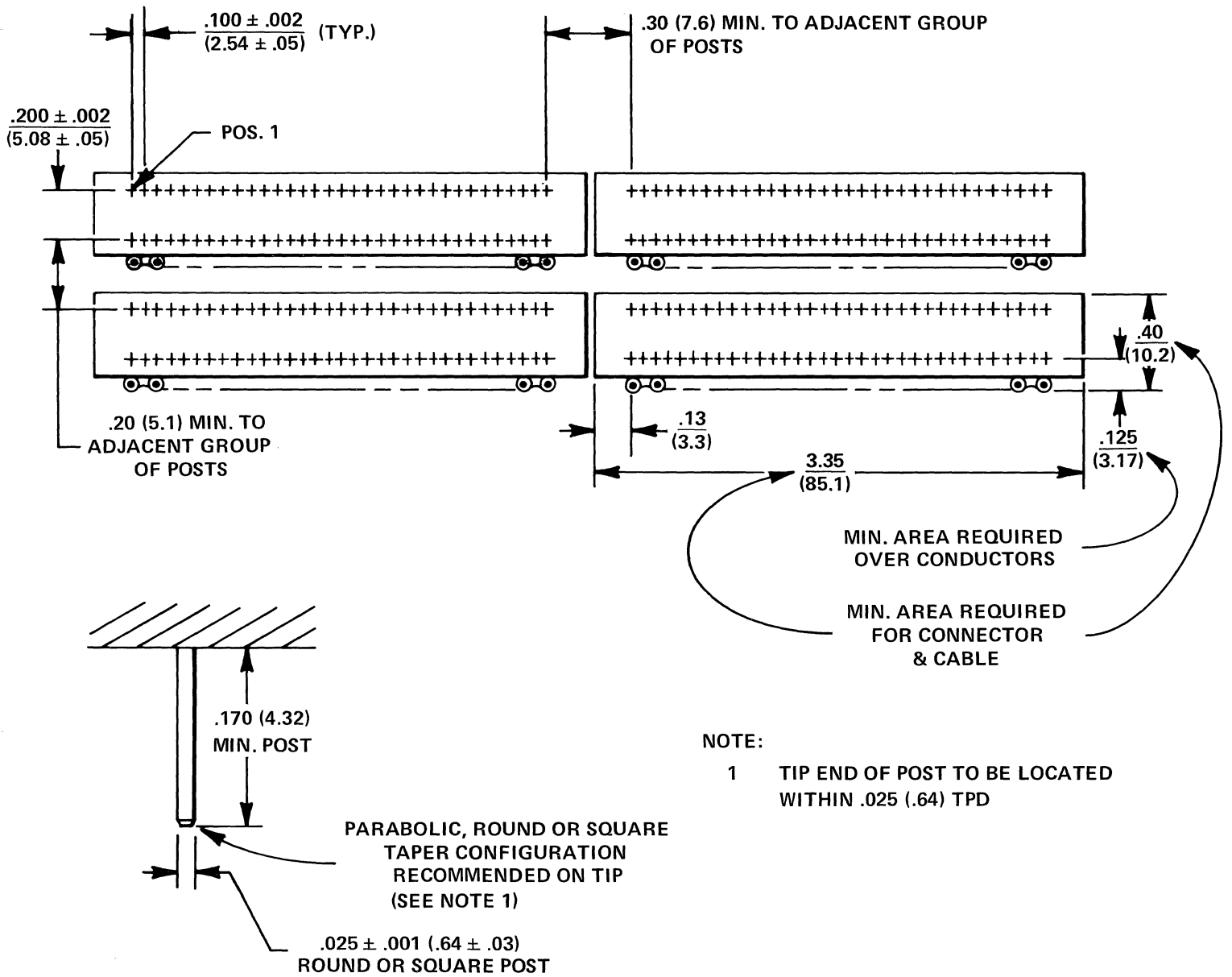
ISO-METHOD A

DR. *Blahm*

APP. *RKR*

A

2041A



USED ON

3M PART NO. 3332

JANUARY 4, 1977

2

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///
ANGULAR	±	°	'

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TITLE

POST PATTERN SPECIFICATION

INCH
(mm)

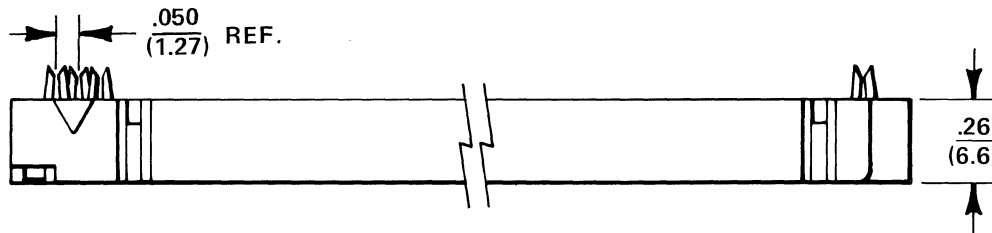
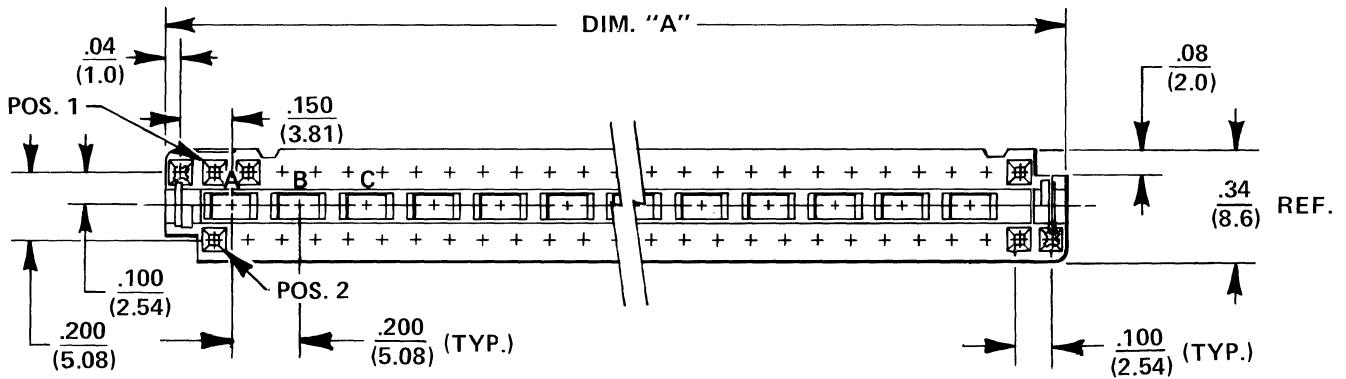
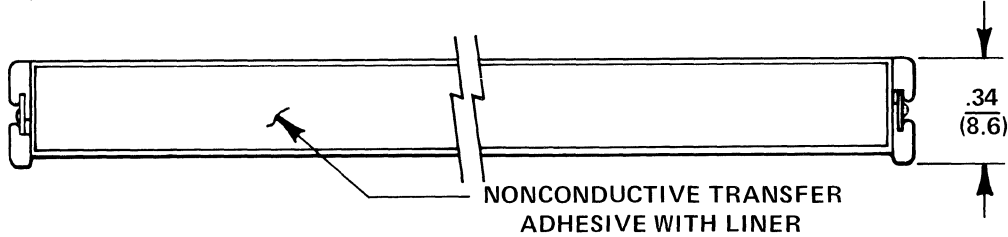
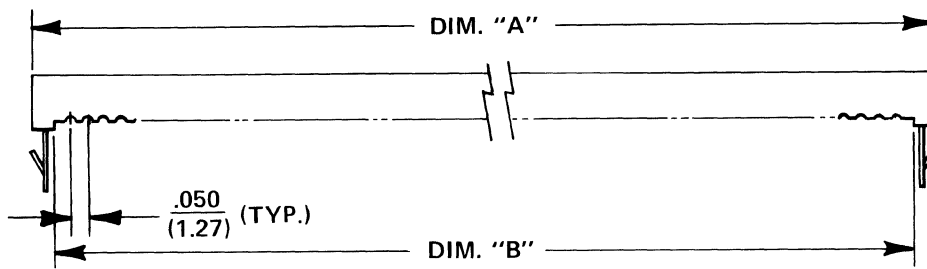
SCALE /

DR. *GL Olson*

APP. *RKR*

A

2041B



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"
20	3575	1.18 (30.0)	1.06 (26.9)
26	3501	1.48 (37.6)	1.36 (34.5)
34	3310	1.88 (47.8)	1.76 (44.7)
40	3318	2.18 (55.4)	2.06 (52.3)
50	3307	2.68 (68.1)	2.56 (65.0)

USED ON

SEPTEMBER 10, 1979

2

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Electronic Products Division



ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

SOCKET CONNECTOR SPECIFICATION

3M PART NOS. 3307, 3310, 3318, 3501, 3575

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

DR. *GARY L. OLSON*

APP. *John C. Kostechi*

A

2042

Scotchflex Socket Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .200" (5.08 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Beryllium Copper

Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0, over 0.000100" (2.54 μm) nickel

Wire accommodation: 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

Insertion Force: .5 lb (2.2N) per contact typical

Withdrawal Force: .5 lb (2.2N) per contact typical

Electrical:

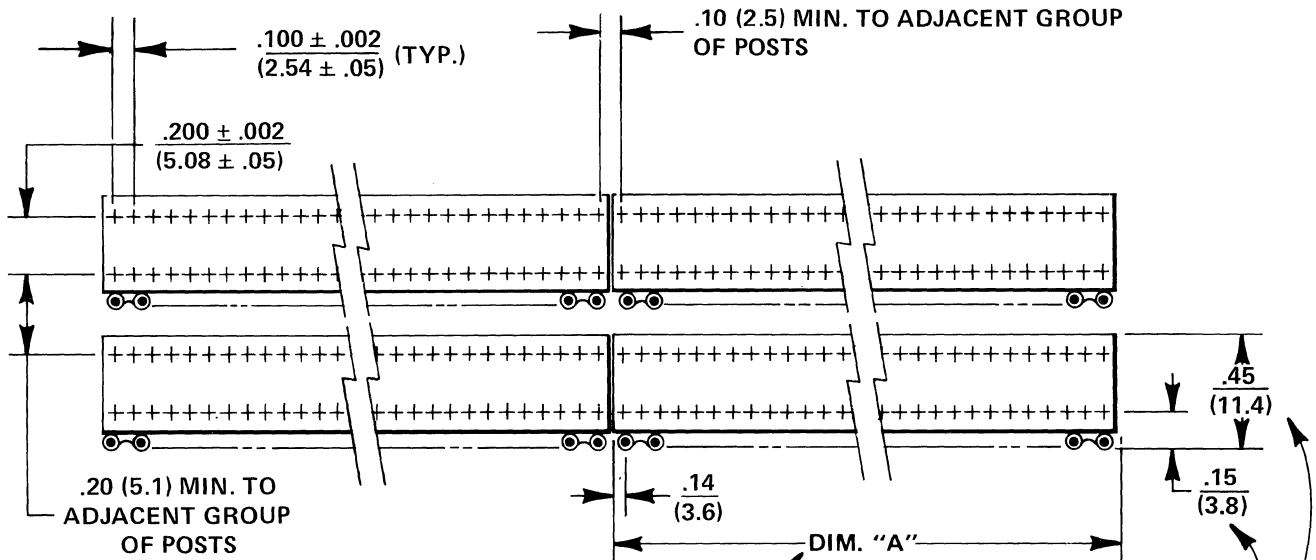
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

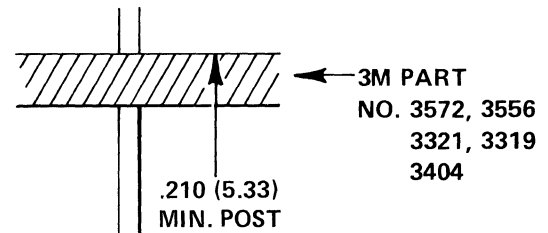
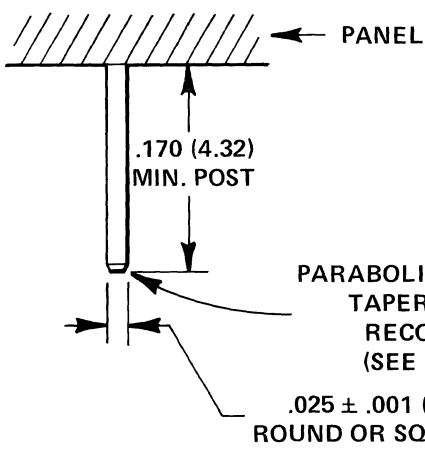
Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"
20	3670	1.20 (30.5)
26	3556	1.50 (38.1)
34	3321	1.90 (48.3)
40	3396	2.20 (55.9)
50	3404	2.70 (68.6)

MIN. AREA REQUIRED OVER CONDUCTORS

MIN. AREA REQUIRED FOR CONNECTOR & CABLE



NOTE:

1 TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

USED ON

2	SEPTEMBER 10, 1979	2	
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.

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Electronic Products Division



POST PATTERN SPECIFICATION

3M PART NOS. 3572, 3556, 3321, 3396, 3404

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

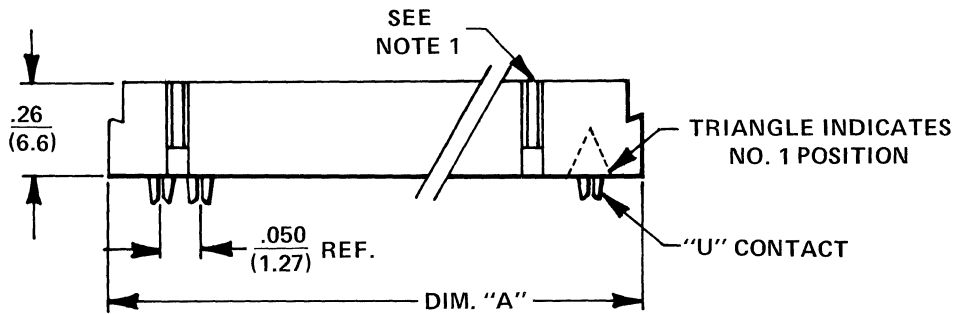
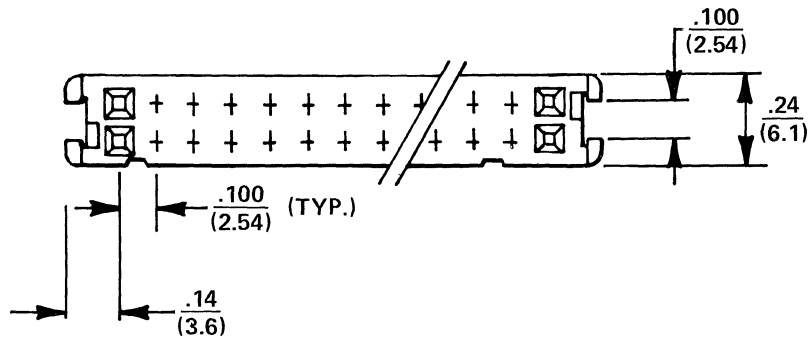
	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR. *Gary L. Olson*

APP. *John C. Karstich*

A

2042A



Contact Quantity	3M Part Number	DIM. "A"
10	3473 Series	.68 (17.3)
14	3385 Series	.88 (22.4)
16	3452 Series	.98 (24.9)
20	3421 Series	1.18 (30.0)
26	3399 Series	1.48 (37.6)
34	3414 Series	1.88 (47.8)
40	3417 Series	2.18 (55.4)
50	3425 Series	2.68 (68.1)
60	3334 Series	3.18 (80.8)

NOTES: 1 THIS POLARIZING GROOVE NON-EXISTANT ON 3385 AND 3473 SERIES

USED ON

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Electronic
Products
Division

3M

ISSUE

JANUARY 1, 1980

ISSUE DATE AND CHANGE RECORD

3

REV. CH.

SOCKET CONNECTOR BODY SPECIFICATION

3M PART NOS.: 3473, 3385, 3452,
3421, 3399, 3414,
3417, 3425, 3334

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

INCH
(mm)

SCALE

DR.

APP.

A

2051

Scotchflex Socket Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Beryllium Copper

Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0, over 0.000100" (2.54 μm) nickel

Wire accommodation: 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

Insertion Force: .5 lb (2.2N) per contact typical

Withdrawal Force: .5 lb (2.2N) per contact typical

Electrical:

Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000V_{RMS} @ sea level

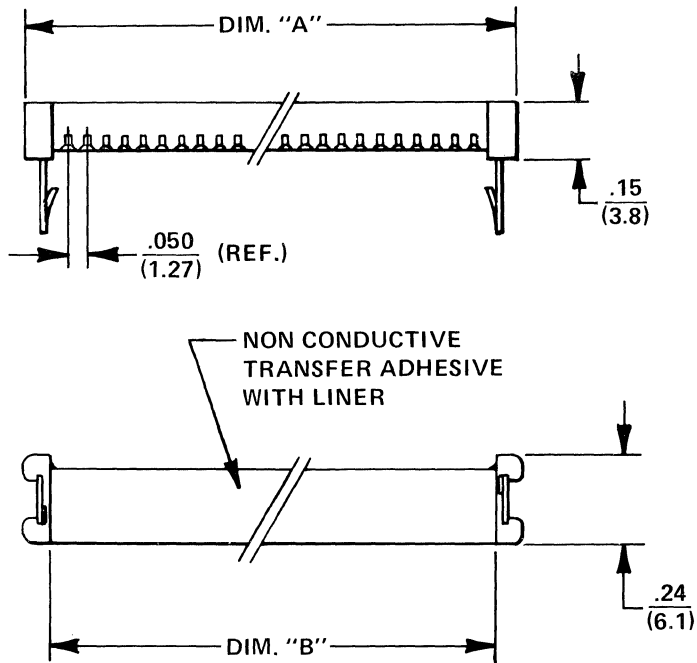
Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)

2051

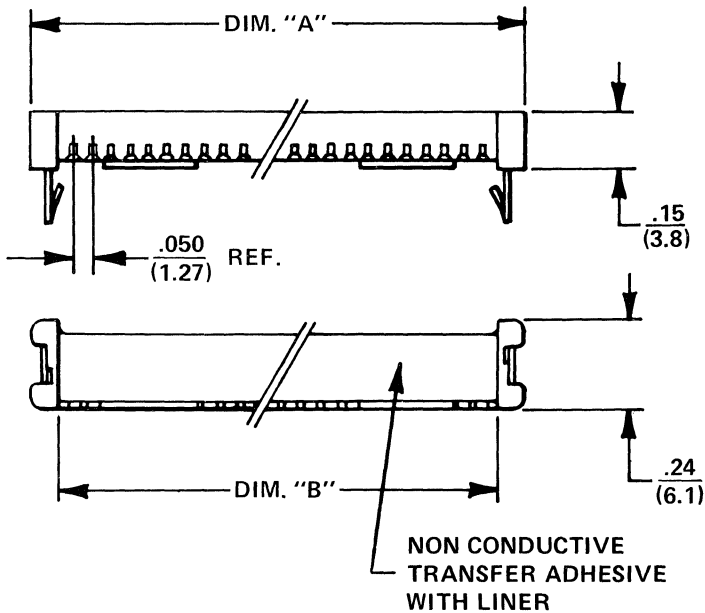
OPEN END COVER

Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"
10	3473-6000	$\frac{.68}{(17.3)}$	$\frac{.54}{(13.7)}$
14	3385-6000	$\frac{.88}{(22.4)}$	$\frac{.74}{(18.8)}$
16	3452-6000	$\frac{.98}{(24.9)}$	$\frac{.84}{(21.3)}$
20	3421-6000	$\frac{1.18}{(30.0)}$	$\frac{1.04}{(26.4)}$
26	3399-6000	$\frac{1.48}{(37.6)}$	$\frac{1.34}{(34.0)}$
34	3414-6000	$\frac{1.88}{(47.8)}$	$\frac{1.74}{(44.2)}$
40	3417-6000	$\frac{2.18}{(55.4)}$	$\frac{2.04}{(51.8)}$
50	3425-6000	$\frac{2.68}{(68.1)}$	$\frac{2.54}{(64.5)}$
60	3334-6000	$\frac{3.18}{(80.8)}$	$\frac{3.04}{(77.2)}$



CLOSED END COVER

Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"
10	3473-7000	$\frac{.68}{(17.3)}$	$\frac{.54}{(13.7)}$
14	3385-7000	$\frac{.88}{(22.4)}$	$\frac{.74}{(18.8)}$
16	3452-7000	$\frac{.98}{(24.9)}$	$\frac{.84}{(21.3)}$
20	3421-7000	$\frac{1.18}{(30.0)}$	$\frac{1.04}{(26.4)}$
26	3399-7000	$\frac{1.48}{(37.6)}$	$\frac{1.34}{(34.0)}$
34	3414-7000	$\frac{1.88}{(47.8)}$	$\frac{1.74}{(44.2)}$
40	3417-7000	$\frac{2.18}{(55.4)}$	$\frac{2.04}{(51.8)}$
50	3425-7000	$\frac{2.68}{(68.1)}$	$\frac{2.54}{(64.5)}$
60	3334-7000	$\frac{3.18}{(80.8)}$	$\frac{3.04}{(77.2)}$



USED ON

DEC. 7, 1978

3

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Electronic Products Division

3M

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

SOCKET CONNECTOR COVER SPECIFICATION

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

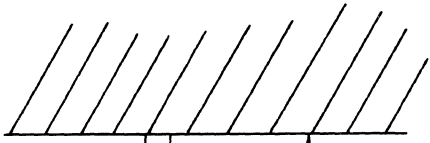
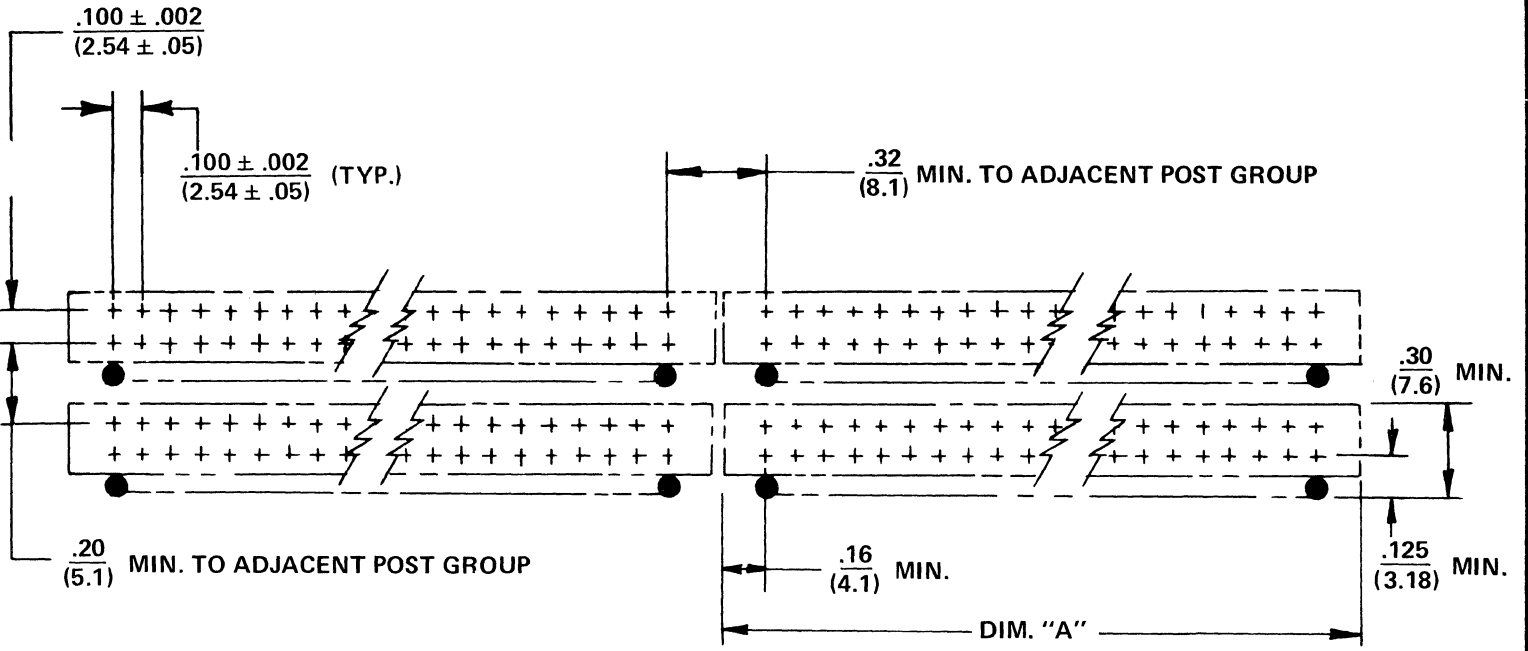
	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	±.05

DR.

APP.

A

2051A



NOTE:

- 1 END OF POSTS TO BE LOCATED WITHIN .025 (.64) TPD AT TIP END

$\frac{.230}{(5.84)}$ MIN.
 $\frac{.025 \pm .001}{(.64 \pm .03)}$ ROUND OR SQUARE POSTS
 PARABOLIC, ROUNDED OR SQUARE TAPER CONFIGURATION RECOMMENDED ON TIP (SEE NOTE 1)

USED ON

3M PART NOS. 3473, 3421, 3399, 3414, 3417, 3425

NOVEMBER 4, 1977

1

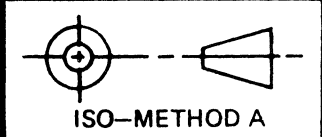
TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
ANGULAR	±	±	±

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ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
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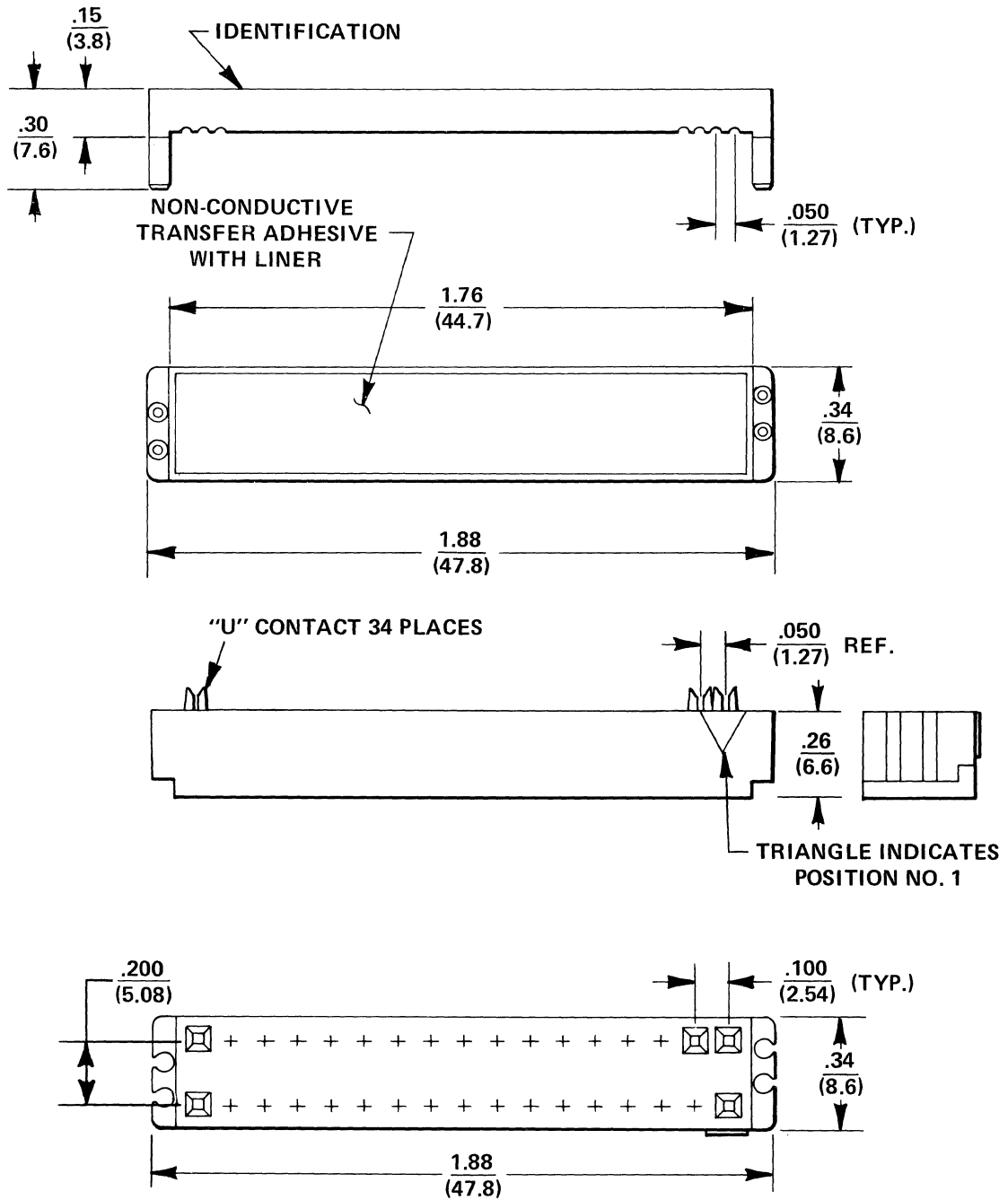
TITLE
 POST PATTERN SPECIFICATION



INCH (mm)
 SCALE /
 DR. *B. Johnson*
 APP. *RKR*
A

2051B

3M PART NO. 3424-0000



USED ON

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	
ANGULAR	±	°	'

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St. Paul
Minnesota

INCH
(mm)

SCALE /

DR. *G.L. Olson*
APP.

A

MARCH 15, 1977

1

ISSUE

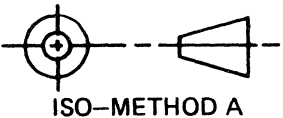
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

SOCKET CONNECTOR SPECIFICATION



2054

SCOTCHFLEX SOCKET CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position socket transition between round conductor flat cable on .050" (1.27 mm) centers and .025" (.64 mm) round or square wrap posts on .100" (2.54 mm) by .200" (5.08 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030" (.762 μ m) min. gold per
MIL-G-45204 Type II over 0.000100"
(2.54 μ m) min. Nickel

MARKING Raised figures; 3M logo, part identification
number, contact position numbers and
orientation triangle.

WIRE ACCOMMODATION 26 AWG solid
28 AWG solid or stranded
30 AWG solid

INSERTION FORCE .5 lb (2.2 N) per contact typical

WITHDRAWAL FORCE .5 lb (2.2 N) per contact typical

ELECTRICAL

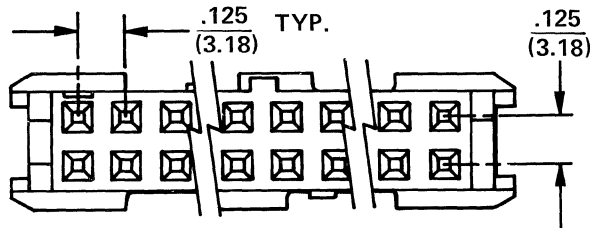
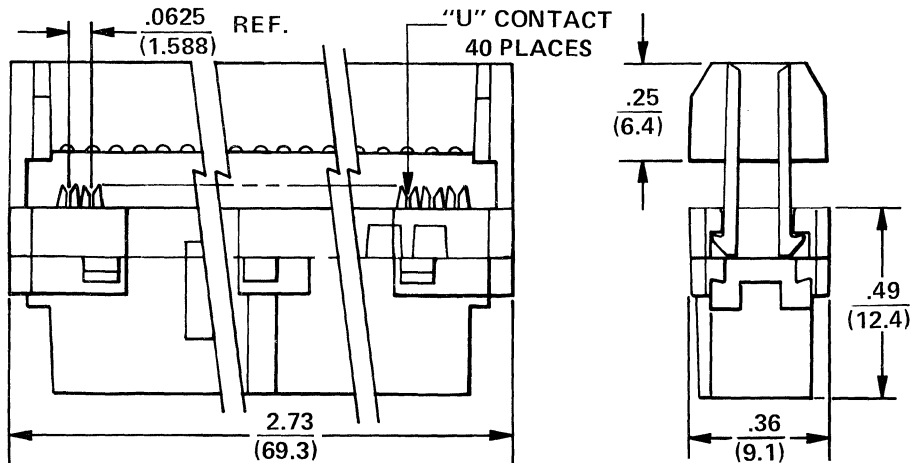
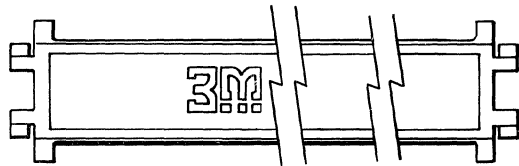
CURRENT RATING 1A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



USED ON

APRIL 1, 1979

1

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Electronic Products Division



ISSUE

ISSUE DATE AND CHANGE RECORD

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CH.

SOCKET CONNECTOR SPECIFICATION
3M PART NO. 3525-0000

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///

DF

APP.

John C. Kostede

A

2057

Scotchflex Socket Specification

Scope: This specification details the requirements for a multiposition transition between round conductor flat cable on .0625" (1.588 mm) centers and .025" (.64 mm) square wrap posts on .125" (3.18 mm) by .125" (3.18 mm) grid.

Specifications:

Physical:

Insulator Material: Polycarbonate

Oxygen Index: > 28

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Beryllium Copper

Plating: 0.000050" (1.27 μm) gold per
Mil-G-45204 Type II, class 0, on wiper,
gold flash throughout over 0.000100"
(2.54 μm) nickel

Wire accommodation: 24 AWG solid
26 AWG solid
28 AWG solid or
stranded

Insertion Force: .4 lb. per contact max.

Withdrawal Force: .4 lb. per contact max.

Electrical:

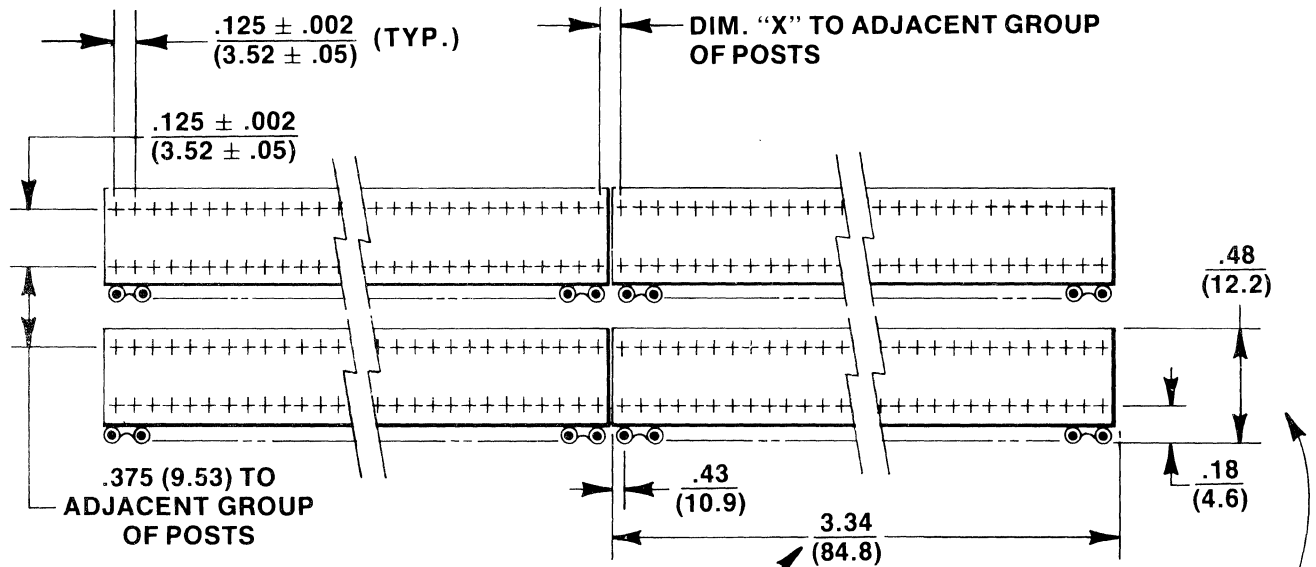
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega @ 500 \text{ vdc}$

Withstanding Voltage: 1000V_{RMS} @ sea level

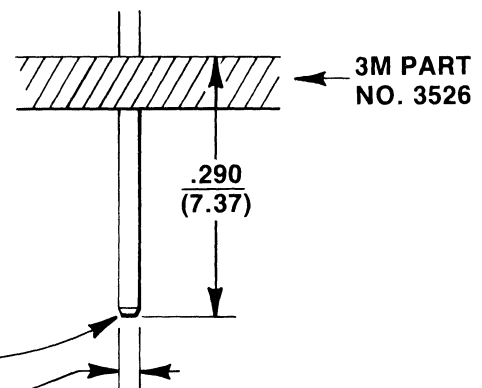
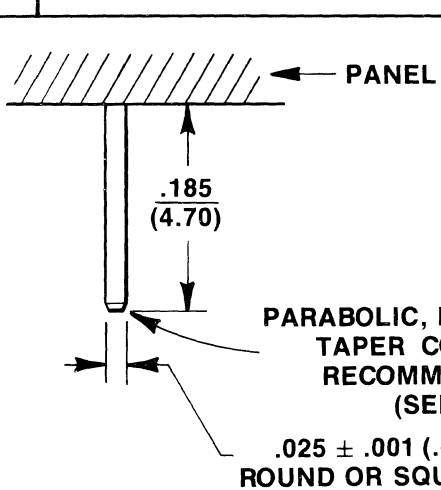
Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



DIM. X	CABLE DIRECTION
$\frac{2.5}{(63.5)}$	IDENTICAL
$\frac{.625}{(15.88)}$	OPPOSITE

MIN. AREA REQUIRED FOR CONNECTOR & CABLE



NOTE:
1 TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

USED ON 3M PART NO. 3525-1000, 3526, 3485-5000

SEPTEMBER 10, 1979

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Electronic Products Division

3M

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

POST PATTERN SPECIFICATION

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

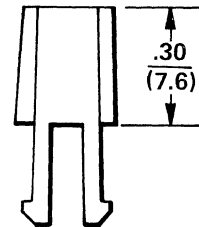
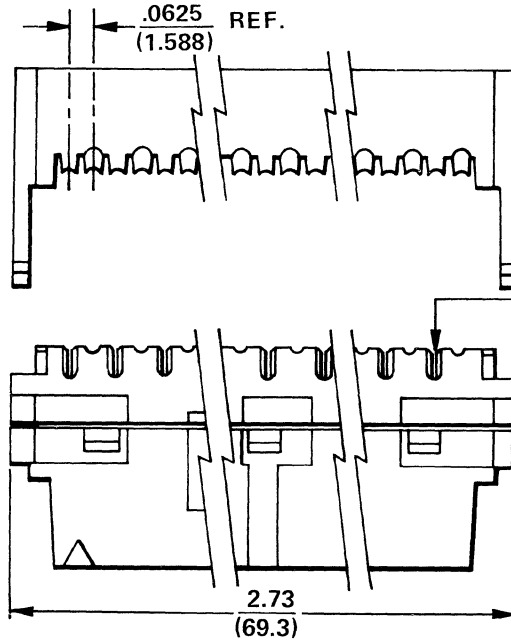
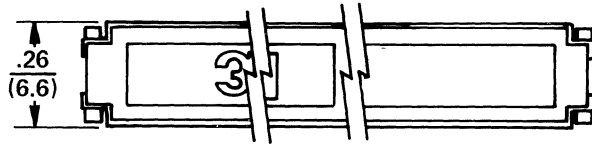
DR. *GARY H. OLSON*

APP. *John C. Kostechi*

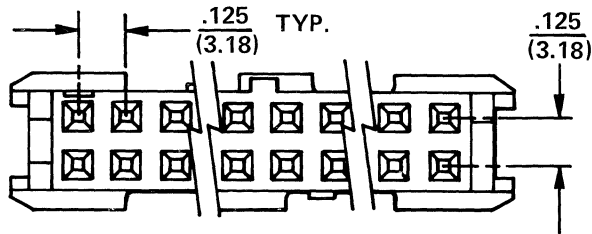
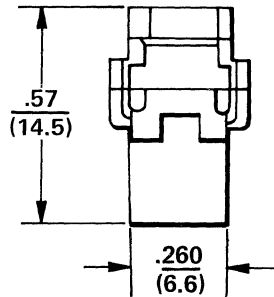
A

2057A

3M PART NO. 3525-1000



"U" CONTACT
40 PLACES



USED ON

APRIL 1, 1979

1

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Electronic
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ISSUE DATE AND CHANGE RECORD

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CH.

SOCKET CONNECTOR
SPECIFICATION
3M PART NO. 3525-1000

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR. *George H. Olson*
APP. *John C. Kostecki*

A

2058

Scotchflex Socket Specification

Scope: This specification details the requirements for a multiposition transition between round conductor flat cable on .0625" (1.588) centers and .025" (.64 mm) square wrap posts on .125" (3.18 mm) by .125" (3.18 mm) grid.

Specifications:

Physical:

Insulator Material: Polyester

Oxygen Index: > 28

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Beryllium Copper

Plating: 0.000050" (1.27 μm) gold per
Mil-G-45204 Type II, class 0, on wiper,
gold flash throughout over 0.000100"
(2.54 μm) nickel

Wire accommodation: 26 AWG solid
28 AWG solid or
stranded
30 AWG solid

Electrical:

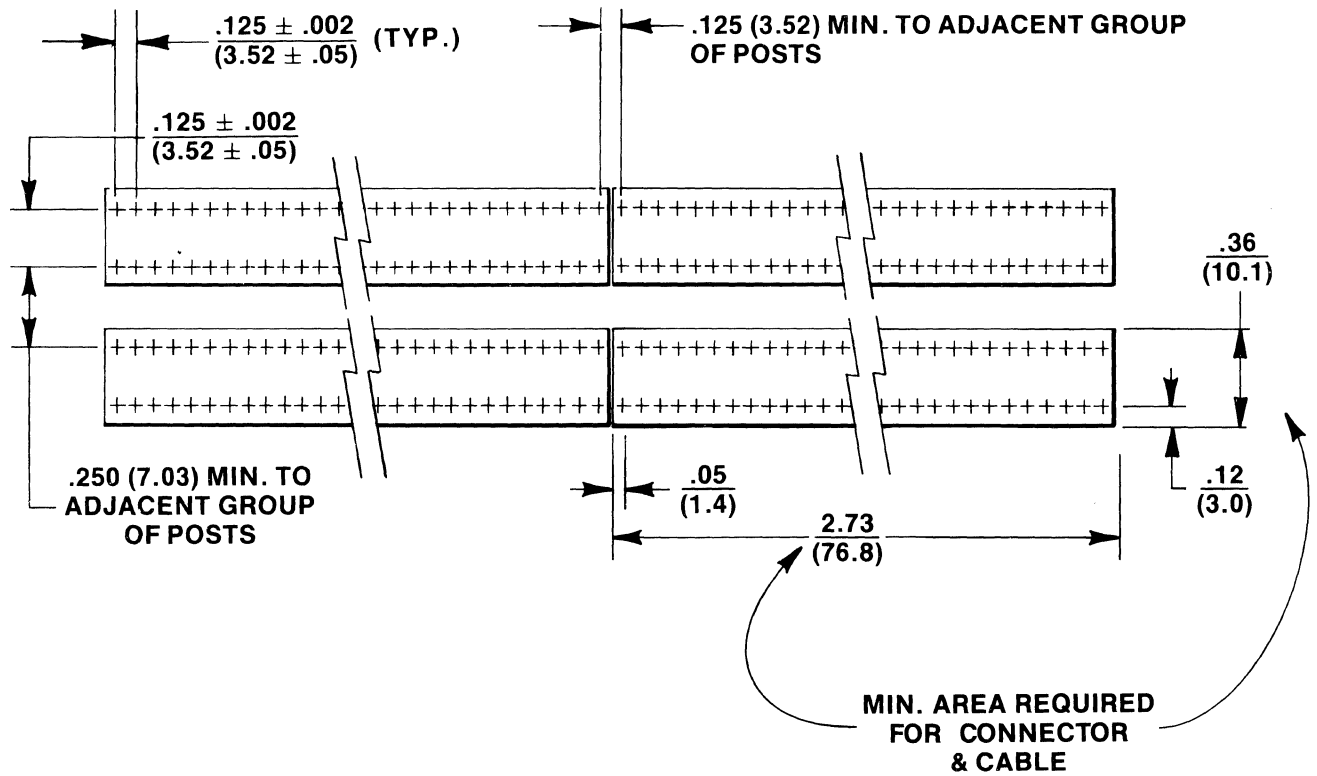
Current Rating: 1 A

Insulation Resistance: > $1 \times 10^9 \Omega$ @ 500 vdc

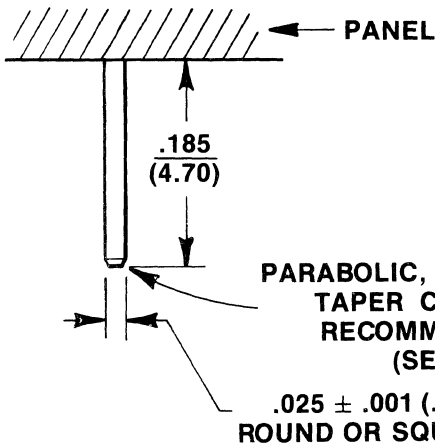
Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to +221°F (-55°C to +105°C)

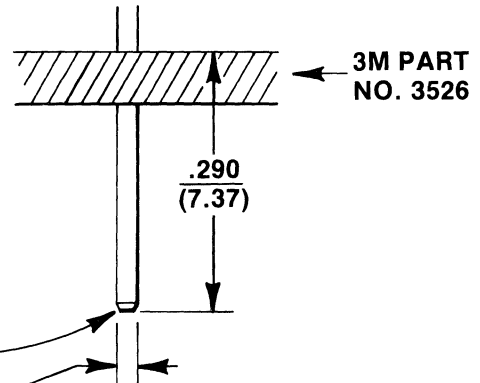


MIN. AREA REQUIRED FOR CONNECTOR & CABLE



PARABOLIC, ROUND OR SQUARE TAPER CONFIGURATION RECOMMENDED ON TIP (SEE NOTE 1)

.025 ± .001 (.64 ± .03) ROUND OR SQUARE POST



3M PART NO. 3526

NOTE:

- 1 TIP END OF POST TO BE LOCATED WITHIN .025 (.64) TPD

USED ON 3M PART NO. 3525-0000, 3526, 3448-22

SEPTEMBER 10, 1979

1

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Electronic Products Division

3M

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

POST PATTERN SPECIFICATION

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	± .05

DR. Gary H. Olson

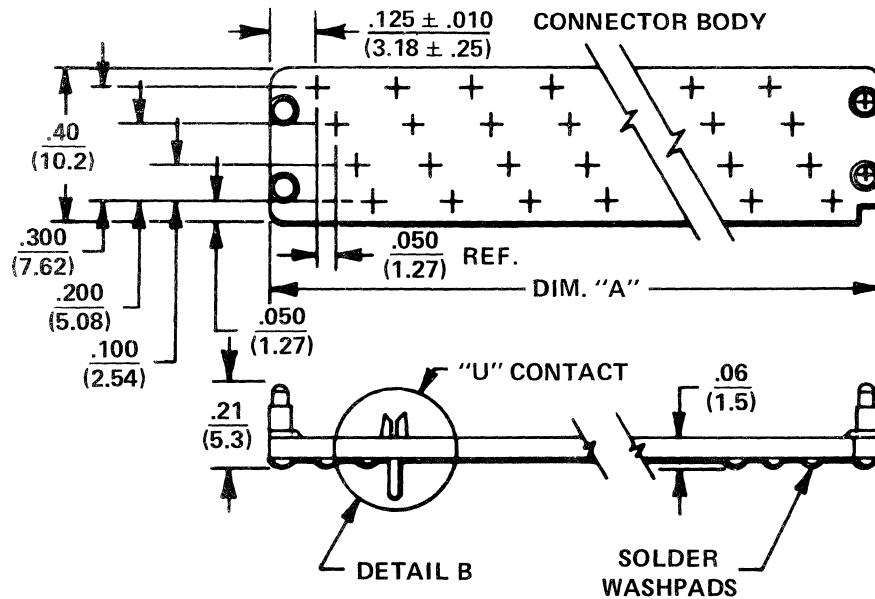
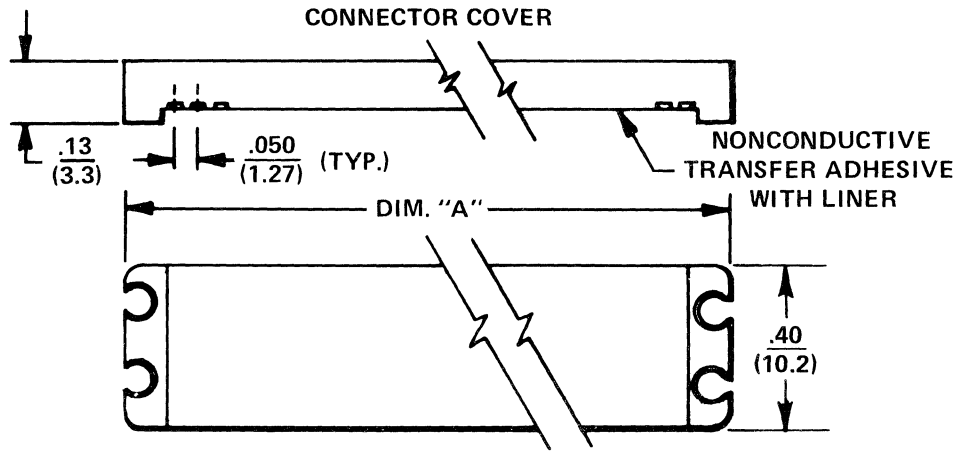
APP. John C. Kosteki

A

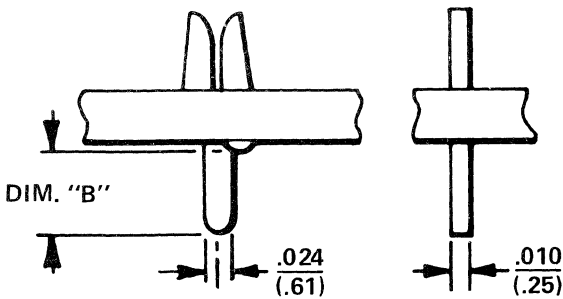
2058A

DIMENSION TABLE

Contact Quantity	3M Part Number	DIM. "A"
20	3422	1.20 (30.5)
40	3418	2.20 (55.9)



DETAIL B



3M Part Number AU/NI	3M Part Number SN/CU	P.C.B. Thickness	DIM. "B" ± .010 (.25)
-0000	-0000T	.062 (1.57)	.100 (2.54)
---	-0001T	.094 - .125 (2.39 - 3.18)	.156 (3.96)

USED ON

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Electronic Products Division



ISSUE	DEC. 7, 1978	5	
	ISSUE DATE AND CHANGE RECORD	REV.	CH.

P.C.B. CONNECTOR SPECIFICATION

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	± .05

INCH (mm)
SCALE
DR.
APP.

A

2002

SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .050" (1.27 mm) centers and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING Au/Ni - 0.000020" (.508 μm) min.
gold per Mil-G-45204 Type II, class 00
over 0.000050" (1.27 μm) nickel

SnPb - 0.00020" (5.08 μm) min.
tin lead

MARKING Raised figures; 3M logo, and part
identification number

WIRE ACCOMMODATION 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

ELECTRICAL

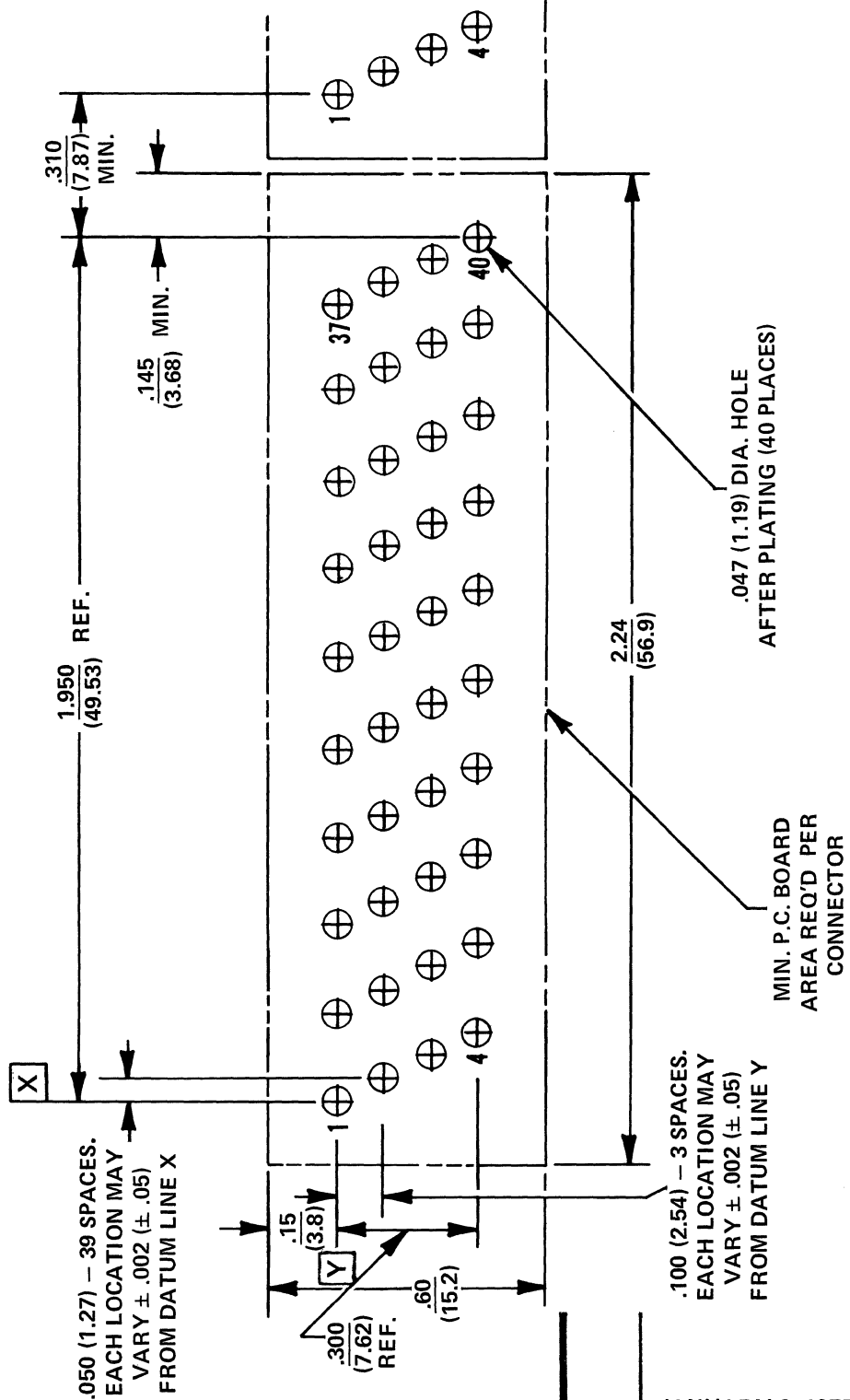
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD

USED ON

3M PART NO. 3418

JANUARY 3, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///
ANGULAR	±	°	'

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ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

P.C.B. HOLE PATTERN SPECIFICATION

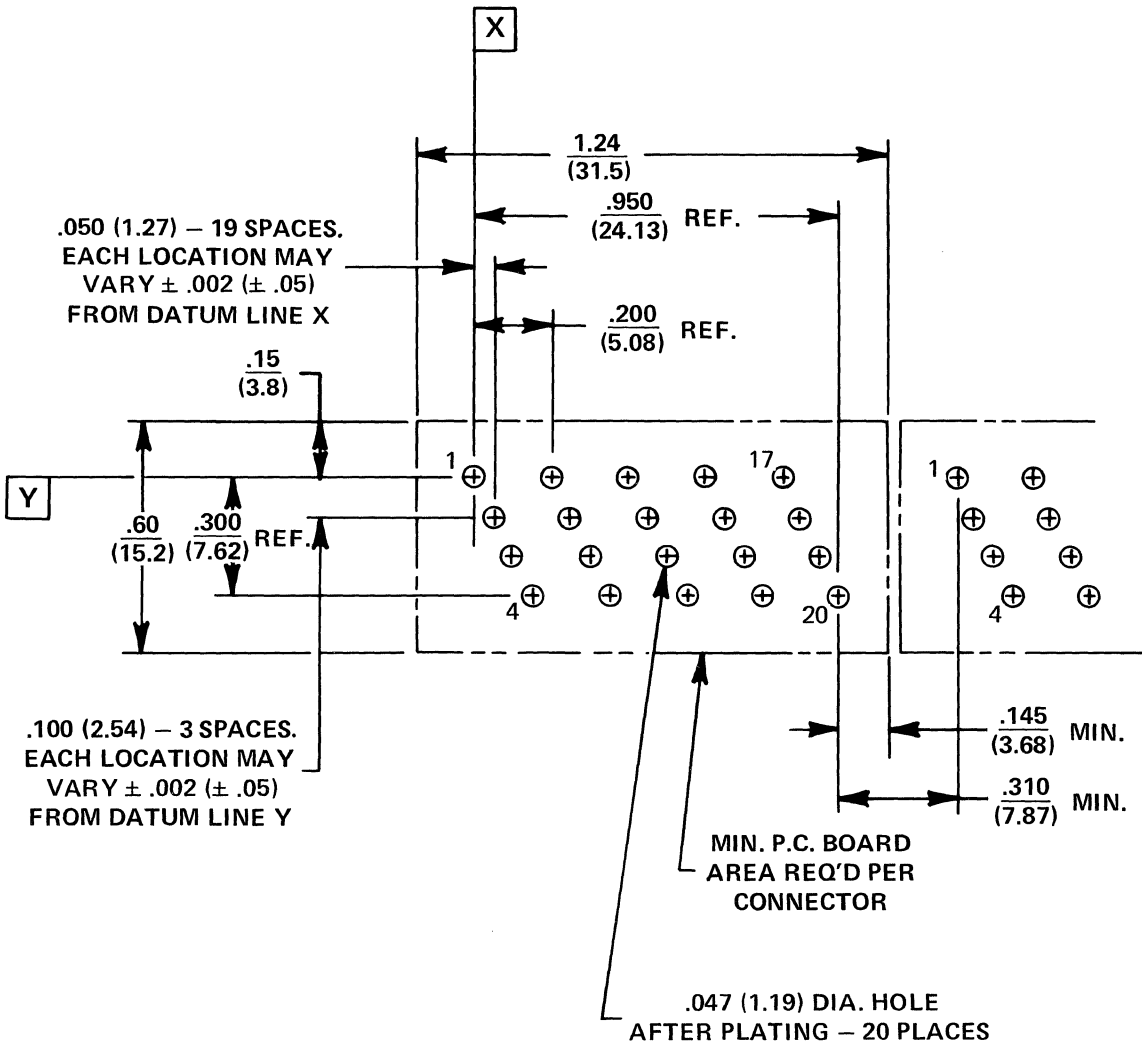
INCH (mm)

SCALE /

DR. *G. O. O...*
APP. *P. D. A...*

A

2002 A



NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD

USED ON

3M PART NO. 3422

JANUARY 3, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///
ANGULAR	±	0	'

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ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

INCH
(mm)

SCALE /

ISSUE

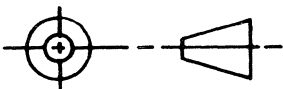
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

P.C.B. HOLE PATTERN
SPECIFICATION



ISO-METHOD A

DR. *Gl. Olson*

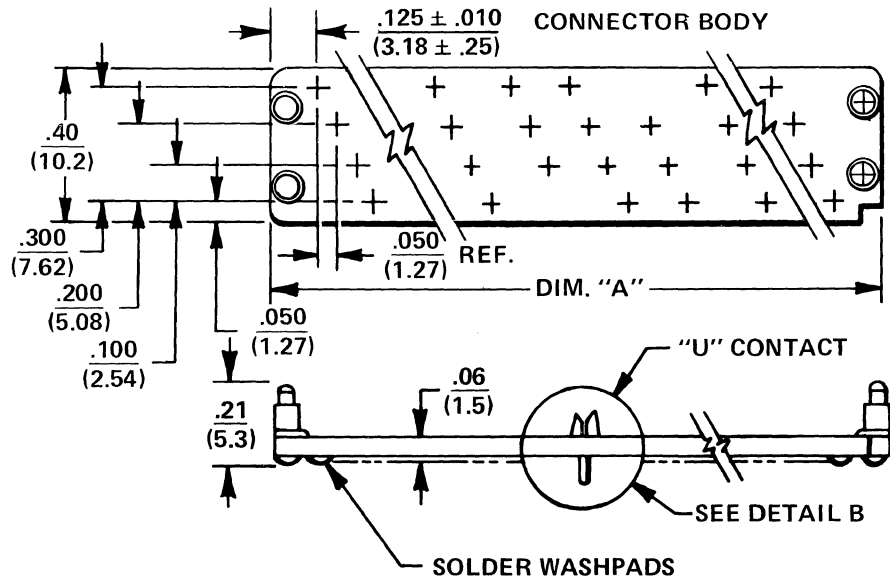
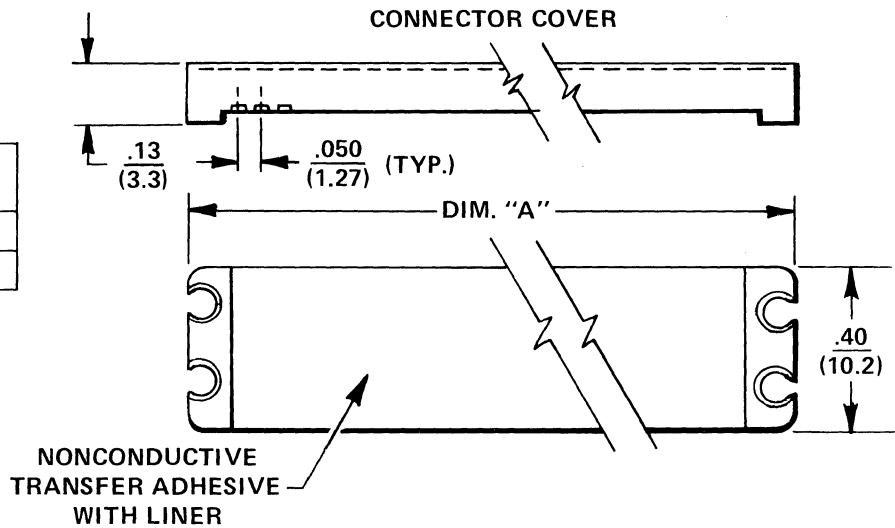
APP. *QDD*

A

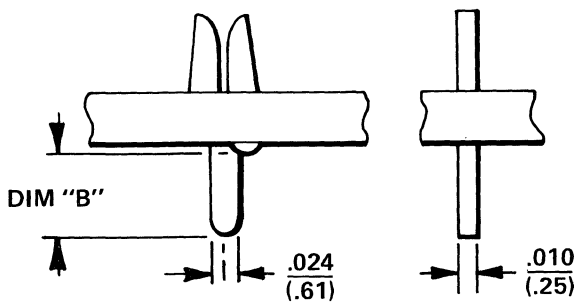
2002 B

DIMENSION TABLE

Contact Quantity	3M Part Number	DIM. "A"
26	3434	1.50 (38.1)
50	3426	2.70 (68.6)



DETAIL B



3M Part Number AU/NI	3M Part Number SN/CU	P.C.B. Thickness	DIM. "B" ± .010 (.25)
-0000	-0000T	.062 (1.57)	.100 (2.54)
---	-0001T	.094 - .125 (2.39 - 3.18)	.156 (3.96)

USED ON

DEC. 7, 1978

6

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Electronic Products Division



ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

P.C.B. CONNECTOR SPECIFICATION

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR.

APP.

A

2003

SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .050" (1.27 mm) centers and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING Au/Ni - 0.000020" (.508 μ m) gold
per Mil-G-45204 Type II, class 00 over
0.000050" (1.27 μ m) nickel

SnPB - 0.00020" (5.08 μ m) min.
tin lead

MARKING Raised figures; 3M logo, and part
identification number

WIRE ACCOMMODATION 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

ELECTRICAL

CURRENT RATING 1 A

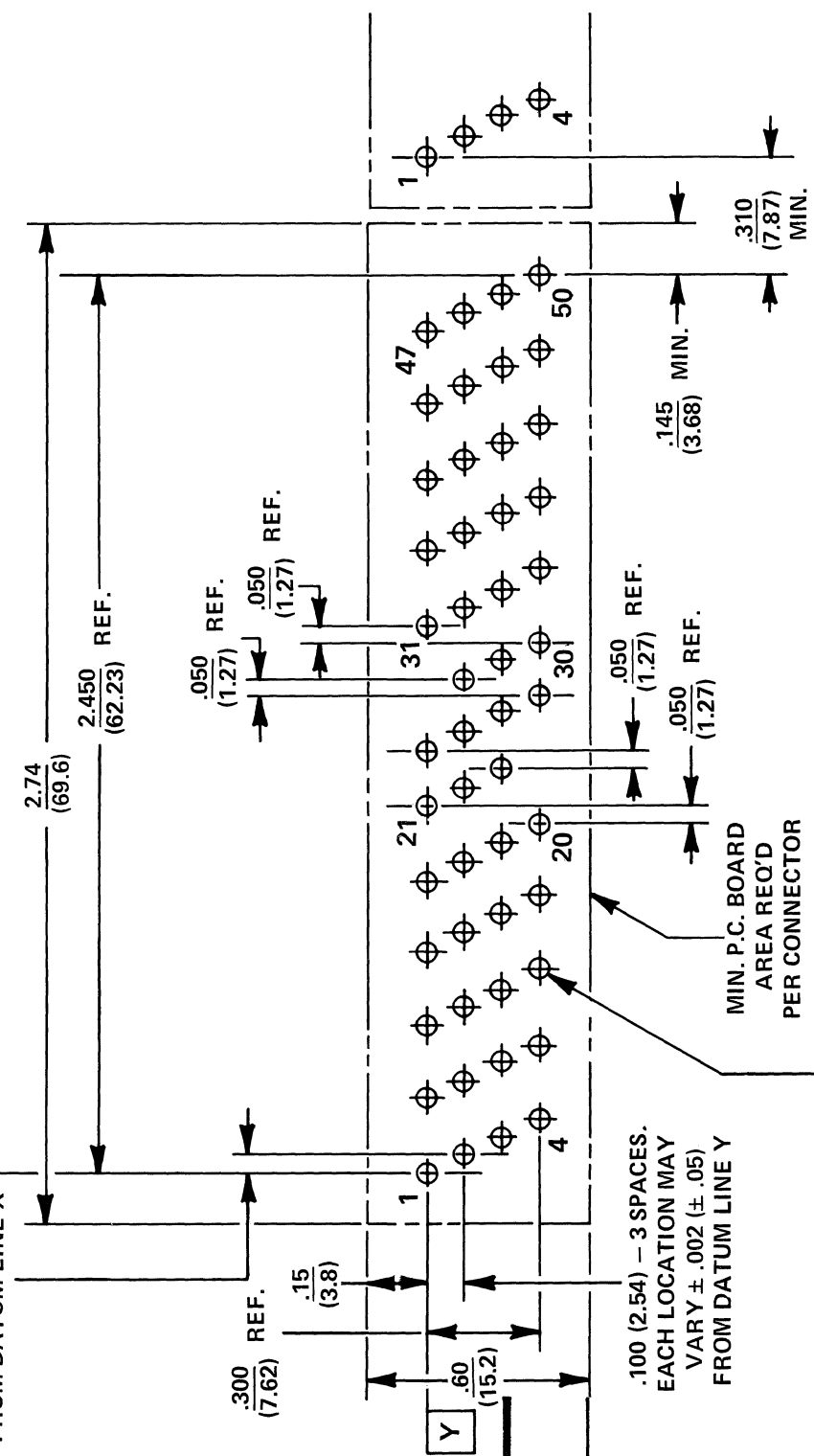
INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)

.050 (1.27) - 49 SPACES.
EACH LOCATION MAY
VARY ±.002 (±.05)
FROM DATUM LINE X



NOTE: HOLE PATTERN IS SHOWN FOR THE
MOUNTING SIDE OF THE P.C. BOARD

MIN. P.C. BOARD
AREA REQ'D
PER CONNECTOR

.047 (1.19) DIA. HOLE
AFTER PLATING - 50 PLACES

USED ON

3M PART NO. 3426

JANUARY 3, 1977

4

TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
ANGULAR	±	0	1

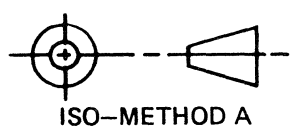
All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.

3M
COMPANY
ELECTRONIC PRODUCTS DIVISION
St. Paul
Minnesota

ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

TITLE

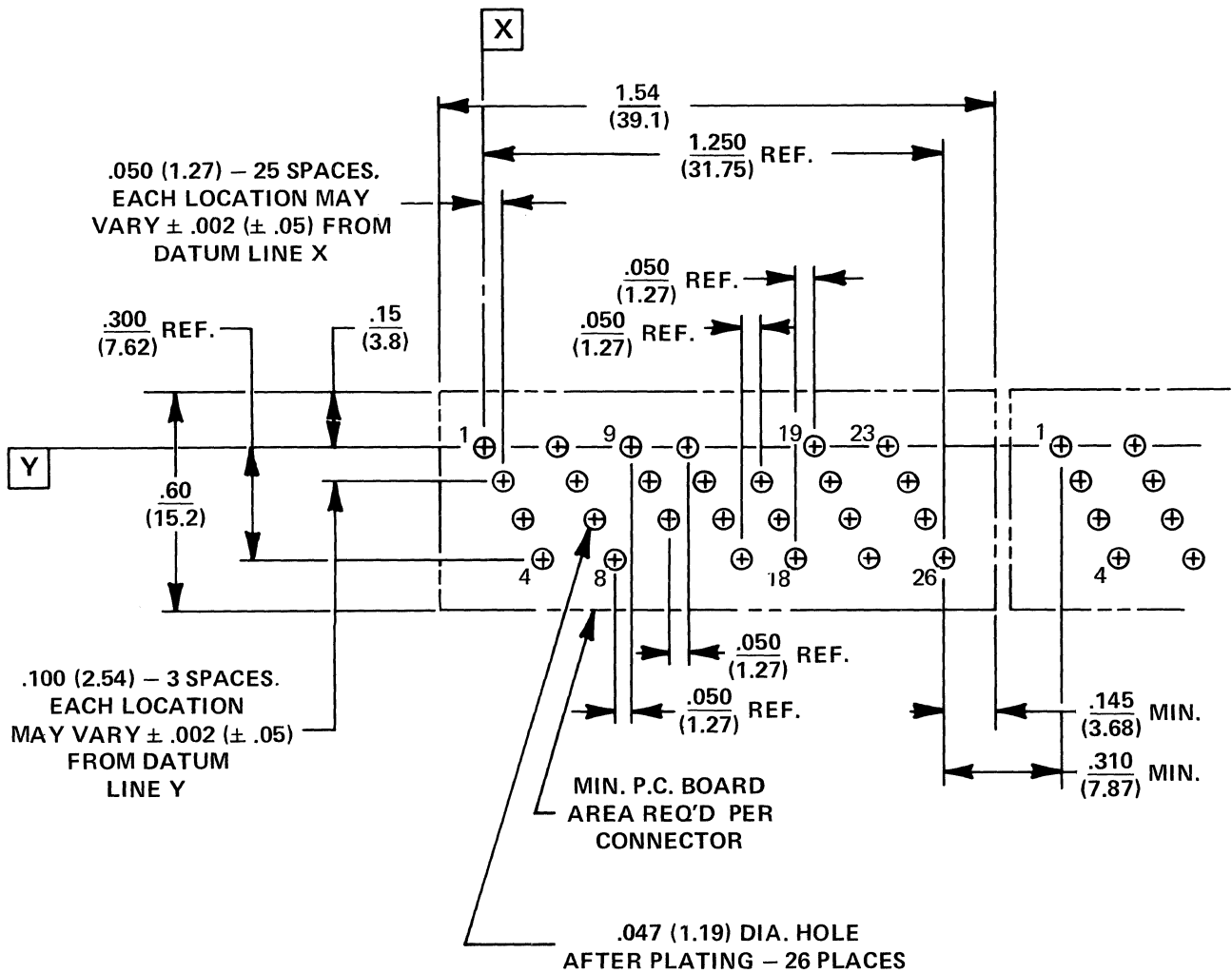
P.C.B. HOLE PATTERN
SPECIFICATION



INCH (mm)
SCALE /
DR. *G. L. Olson*
APP. *[Signature]*

A

2003 A



NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD

USED ON

3M PART NO. 3434

JANUARY 3, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
ANGULAR	±	°	'

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ISSUE DATE AND CHANGE RECORD

REV.

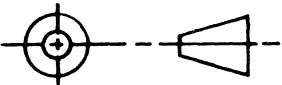
CH.

TITLE

P.C.B. HOLE PATTERN SPECIFICATION

INCH (mm)

SCALE /



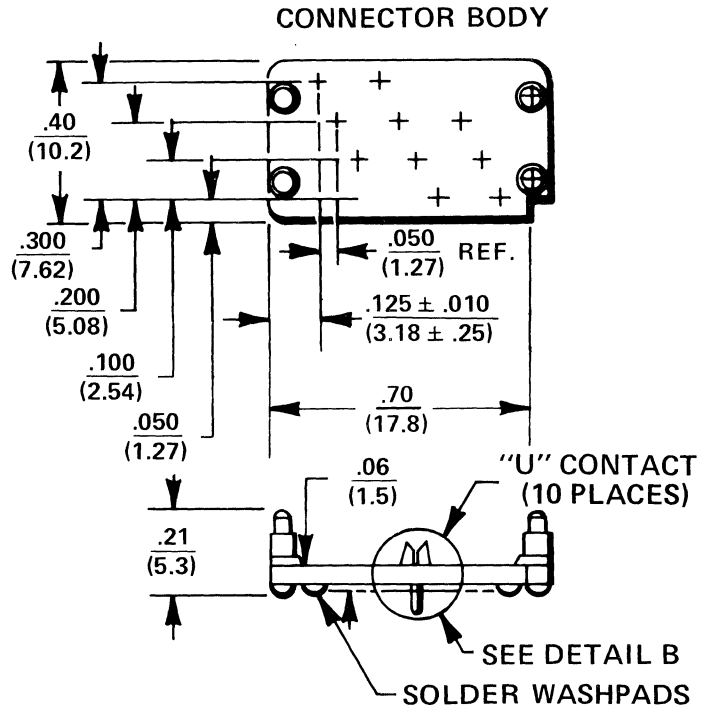
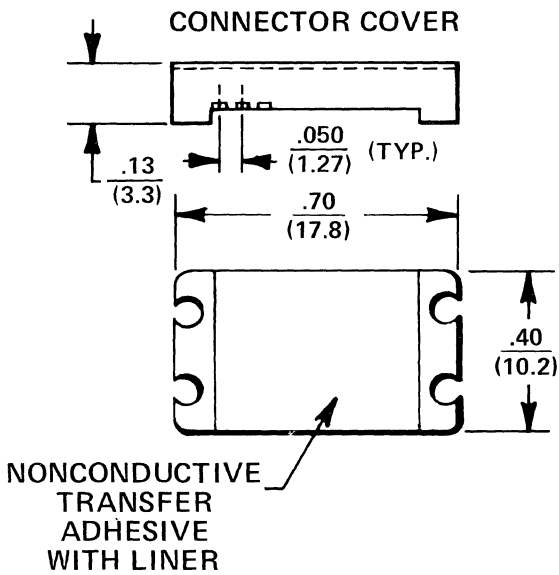
ISO-METHOD A

DR. *G.L. Olson*

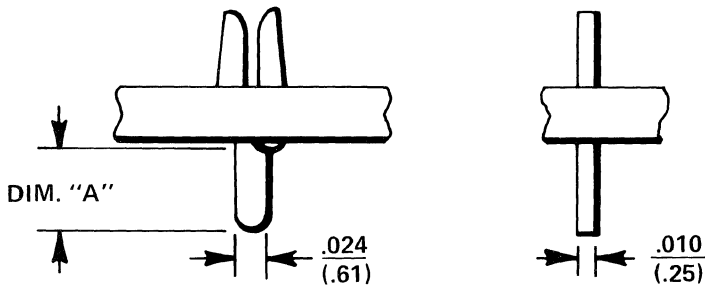
APP. *ADD*

A

2003 B



DETAIL B



3M PART NUMBER (AU/NI)	3M PART NUMBER (SN/CU)	P.C.B. THICKNESS	DIM. "A" ± .010 (.25)
3474-0000	3474-0000T	.062 (1.57)	.100 (2.54)
--	3474-0001T	.094 - .125 (2.39 - 3.18)	.156 (3.96)

USED ON

DEC. 7, 1978

5

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Electronic Products Division



ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

P.C.B. CONNECTOR SPECIFICATION

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR.

APP.

A

2011

SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position transition between round conductor flat cable on .050" (1.27 mm) centers and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester U.L.
flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING Au/Ni - 0.000020" (.508 μm)
gold per Mil-G-45204 Type II, class 00
over 0.000050" (1.27 μm) nickel

SnPb - 0.00020" (5.08 μm) min.
tin lead

MARKING Raised figures; 3M logo, and part identification number

WIRE ACCOMMODATION 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

ELECTRICAL

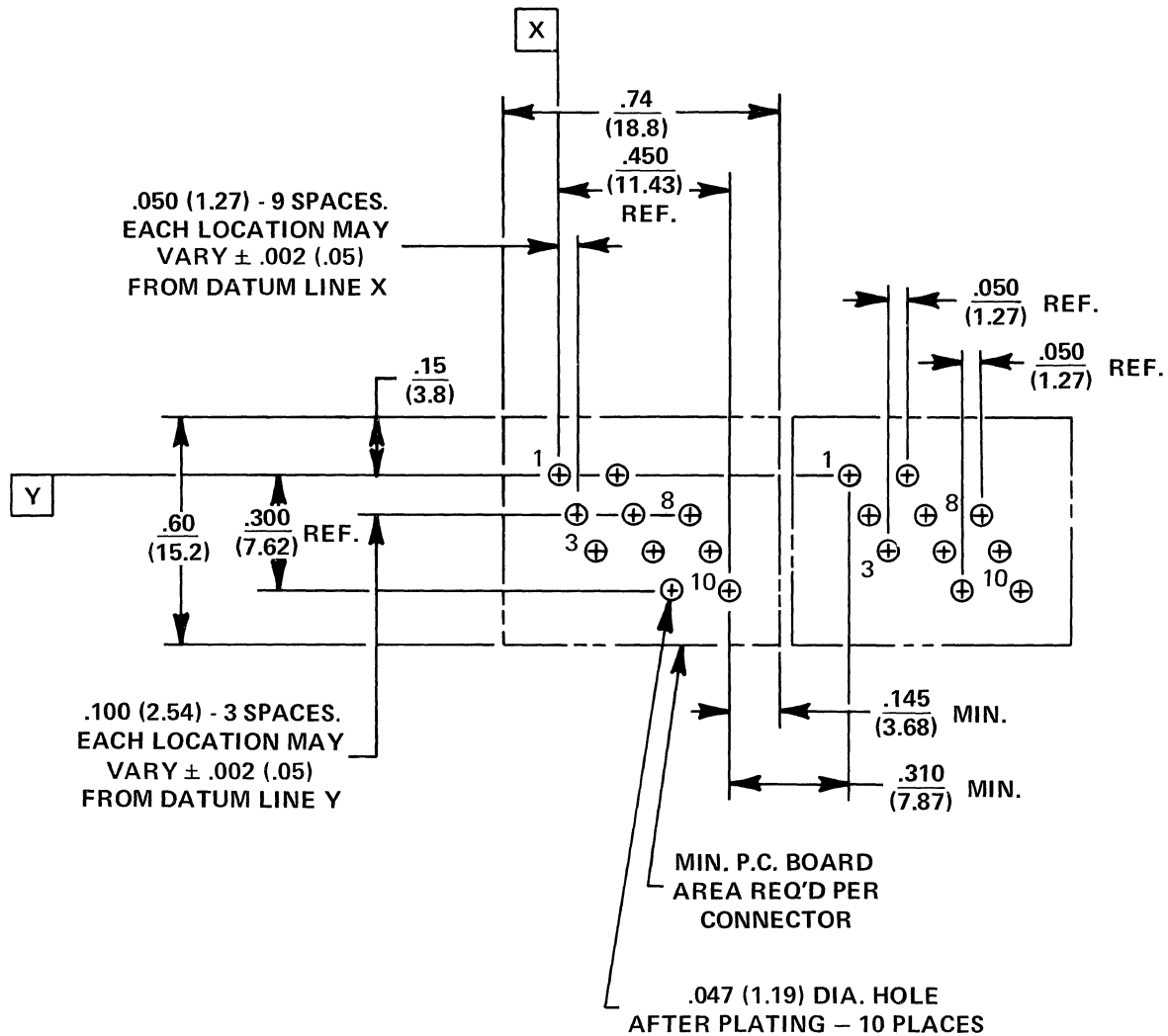
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



NOTE:

HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD

USED ON

3M PART NO. 3474

JANUARY 3, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	$\pm .1$	$\pm .01$	$\pm .005$
mm	$\pm .3$	$\pm .13$	$\pm .05$
ANGULAR	\pm	\pm	\pm

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ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

P.C.B. HOLE PATTERN SPECIFICATION

INCH
(mm)

SCALE /

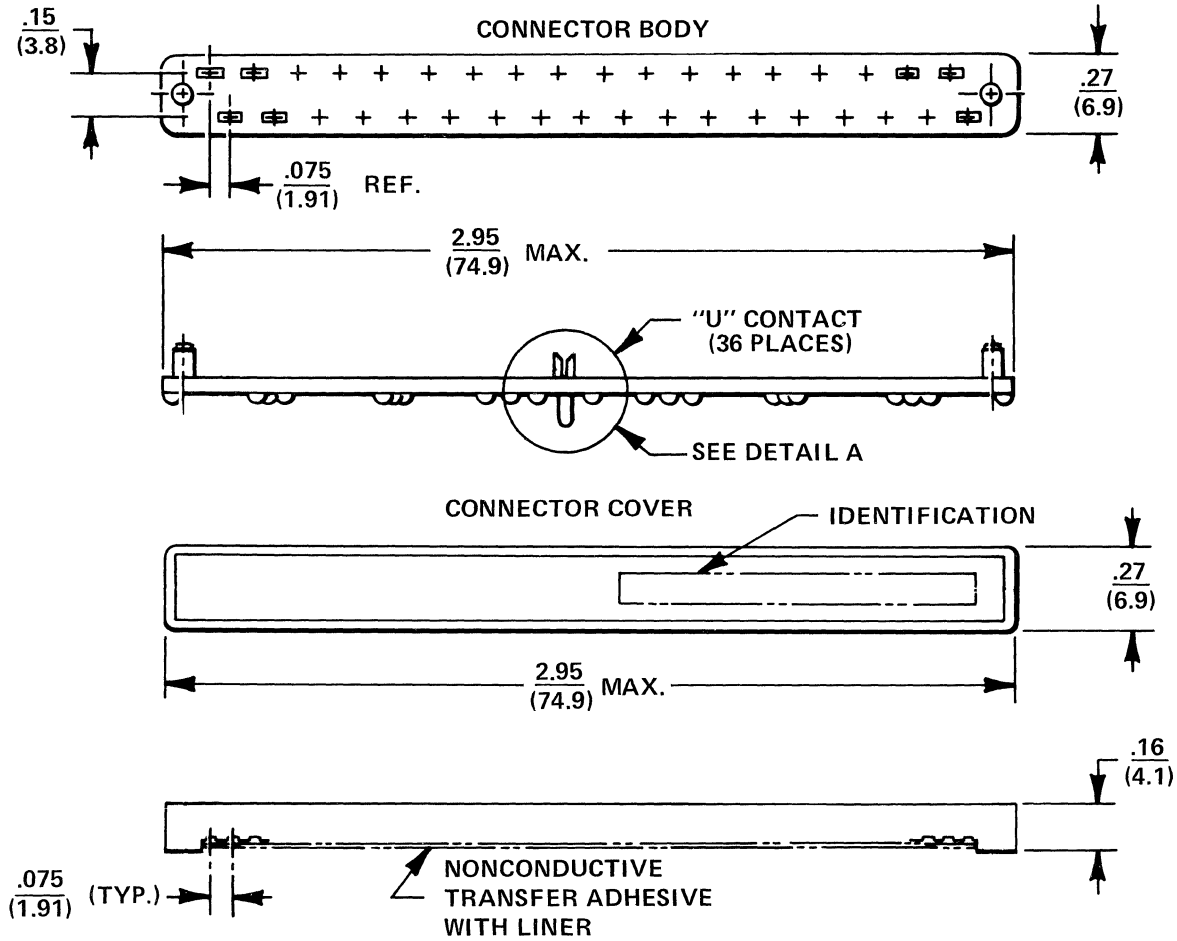
DR. *G. Olson*

APP. *QAD*

A

2011 A

3M PART NO. 3378-0000T



DETAIL A

USED ON

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///
	±	±	±

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JANUARY 3, 1977

5

ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

TITLE
P.C.B. CONNECTOR SPECIFICATION

3ULAR ± 0

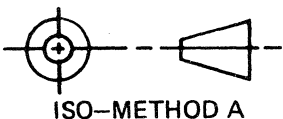
INCH (mm)

SCALE /

DR. *G. Johnson*
APP. *ADD*

A

2018



SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .075" (1.91 mm) centers and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING

Sn/Cu - 0.00020" (5.08 μ m)
tin lead

MARKING Raised figures; 3M logo, and part
identification number

WIRE ACCOMMODATION 24 AWG stranded

ELECTRICAL

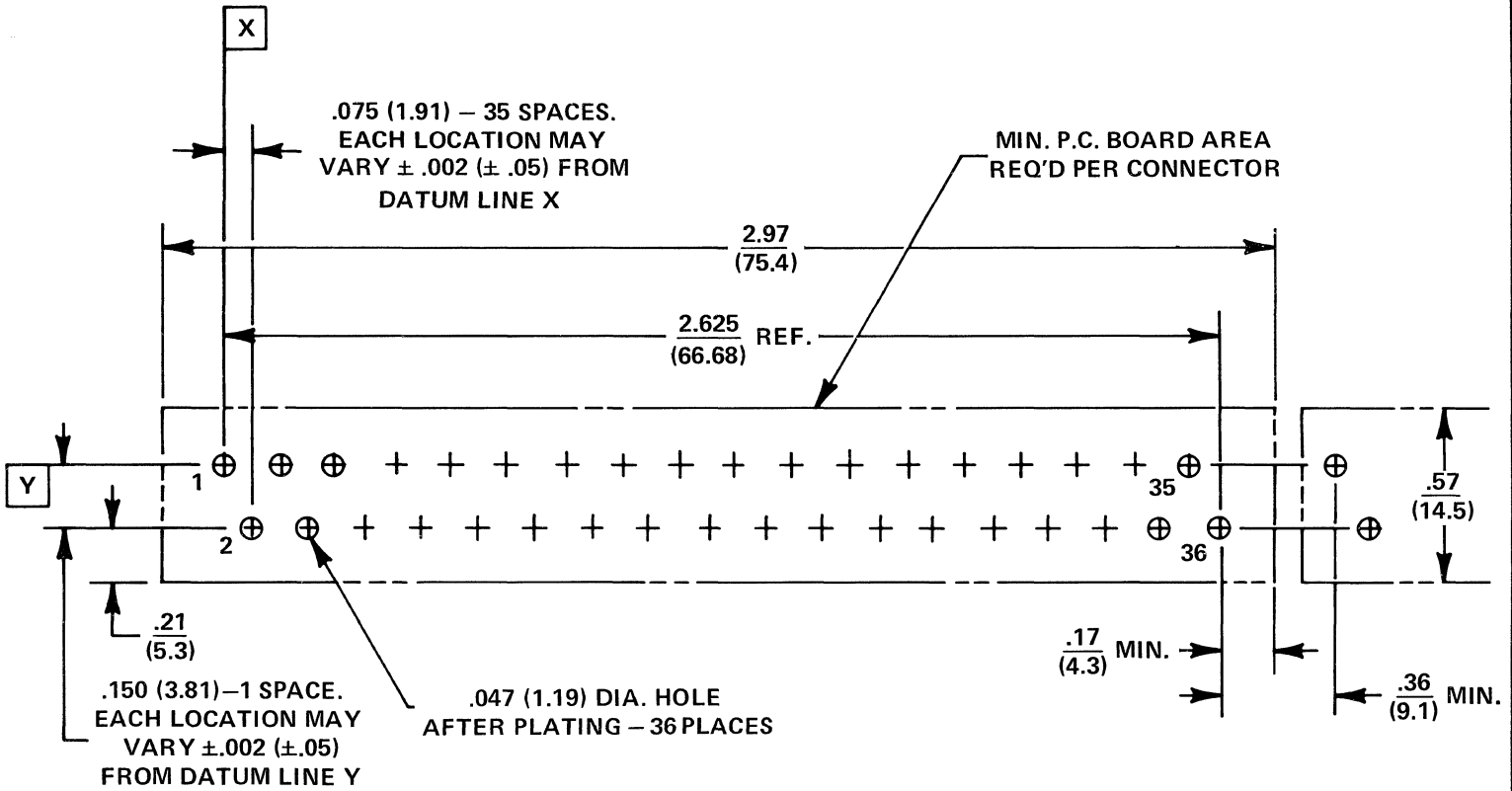
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD

USED ON

3M PART NO. 3378

JANUARY 3, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///
MICROMETER	±	±	±

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ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

ISSUE

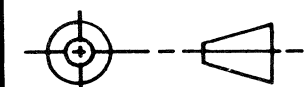
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

P.C.B. HOLE PATTERN SPECIFICATION



ISO-METHOD A

INCH
(mm)

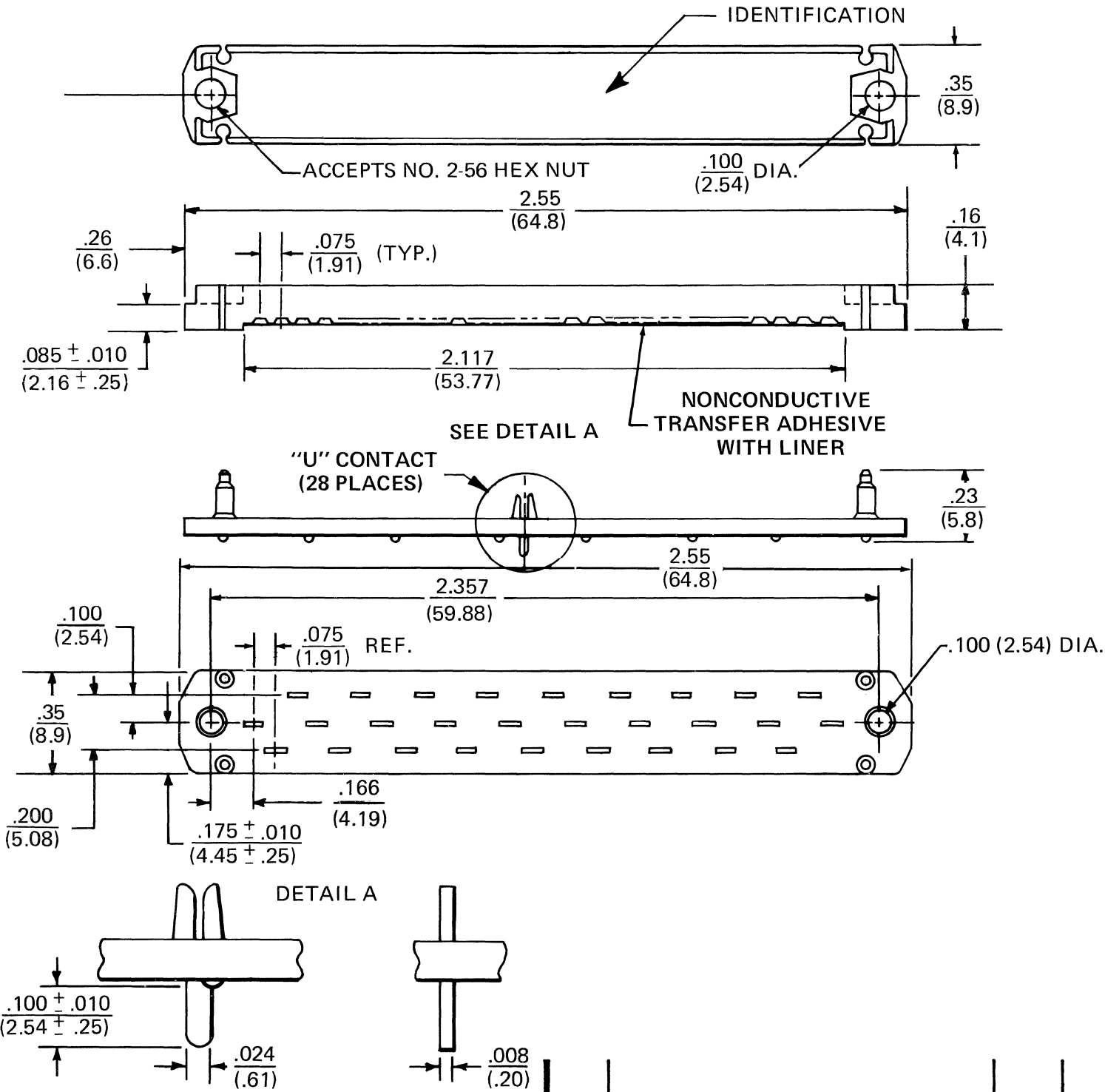
SCALE /

DR. *G.L. Olson*

APP. *A.A.S.*

A

2018A



USED ON

TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.5	±.13	
	±	±	±
GULAR ± 0			
<p>ISO-METHOD A</p>			

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.



INCH (mm)	SCALE /
DR. <i>G. L. Chan</i>	A
APP. <i>A. A. B.</i>	

JANUARY 3, 1977		2	
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
TITLE			
P.C.B. CONNECTOR SPECIFICATION			
2036			

SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .075" (1.91 mm) centers and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.00020" (5.08 μm)
tin lead

MARKING Raised figures; 3M logo, part
identification number

WIRE ACCOMMODATION 24 AWG stranded

ELECTRICAL

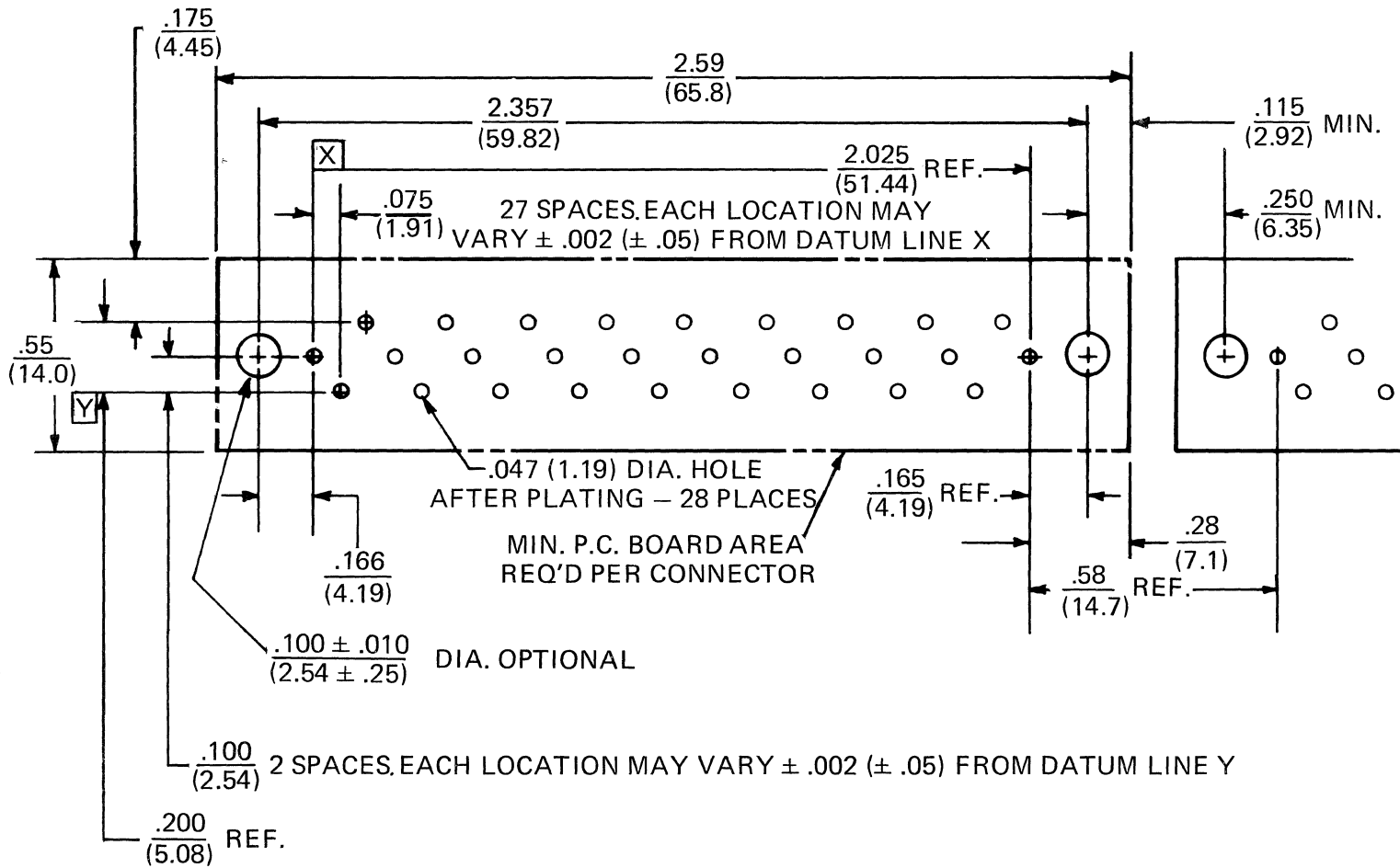
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD.

USED ON 3M PART NO. 3468

JANUARY 3, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///
REGULAR	±	±	±

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St. Paul
Minnesota

INCH
(mm)

SCALE /

ISSUE

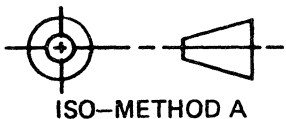
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

P.C.B. HOLE PATTERN



ISO-METHOD A

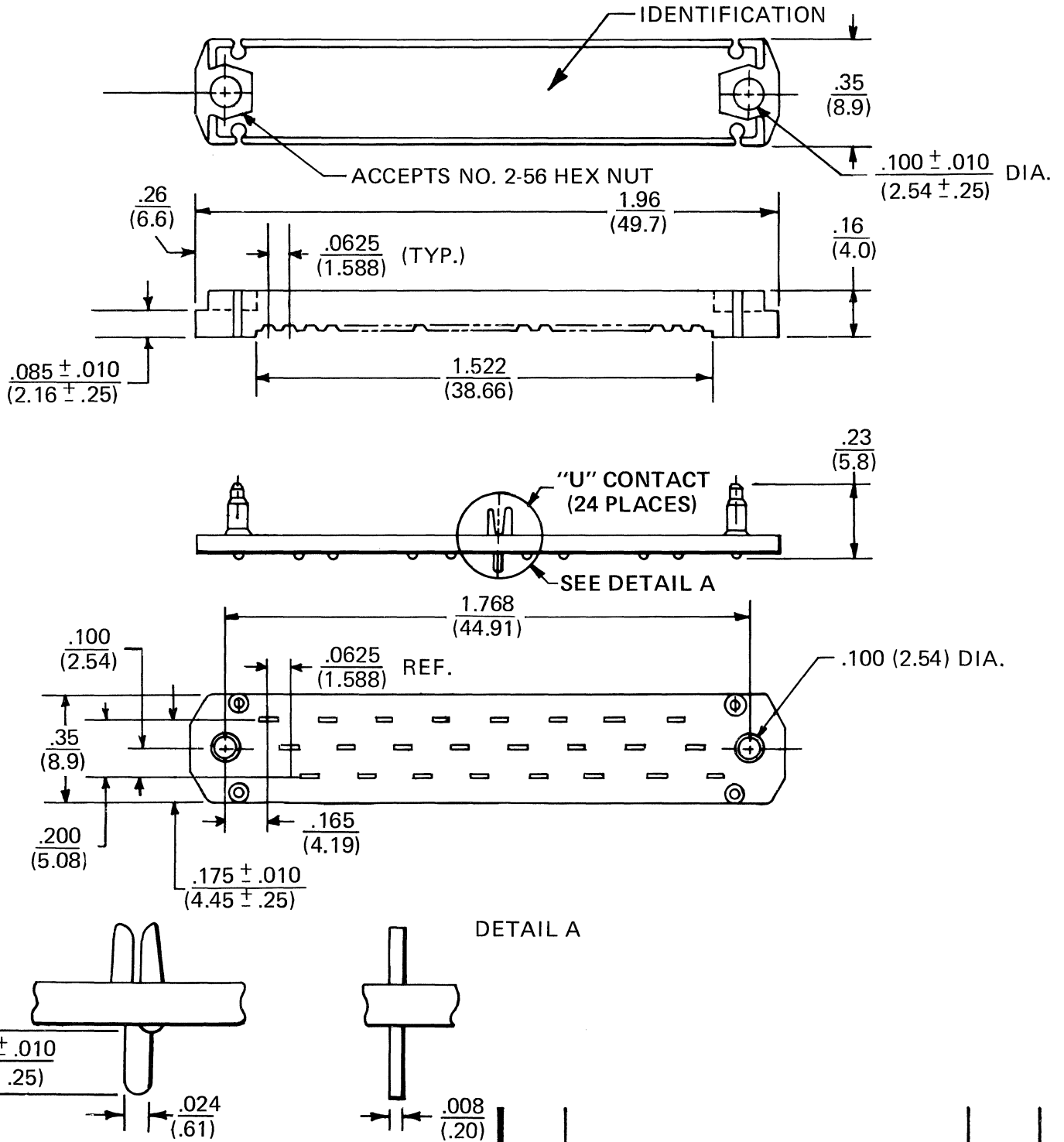
DR. *G. Lohman*

APP. *ADD*

A

2036A

3M PART NO. 3470-0000T

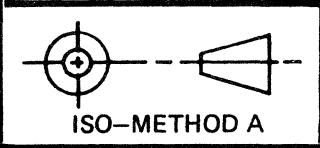


USED ON

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
	±	±	±

3ULAR ± 0



All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.



INCH (mm)
DR. *G. Johnson*
APP. *G. Johnson*

SCALE /
A

JANUARY 3, 1977

2

ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

TITLE

P.C.B. CONNECTOR SPECIFICATION

2037

SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .0625" (1.588mm) centers and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.00020" (5.08 μ m)
tin lead

MARKING Raised figures; 3M logo, part
identification number

WIRE ACCOMMODATION 24 AWG stranded

ELECTRICAL

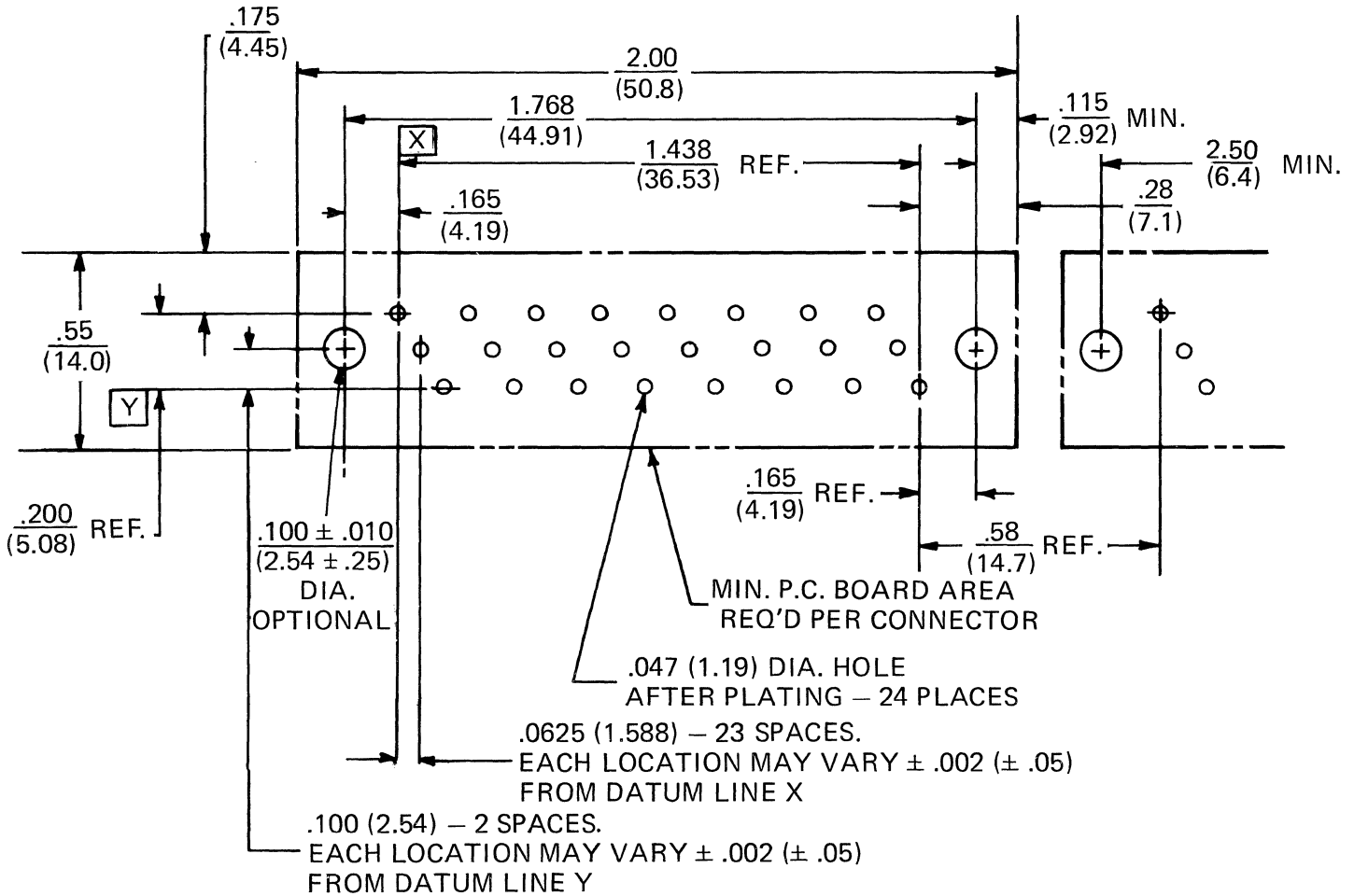
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD.

USED ON 3M PART NO. 3470

JANUARY 3, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
ANGULAR	±	°	'

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.



ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

INCH
(mm)

SCALE /

ISSUE

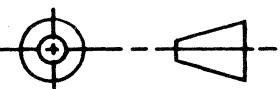
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

P.C.B. HOLE PATTERN
SPECIFICATION



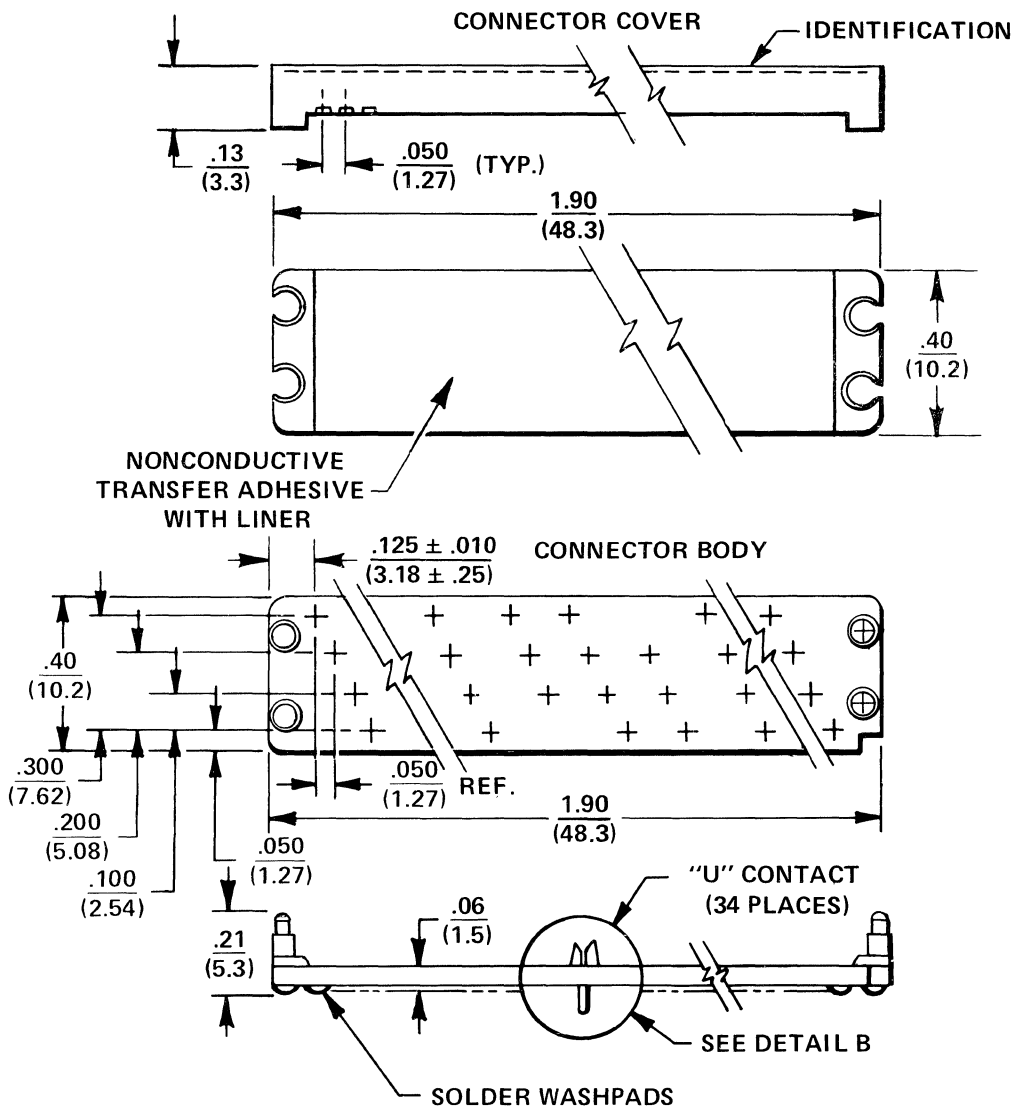
ISO-METHOD A

DR. *G. L. O'Connell*

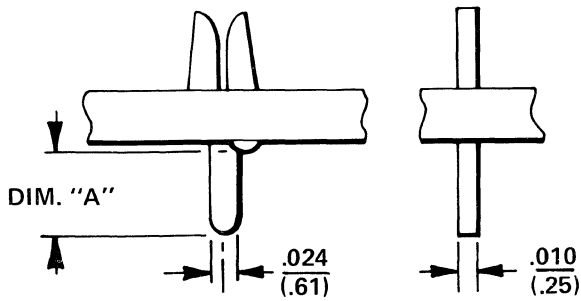
APP. *A. A. B.*

A

2037A



DETAIL B



Contact Quantity	3M Part Number AU/NI	3M Part Number SN/CU	P.C.B. Thickness	DIM. "A" ± .010 (.25)
34	3402-0000	3402-0000T	.062 (1.57)	.100 (2.54)
34	---	3402-0001T	.094 - .125 (2.39 - 3.18)	.156 (3.96)

USED ON

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Electronic Products Division



DEC. 7, 1978

5

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

P.C.B. CONNECTOR SPECIFICATION

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	± .05

DR.

APP.

A

2038

SCOTCHFLEX PCB CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between round conductor flat cable on .050" (1.27 mm) centers and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING Au/Ni - 0.000020" (.508 μm)
gold per Mil-G-45204 Type II, class 00 over
0.000050" (1.27 μm) nickel

SNPb - 0.00020" (5.08 μm) tin lead

MARKING Raised figures; 3M logo, and part
identification number

WIRE ACCOMMODATION 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

ELECTRICAL

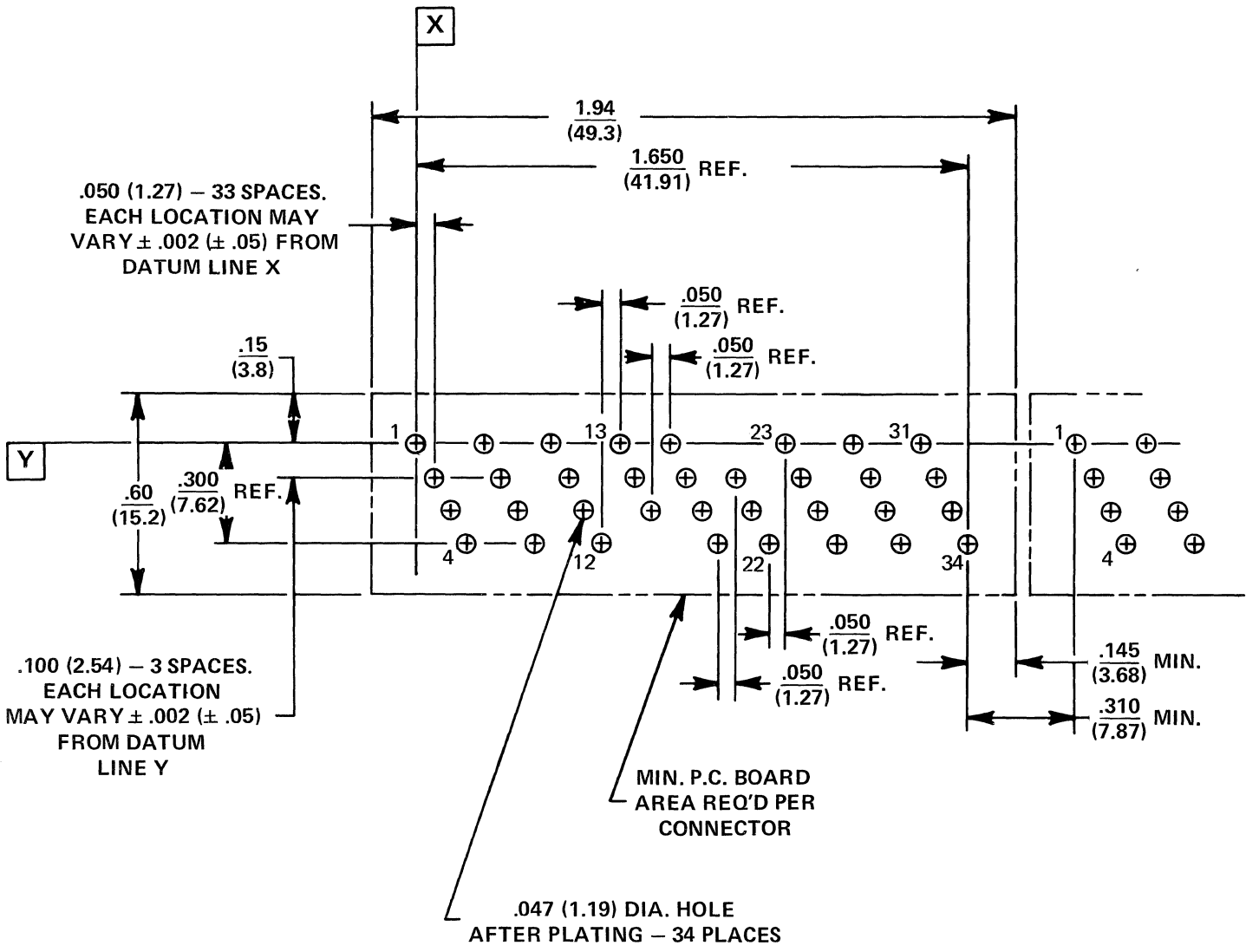
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



NOTE: HOLE PATTERN IS SHOWN FOR THE MOUNTING SIDE OF THE P.C. BOARD

USED ON

3M PART NO. 3402

JANUARY 3, 1977

3

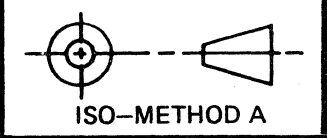
TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
REGULAR	±	0	1

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ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

TITLE P.C.B. HOLE PATTERN SPECIFICATION

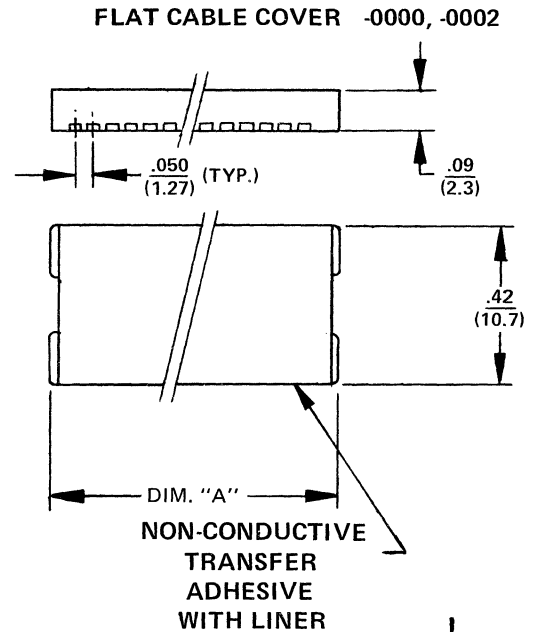
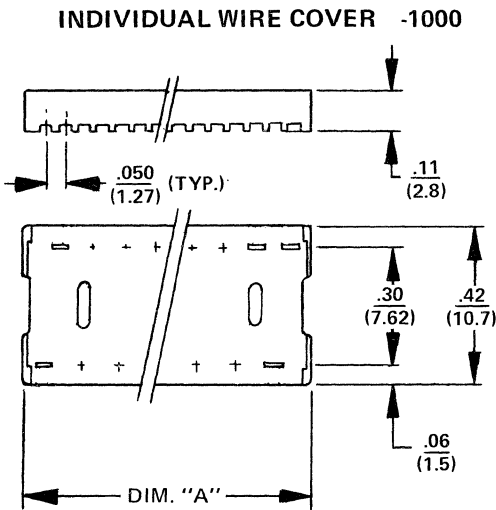
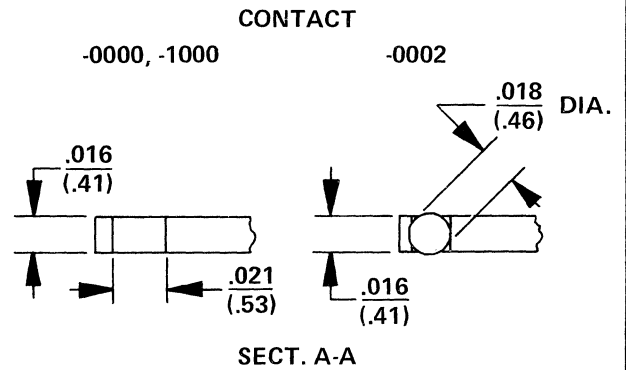
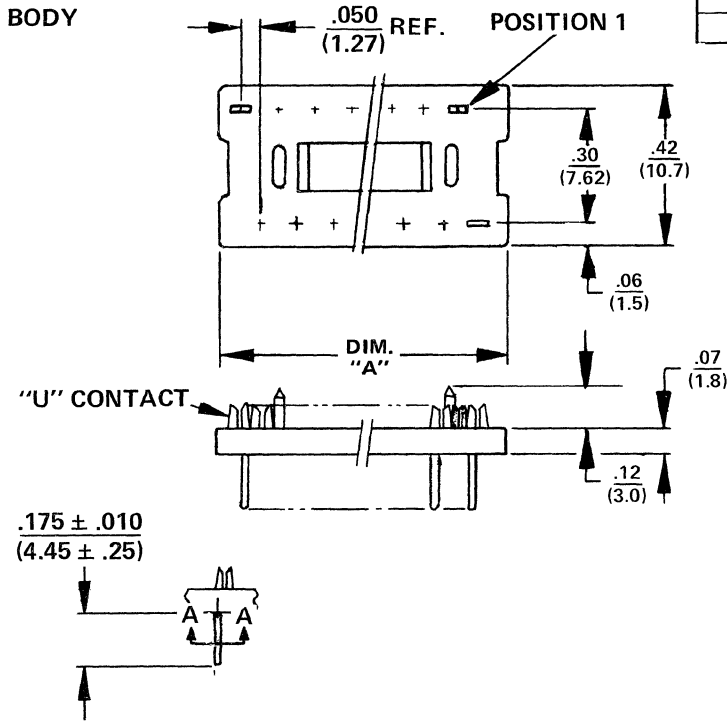


DR. *G. Olson*
APP. *A. SA*

A

2038A

CONTACT QUANTITY	3M PART NUMBER	COVER TYPE	CONTACT TYPE	DIM. "A"
14	3406-0000	FLAT CABLE	RECTANGULAR	.75 (19.1)
14	3406-0002	FLAT CABLE	ROUND	.75 (19.1)
14	3406-1000	INDIVIDUAL WIRE	RECTANGULAR	.75 (19.1)
16	3416-0000	FLAT CABLE	RECTANGULAR	.85 (21.6)
16	3416-0002	FLAT CABLE	ROUND	.85 (21.6)
16	3416-1000	INDIVIDUAL WIRE	RECTANGULAR	.85 (21.6)



USED ON

TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	±.05
REGULAR	±	±	±

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ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

INCH
(mm)

SCALE /

DR. G.L. Olson
APP. RAB

A

JANUARY 17, 1977

5

ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

TITLE

D.I.P. CONNECTOR SPECIFICATIONS

2000

SCOTCHFLEX DIP CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition DIP plug transition between round conductor flat cable on .050" (1.27 mm) centers and a .100" X .300" (2.54 mm X 7.62 mm) I.C. socket.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR 3406, Gray; 3416, Red

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030" (.762 μ m) gold
per Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μ m) nickel

MARKING Raised figures; 3M logo, part identification
number, and contact position numbers

WIRE ACCOMMODATION 26 AWG solid
28 AWG solid or stranded

ELECTRICAL

CURRENT RATING 1 A

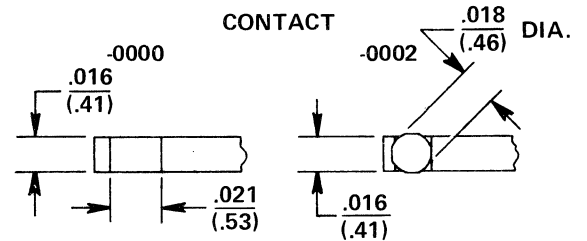
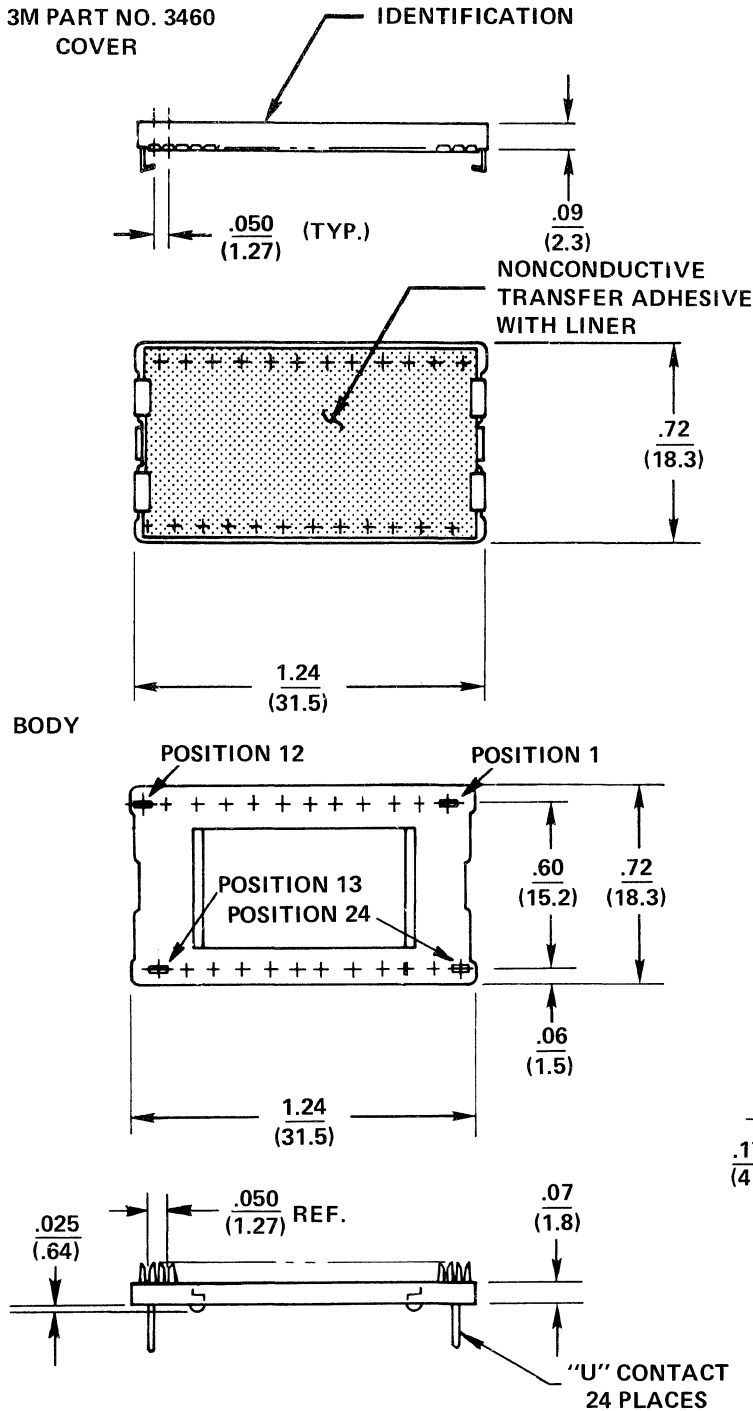
INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

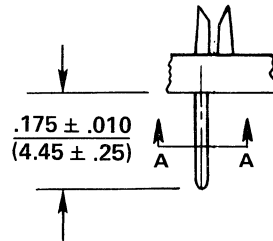
TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)

3M PART NO. 3460
COVER



SECT. A-A

3M PART NUMBER	CONTACT TYPE
3460-0000	RECTANGULAR
3460-0002	ROUND



USED ON

OCTOBER 27, 1978

5

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Electronic
Products
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ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

D.I.P. CONNECTOR SPECIFICATION

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///

DR. *G.L. Olson*

APP.

A

2016

SCOTCHFLEX DIP CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition DIP plug transition between round conductor flat cable on .050" (1.27 mm) centers and a .100" X .600" (2.54 mm X 15.24 mm) I.C. socket.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, and contact position numbers

WIRE ACCOMMODATION 26 AWG solid
28 AWG solid or stranded

ELECTRICAL

CURRENT RATING 1 A

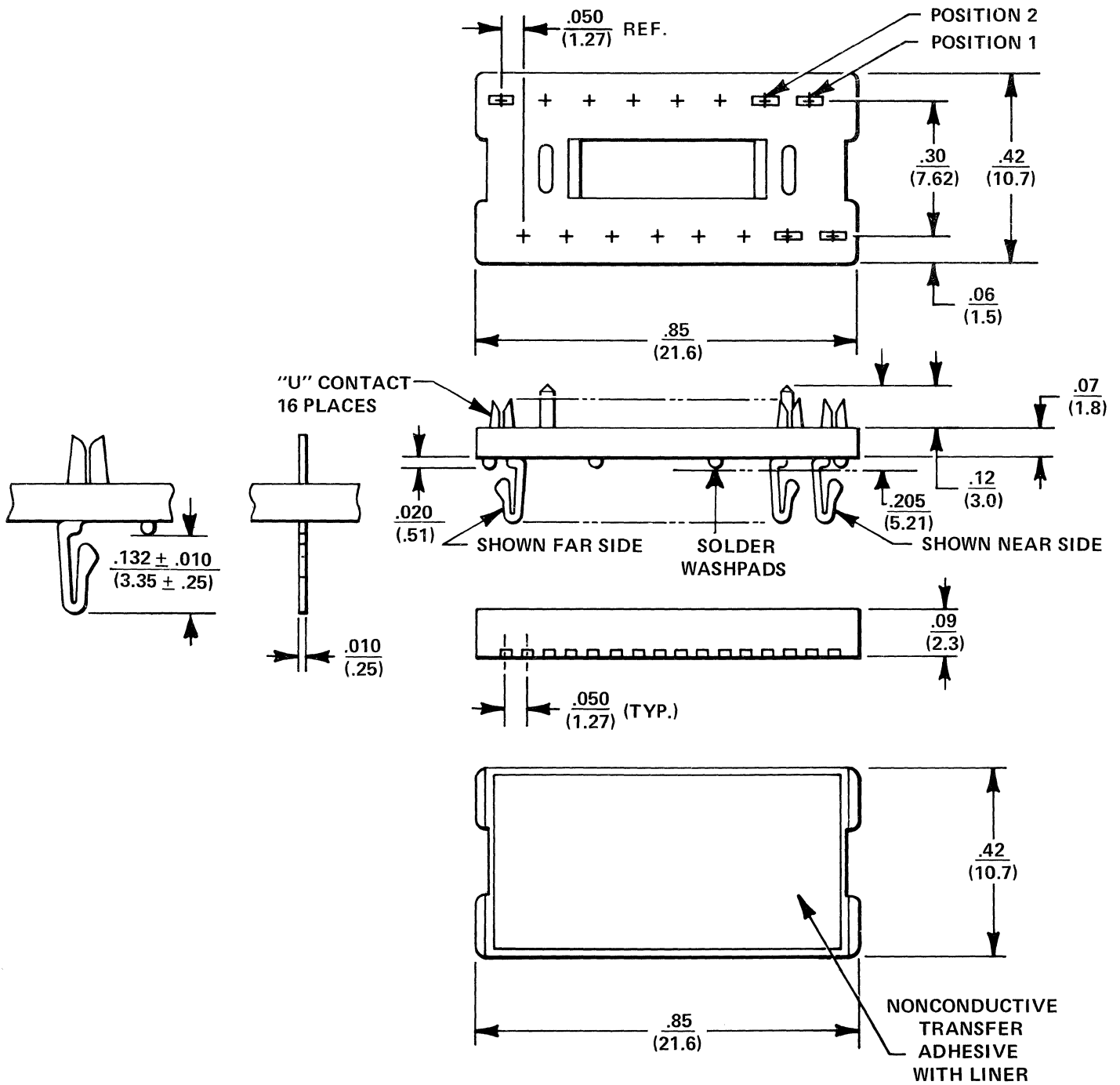
INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)

3M PART NO. 3498-0000



USED ON

TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	$\pm .1$	$\pm .01$	$\pm .005$
mm	$\pm .3$	$\pm .13$	$\pm .005$
SEC.	$\pm .1$	$\pm .01$	$\pm .005$
ANGULAR	\pm	0	1

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INCH (mm)
SCALE /
DR. *G.L. Olson*
APP. *AOB*

A

FEBRUARY 8, 1977

ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
		1	

TITLE
D.I.P. CONNECTOR SPECIFICATIONS

2049

SCOTCHFLEX DIP CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition DIP plug transition between round conductor flat cable on .050" (1.27 mm) centers and a .100" X .300" (2.54 mm X 7.62 mm) printed circuit board grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000200" (5.08 μm) min. tin/lead

MARKING Raised figures; 3M logo, part identification number, and contact position numbers

WIRE ACCOMMODATION 26 AWG solid
28 AWG solid or stranded

ELECTRICAL

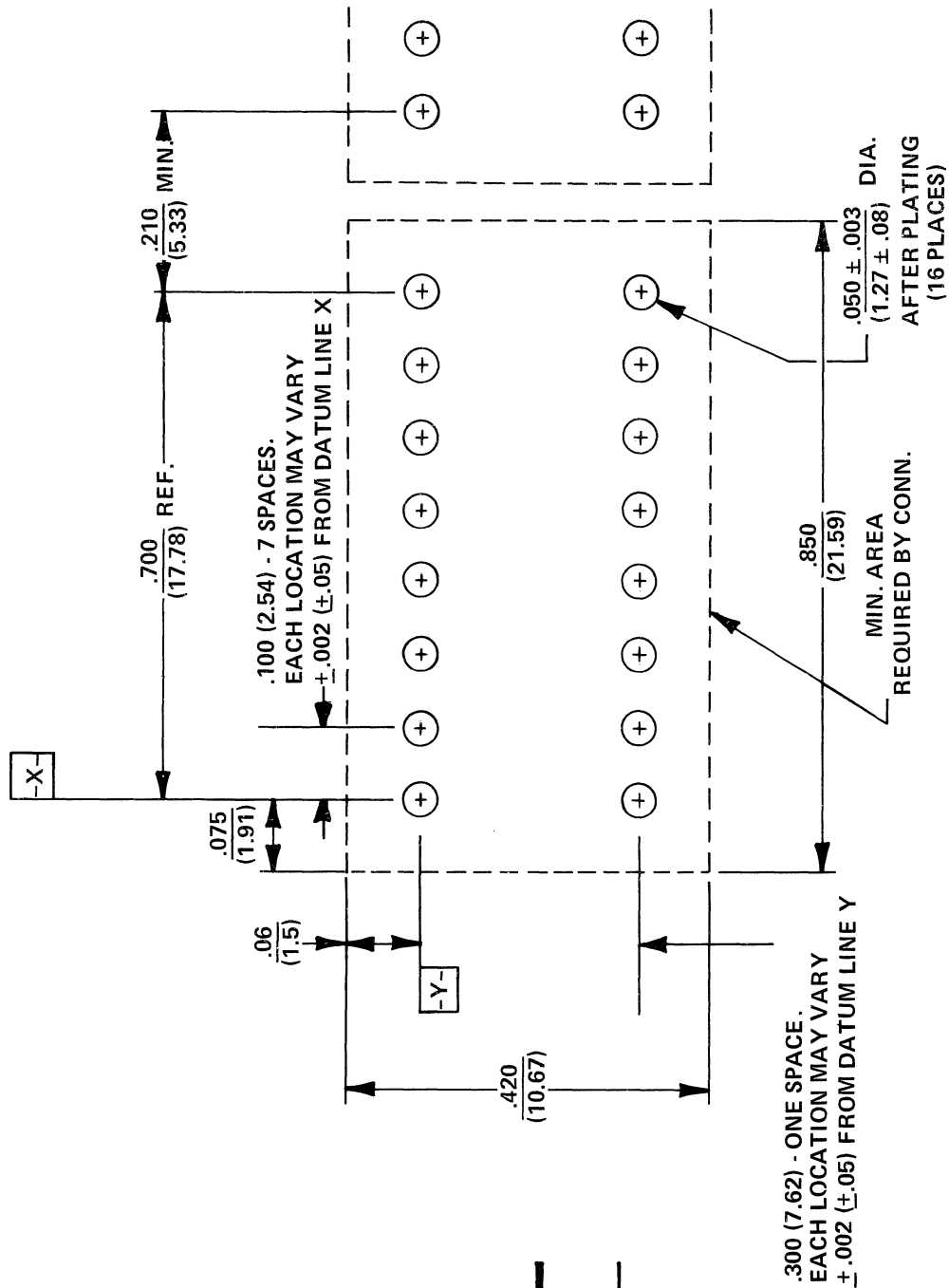
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to +105°C)



USED ON 3M PART NO. 3498

FEBRUARY 8, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
ANGULAR	±	°	'

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ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

INCH
(mm)

SCALE /

ISSUE

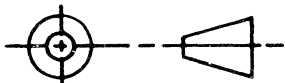
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

PCB HOLE PATTERN
SPECIFICATION



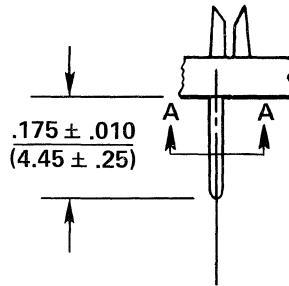
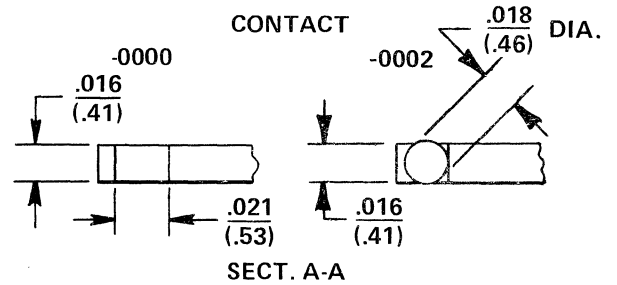
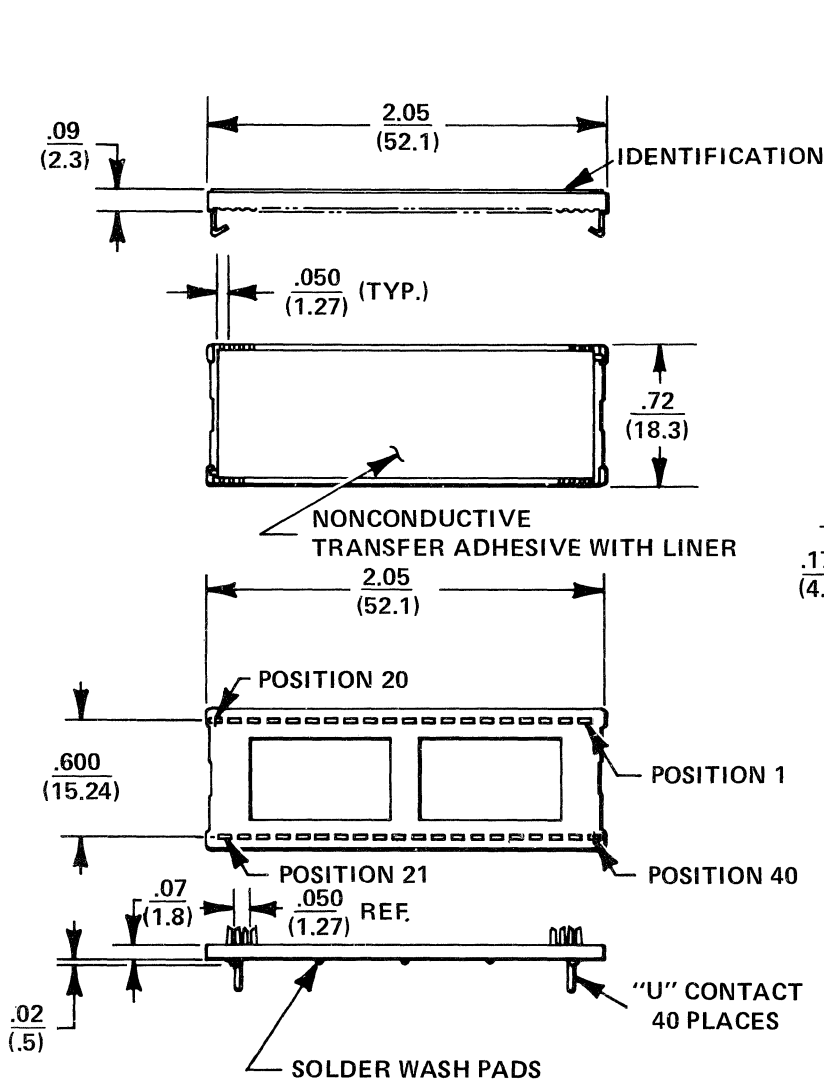
ISO-METHOD A

DR. *G.L. Olson*

APP.

A

2049A



3M PART NUMBER	CONTACT TYPE
3508-0000	RECTANGULAR
3508-0002	ROUND

USED ON

JANUARY 17, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
ANGULAR	±	±	±

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ISSUE

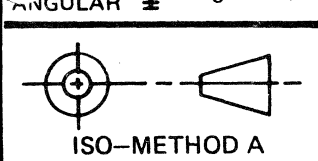
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

D.I.P. CONNECTOR SPECIFICATION



INCH (mm)

SCALE /

DR. *G.L. Olson*
APP. *ADD*

A

2050

SCOTCHFLEX DIP CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition DIP plug transition between round conductor flat cable on .050" (1.27 mm) centers and a .100" X .600" (2.54 mm X 15.24 mm) I.C. socket.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030" (.762 μ m) min. gold per
Mil-G-45204 Type II over 0.000050"
(1.27 μ m) min. Nickel

MARKING Raised figures; 3M logo, part identification
number, and contact position numbers

WIRE ACCOMMODATION 26 AWG solid
28 AWG solid or stranded

ELECTRICAL

CURRENT RATING 1 A

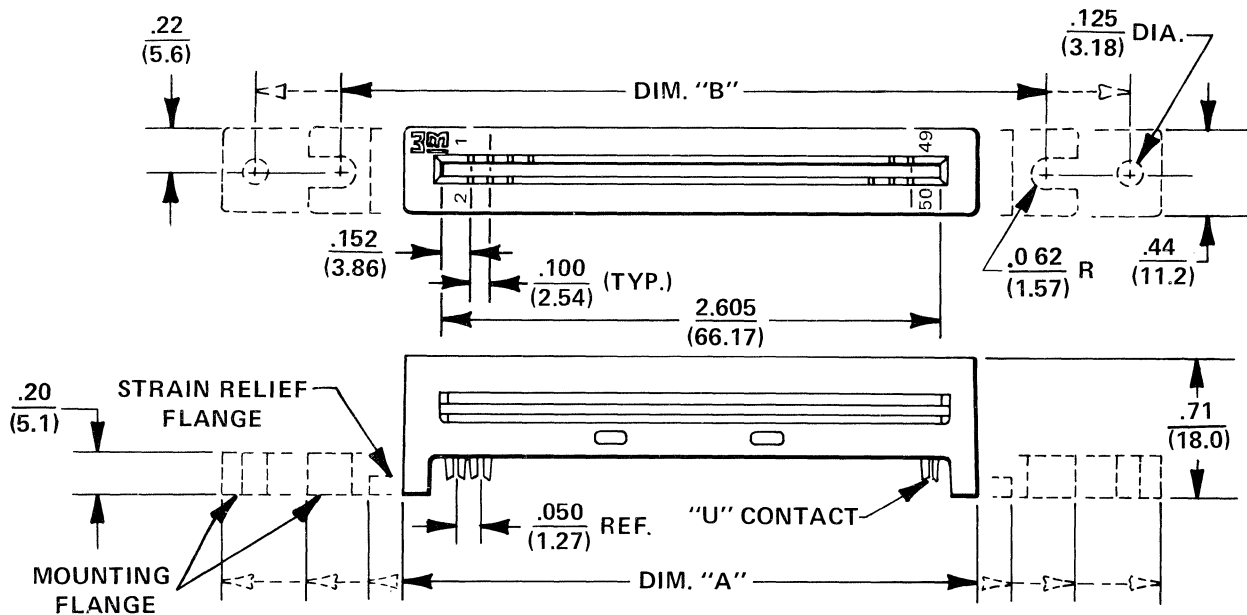
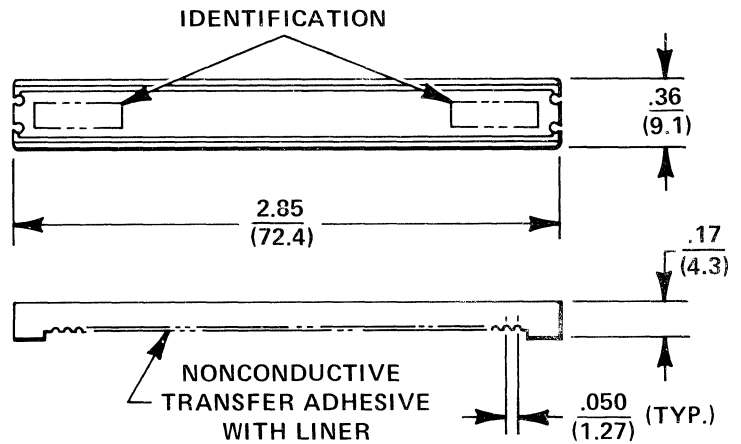
INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)

CONTACT QUANTITY	3M PART NUMBER	MOUNTING STYLE	DIM. "A"	DIM. "B"
50	3415-0000	WITH MOUNTING FLANGES	$\frac{3.90}{(99.1)}$	$\frac{3.40}{(86.4)}$
50	3415-0001	WITHOUT MOUNTING FLANGES	$\frac{2.97}{(75.4)}$	N/A
50	3415-0002	WITH STRAIN RELIEF FLANGES	$\frac{3.08}{(78.2)}$	N/A
50	3415-0003	WITH SLOTTED MOUNTING FLANGES	$\frac{3.50}{(88.9)}$	$\frac{3.30}{(83.8)}$



USED ON

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Electronic Products Division



OCTOBER 2, 1979

8

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

EDGE CARD CONNECTOR SPECIFICATION
3M PART NO. 3415

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

DR. GARY L. OLSON

APR 7 1979

A

2010

Scotchflex Card Edge Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a dual readout multi-position transition between round conductor flat cable on .050" (1.27 mm) centers to a printed circuit card edge on .100" (2.54 mm) centers.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number

Contact Material: Beryllium Copper

Plating: 0.000050" (1.27 μm) gold per Mil-G-45204 Type II, class 1, on wiping area, gold flash on "U" area, over 0.000100" (2.54 μm) nickel throughout

Wire accommodation: 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

Insertion Force: .54 lb (2.40N) per contact typical

Withdrawal Force: .26 lb (1.16N) per contact typical

Electrical:

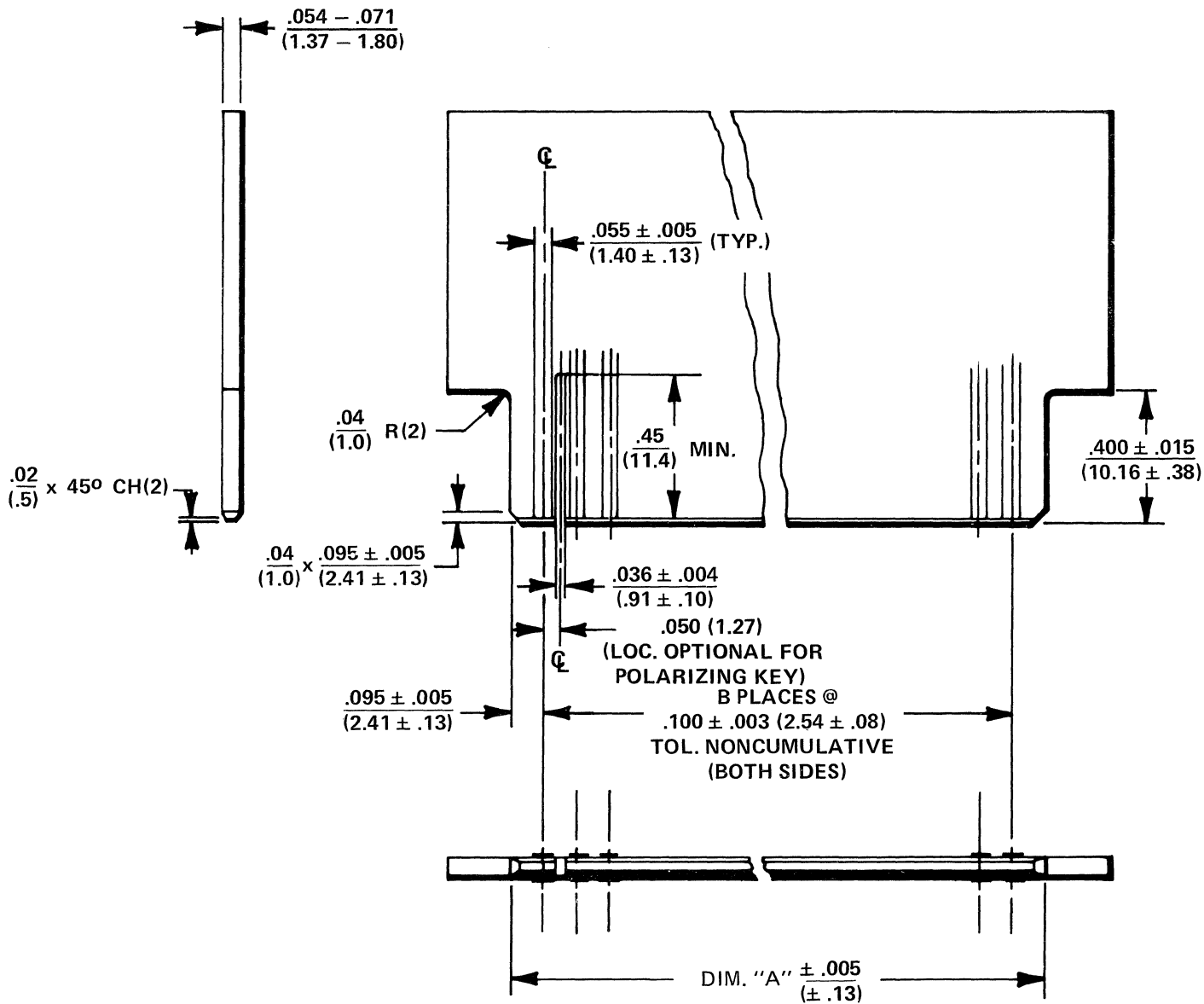
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega @ 500 \text{ vdc}$

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	"B"
20	3461	1.095 (27.81)	9
26	3462	1.395 (35.43)	12
34	3463	1.795 (45.59)	16
40	3464	2.095 (53.21)	19
50	3415	2.595 (65.91)	24

NOTE: REGISTRATION FROM FRONT TO
 BACK $\pm .005$
 $(\pm .13)$

USED ON

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	$\pm .1$	$\pm .01$	$\pm .005$
mm	$\pm .3$	$\pm .13$	$\pm .05$
ANGULAR	\pm	$^\circ$	'

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INCH
 (mm)

SCALE /

DR. *G.L. Olson*

APP. *RKR*

A

JANUARY 17, 1977

4

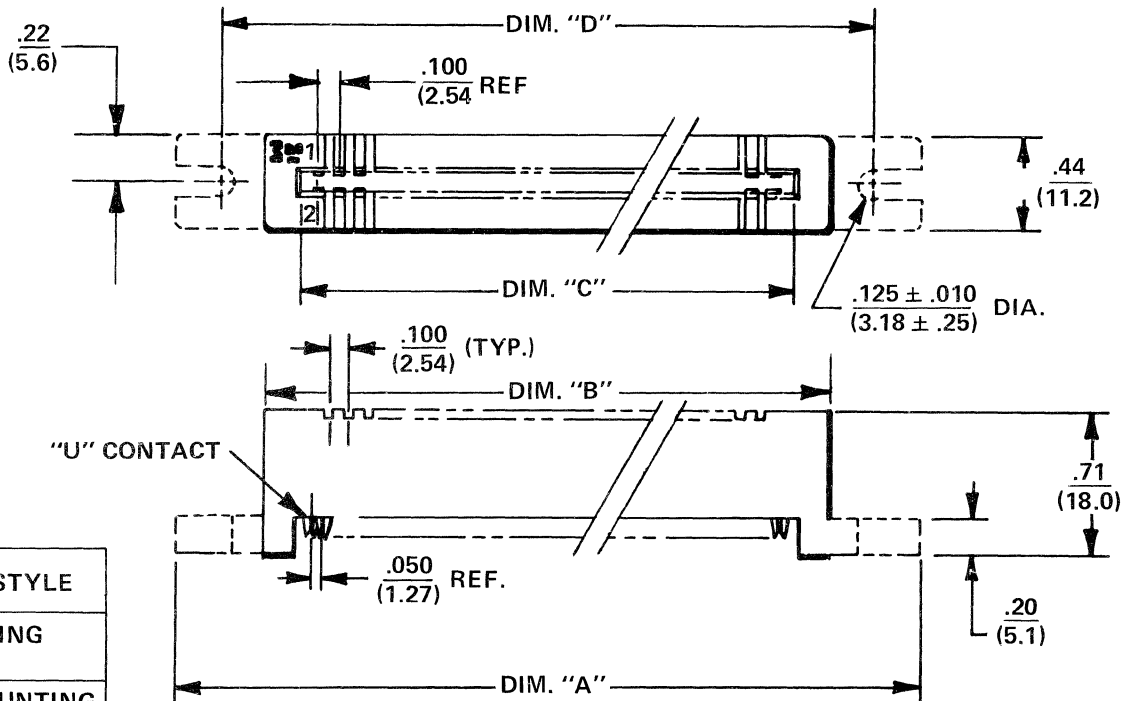
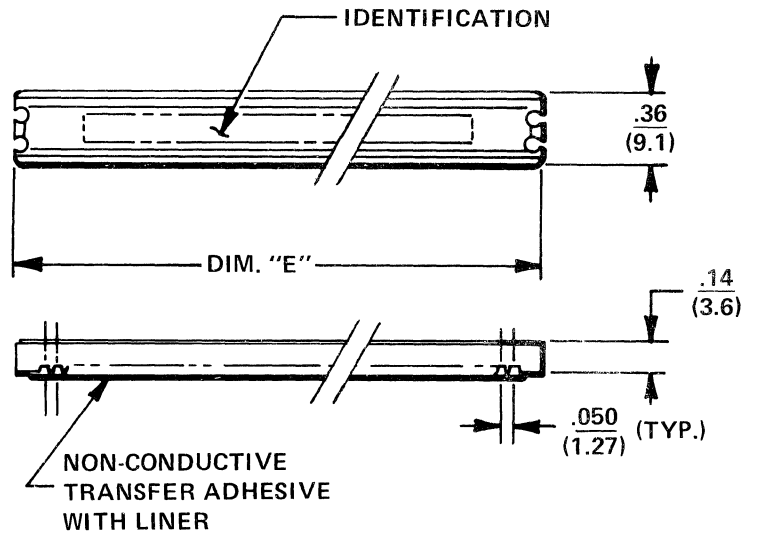
ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

TITLE

CARD-EDGE SPECIFICATION

2010 A

CONTACT QUANTITY	3M PART NUMBER	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	DIM. "E"
20	3461-	2.00 (50.8)	1.46 (37.1)	1.104 (28.04)	1.80 (45.7)	1.24 (31.5)
26	3462-	2.30 (58.4)	1.76 (44.7)	1.404 (35.66)	2.10 (53.3)	1.54 (39.1)
34	3463-	2.70 (68.6)	2.16 (54.0)	1.804 (45.82)	2.50 (63.5)	1.94 (49.3)
40	3464-	3.00 (76.2)	2.46 (62.5)	2.104 (53.42)	2.80 (71.1)	2.24 (56.9)



3M PART NUMBER	MOUNTING STYLE
-0000	WITH MOUNTING FLANGES
-0001	WITHOUT MOUNTING FLANGES

USED ON

OCTOBER 2, 1979

5

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Electronic
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3M

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

EDGE CARD
SPECIFICATION
3M PART NO. 3461, 3462, 3463, 3464

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///

DR. GARY K. OLSON

APP. [Signature]

A

2012

Scotchflex Card Edge Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a dual readout multi-position transition between round conductor flat cable on .050" (1.27 mm) centers to a printed circuit card edge having .100" (2.54 mm) centers.

Specifications:

Physical:

Insulator Material: Glass reinforced thermoplastic

Flammability rating: UL 94V-1

Color: Gray

Marking: Raised figures; 3M logo, part identification number

Contact Material: Beryllium Copper

Plating: 0.000050" (1.27 μm) gold per
Mil-G-45204 Type II, class 1, on wiping
area, gold flash on "U" area, over
0.000100" (2.54 μm) nickle throughout

Wire accommodation: 26 AWG solid
28 AWG solid or
stranded
30 AWG solid

Insertion Force: .54 lb (2.40 N) per contact
typical

Withdrawal Force: .26 lb (1.16N) per contact
typical

Electrical:

Current Rating: 1 A

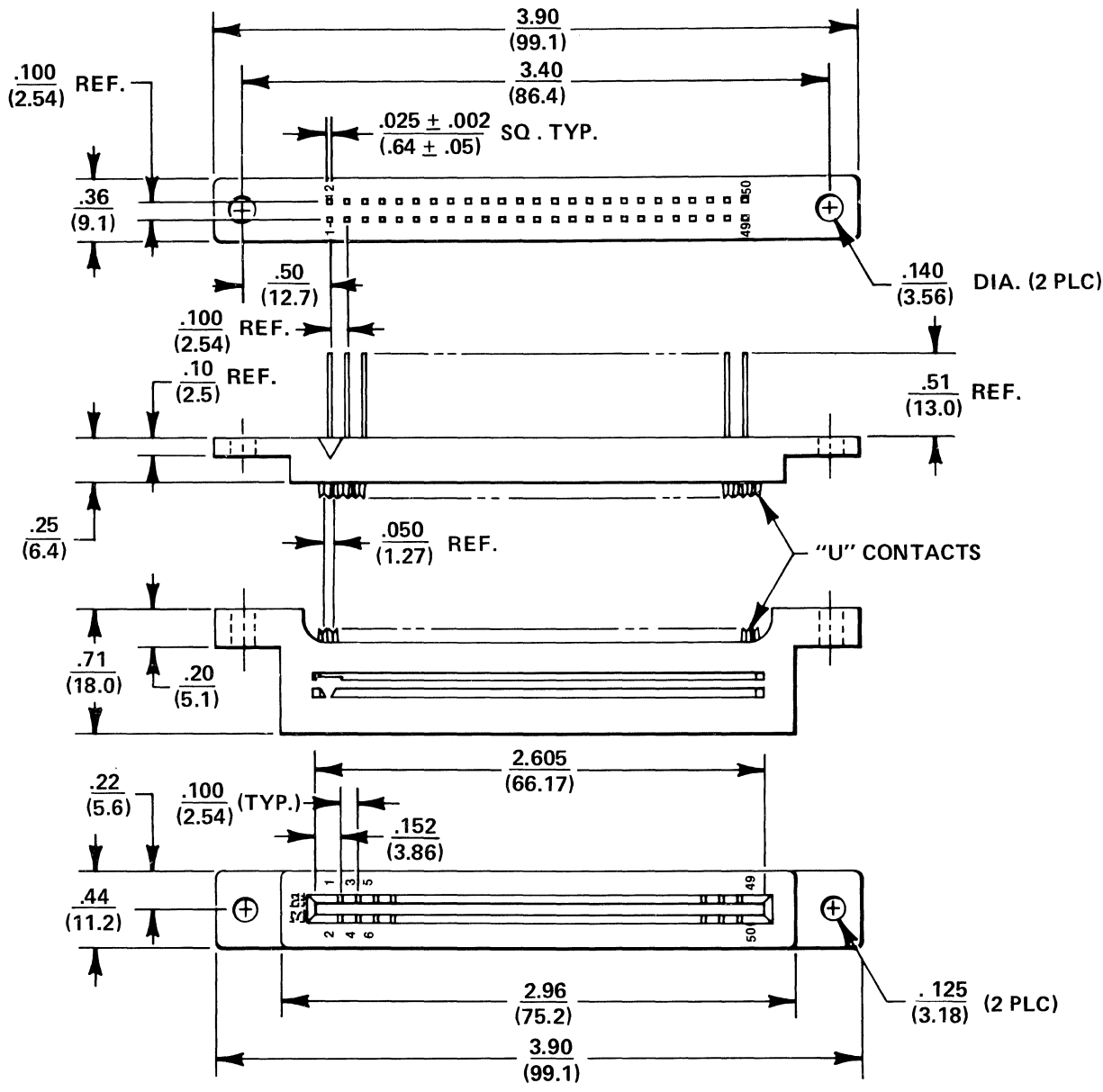
Insulation Resistance: $> 1 \times 10^9 \Omega @ 500 \text{ vdc}$

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)

2012



USED ON

IMPORTANT NOTICE TO PURCHASER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:

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Electronic Products Division



ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

WRAP POST CARDEDGE CONNECTOR SPECIFICATION
PART NO. 3533-0000

OCTOBER 4, 1979

2

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

DR. *GARY L. OLSON*
APP. *[Signature]*

A

2056

Scotchflex Wrap Post Card Edge Specification

Scope: This specification details the requirements for a dual readout multi-position transition between round conductor flat cable on .050" (1.27 mm) centers to a printed circuit card edge on .100" (2.54 mm) centers and .25" (.64 mm) square wrap posts on .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced thermoplastic
Flammability rating: UL 94V-1
Color: Gray
Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Beryllium Copper

Plating: 0.000050" (1.27 μm) gold per Mil-G-45204 Type II, class 1 on wiping area, gold flash on "U" area, over 0.000100" (2.54 μm) nickel throughout wrap post: gold flash over 0.000100" (2.54 μm) nickel.

Wire accommodation: 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

Insertion Force: .54 lb (2.40N) per contact typical

Withdrawal Force: .26 lb (1.16N) per contact typical

Electrical:

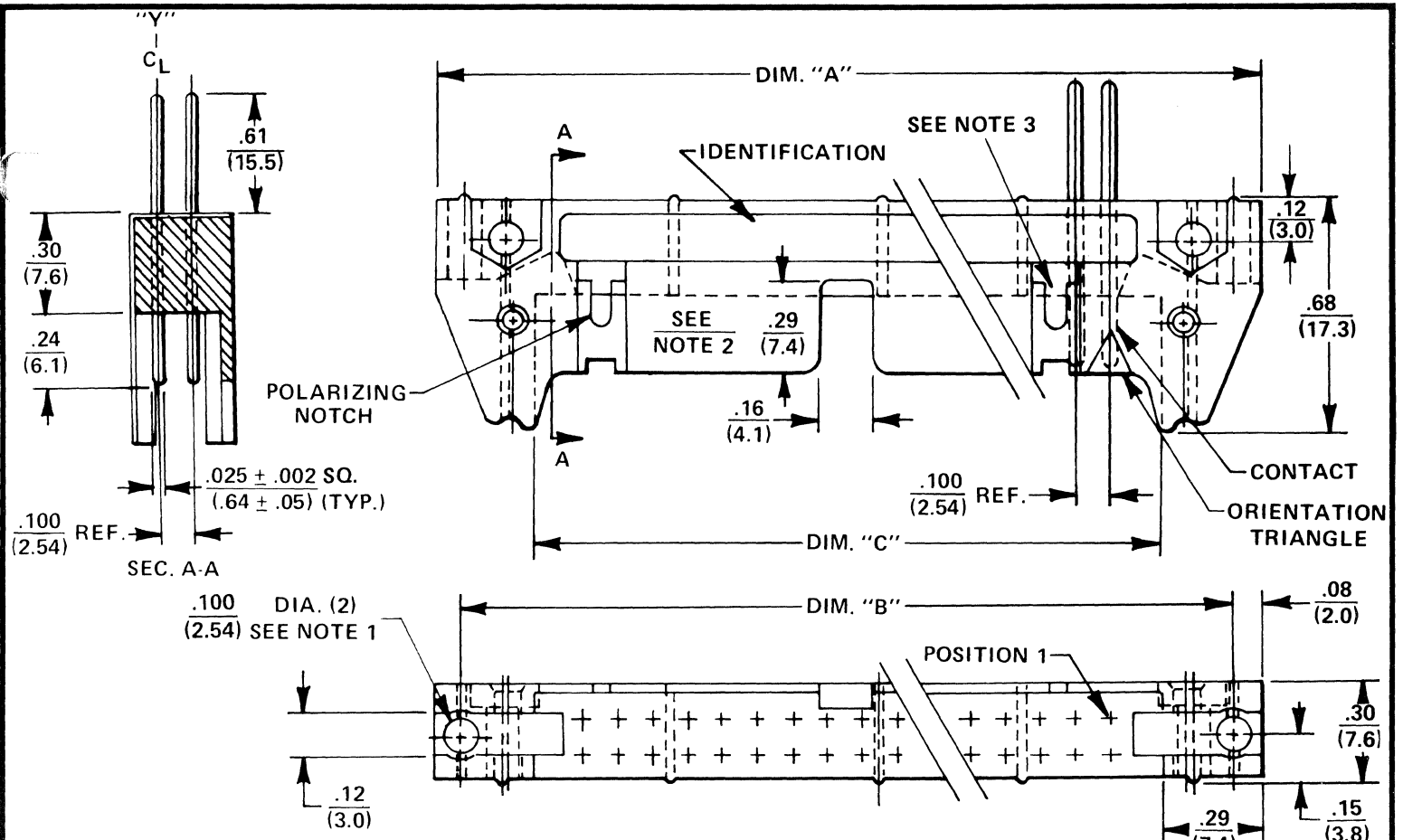
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

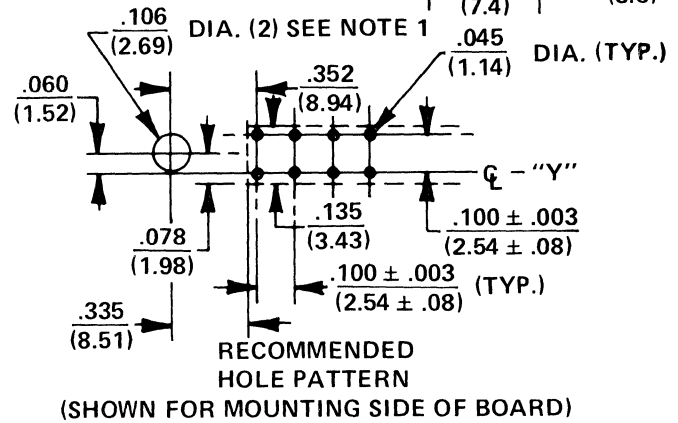
Withstanding Voltage: 1000VRMS @ sea level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"
10	3446-4005	1.27 (32.3)	1.10 (27.9)	.71 (18.0)
14	3314-4005	1.47 (37.3)	1.30 (30.3)	.91 (23.1)
16	3408-4005	1.57 (39.9)	1.40 (35.6)	1.01 (25.7)
20	3428-4005	1.76 (44.7)	1.60 (40.6)	1.21 (30.7)
26	3429-4005	2.06 (52.3)	1.90 (48.3)	1.51 (38.4)
34	3431-4005	2.46 (62.5)	2.30 (58.4)	1.91 (48.5)
40	3432-4005	2.76 (70.1)	2.60 (66.0)	2.21 (56.1)
50	3433-4005	3.26 (82.8)	3.10 (78.7)	2.71 (68.8)
60	3372-4005	3.77 (95.8)	3.60 (91.4)	3.21 (81.5)



- NOTES:
- ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING), OR NO. 2 RIVET. [WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95)].
 - NO SLOT ON 3446 SERIES.
 - THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

USED ON

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Electronic Products Division

3M

SCALE

ISSUE	JAN. 3, 1980	9	REV.	CH.
	ISSUE DATE AND CHANGE RECORD			

SPECIFICATION
STRAIGHT HEADER
.025 (.64) SQUARE WRAP POST
3M PART NOS. 3446, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	±.05

DR. *George Johnson*

APP. *[Signature]*

A

2005

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Copper Alloy CA-725

Plating: 0.000030" (7.62 μm) minimum gold per Mil-G-45204 Type II, class 0, over 0.000050" (1.27 μm) minimum nickel, 0.200" (5.08 μm) mating end

Electrical

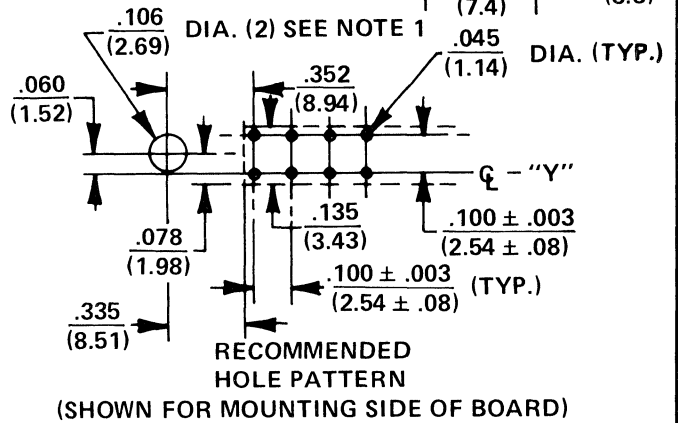
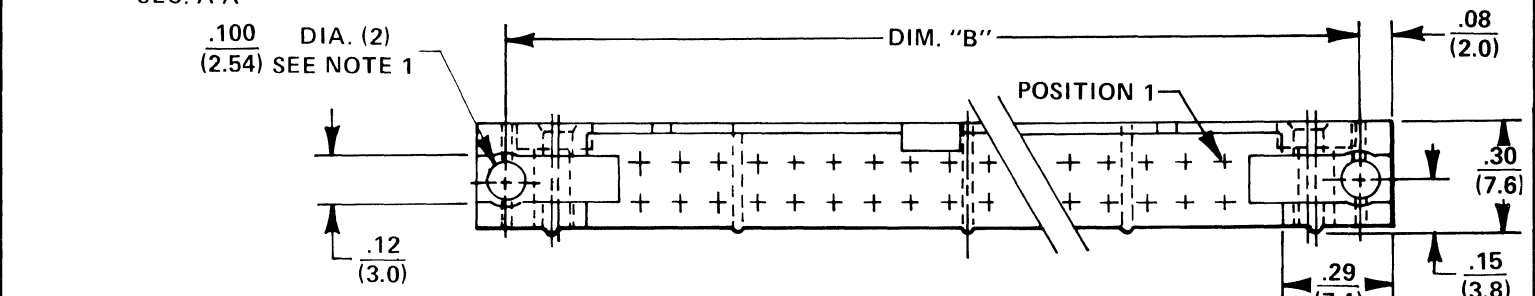
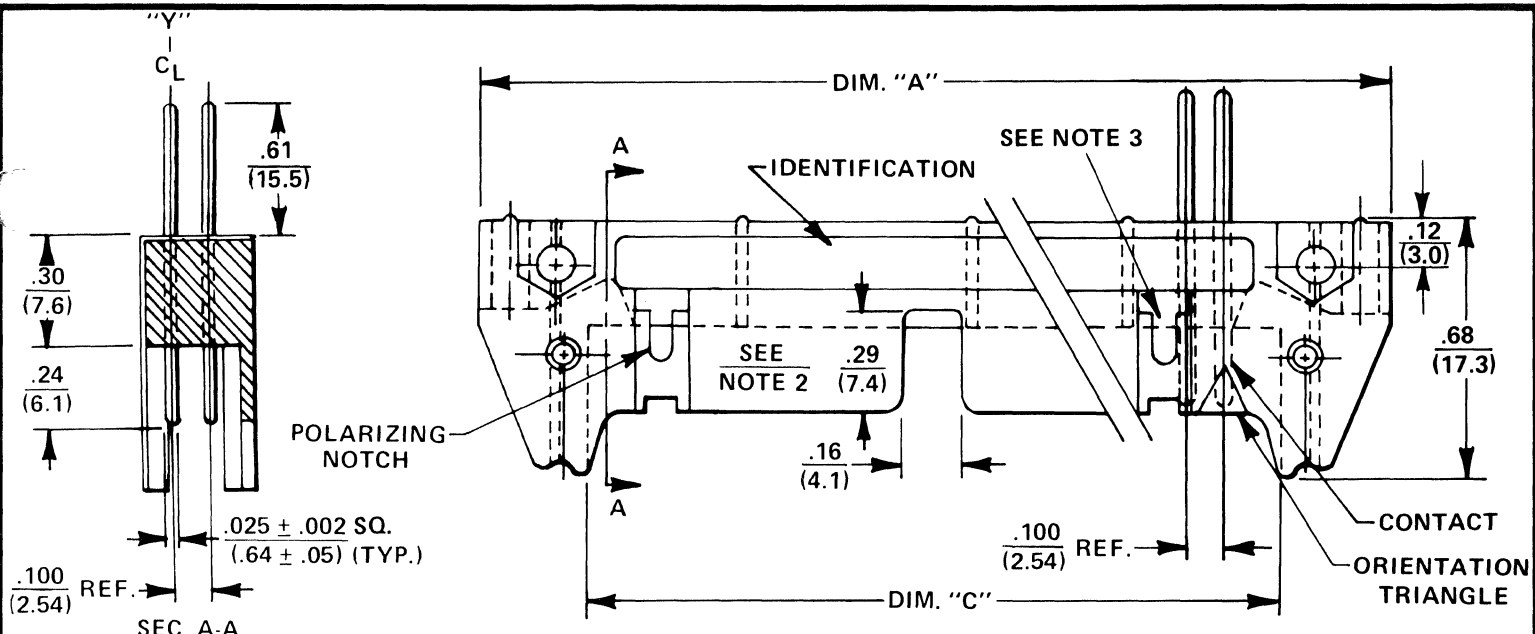
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"
10	3446-4005	1.27 (32.3)	1.10 (27.9)	.71 (18.0)
14	3314-4005	1.47 (37.3)	1.30 (30.3)	.91 (23.1)
16	3408-4005	1.57 (39.9)	1.40 (35.6)	1.01 (25.7)
20	3428-4005	1.76 (44.7)	1.60 (40.6)	1.21 (30.7)
26	3429-4005	2.06 (52.3)	1.90 (48.3)	1.51 (38.4)
34	3431-4005	2.46 (62.5)	2.30 (58.4)	1.91 (48.5)
40	3432-4005	2.76 (70.1)	2.60 (66.0)	2.21 (56.1)
50	3433-4005	3.26 (82.8)	3.10 (78.7)	2.71 (68.8)
60	3372-4005	3.77 (95.8)	3.60 (91.4)	3.21 (81.5)

- NOTES:
- ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING), OR NO. 2 RIVET. [WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95)].
 - NO SLOT ON 3446 SERIES.
 - THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

USED ON

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Electronic Products Division



TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

INCH (mm)
SCALE
DR. *George Johnson*
APP. *[Signature]*

A

JAN. 3, 1980	9
ISSUE	ISSUE DATE AND CHANGE RECORD
REV.	CH.

SPECIFICATION
STRAIGHT HEADER
.025 (.64) SQUARE WRAP POST
3M PART NOS. 3446, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372

2005

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Copper Alloy CA-725

Plating: 0.000030" (7.62 μm) minimum gold per Mil-G-45204 Type II, class 0, over 0.000050" (1.27 μm) minimum nickel, 0.200" (5.08 μm) mating end

Electrical

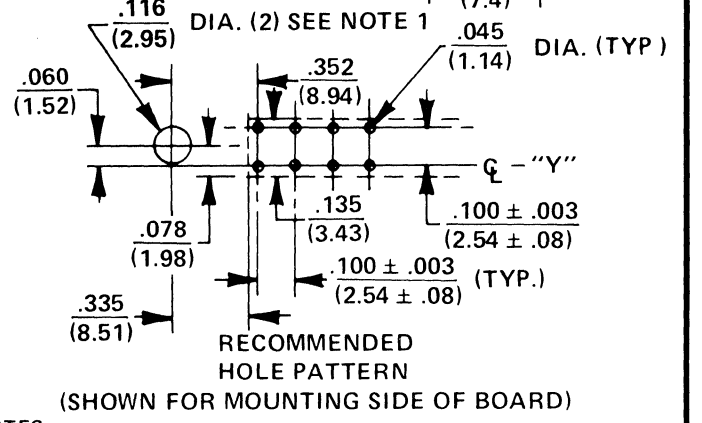
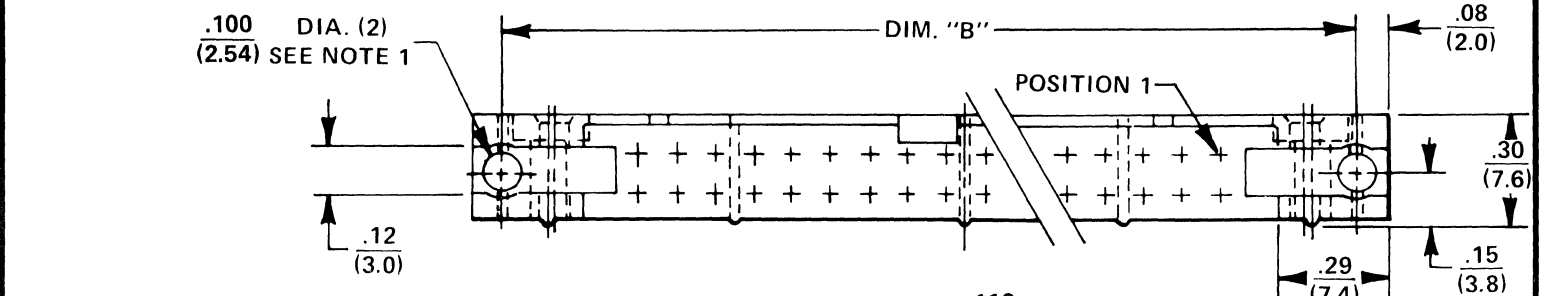
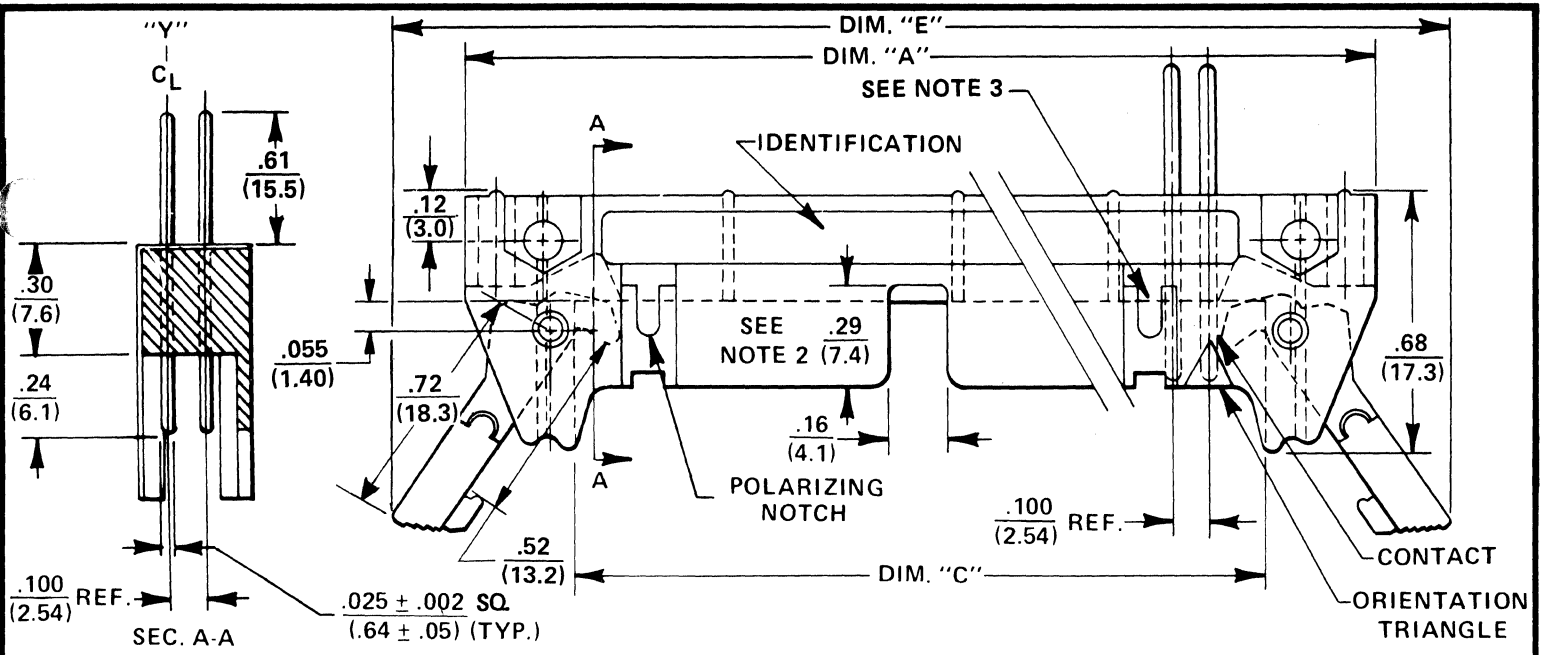
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ± .02 (.5)
10	3446-4305	1.27 (32.3)	1.10 (27.9)	.71 (18.0)	2.06 (52.3)
14	3314-4305	1.47 (37.3)	1.30 (30.3)	.91 (23.1)	2.10 (53.3)
16	3408-4305	1.57 (39.9)	1.40 (35.6)	1.01 (25.7)	2.36 (59.9)
20	3428-4305	1.76 (44.7)	1.60 (40.6)	1.21 (30.7)	2.55 (64.8)
26	3429-4305	2.06 (52.3)	1.90 (48.3)	1.51 (38.4)	2.85 (72.4)
34	3431-4305	2.46 (62.5)	2.30 (58.4)	1.91 (48.5)	3.25 (82.6)
40	3432-4305	2.76 (70.1)	2.60 (66.0)	2.21 (56.1)	3.55 (90.2)
50	3433-4305	3.26 (82.8)	3.10 (78.7)	2.71 (68.8)	4.05 (102.9)
60	3372-4305	3.77 (95.8)	3.60 (91.4)	3.21 (81.5)	4.56 (115.9)

- NOTES:
 1 ACCEPTS NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING).
 2 NO SLOT ON 3446 SERIES.
 3 THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

USED ON

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Electronic Products Division
3M

JAN. 3, 1980	9		
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.

SPECIFICATION
STRAIGHT HEADER
.025 (.64) SQUARE WRAP POST
3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	± .05

INCH (mm)
 SCALE
 DR. *Gary H. Olson*
 APP. *BPA*

A

2005B

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Copper Alloy CA-725

Plating: 0.000030" (7.62 μm) minimum gold per Mil-G-45204 Type II, class 0, over 0.000050" (1.27 μm) minimum nickel, 0.200" (5.08 μm) mating end

Electrical

Current Rating: 1 A

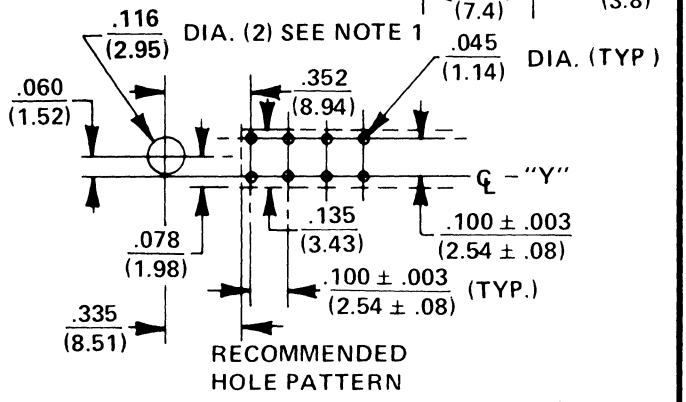
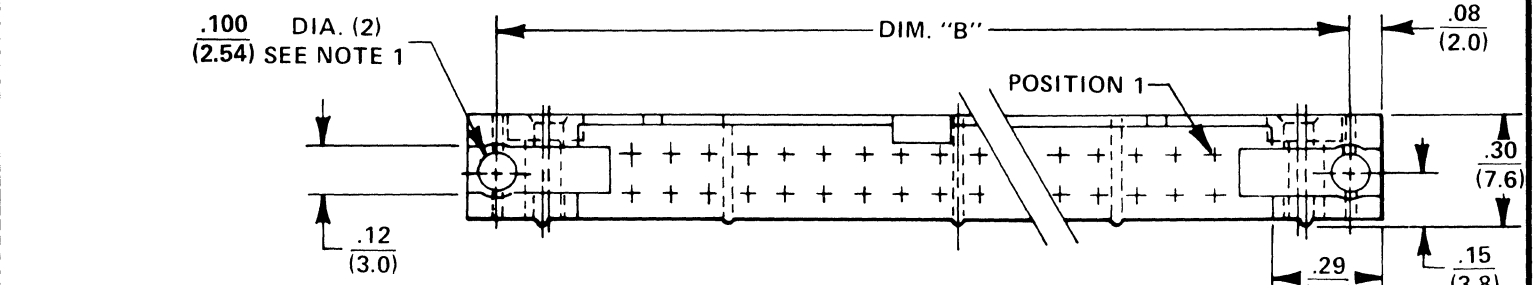
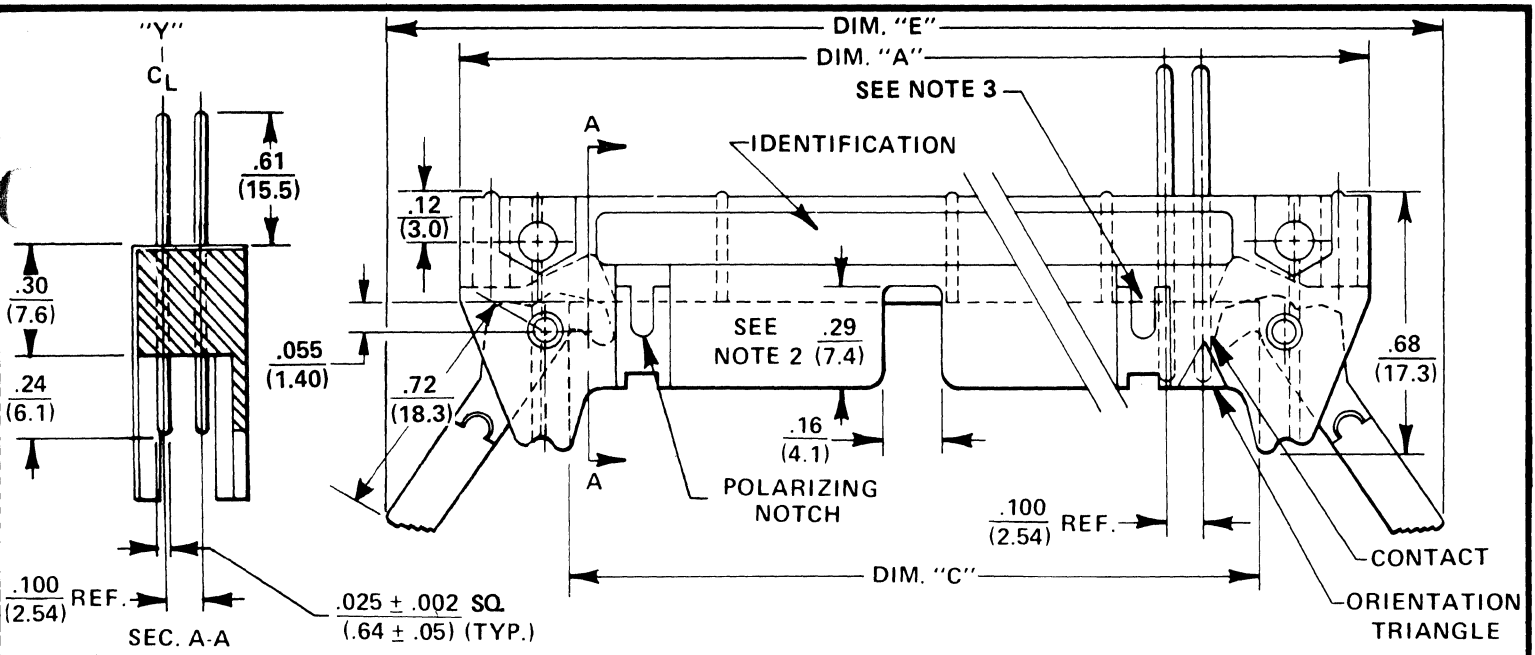
Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)

2005B



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ± .02 (.5)
10	3446-4405	1.27 (32.3)	1.10 (27.9)	.71 (18.0)	2.06 (52.3)
14	3314-4405	1.47 (37.3)	1.30 (30.3)	.91 (23.1)	2.10 (53.3)
16	3408-4405	1.57 (39.9)	1.40 (35.6)	1.01 (25.7)	2.36 (59.9)
20	3428-4405	1.76 (44.7)	1.60 (40.6)	1.21 (30.7)	2.55 (64.8)
26	3429-4405	2.06 (52.3)	1.90 (48.3)	1.51 (38.4)	2.85 (72.4)
34	3431-4405	2.46 (62.5)	2.30 (58.4)	1.91 (48.5)	3.25 (82.6)
40	3432-4405	2.76 (70.1)	2.60 (66.0)	2.21 (56.1)	3.55 (90.2)
50	3433-4405	3.26 (82.8)	3.10 (78.7)	2.71 (68.8)	4.05 (102.9)
60	3372-4405	3.77 (95.8)	3.60 (91.4)	3.21 (81.5)	4.56 (115.9)

- NOTES:
- ACCEPTS NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING).
 - NO SLOT ON 3446 SERIES.
 - THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

USED ON

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Electronic Products Division



NOV. 9, 1979

1

ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
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SPECIFICATION STRAIGHT HEADER
.025 (.64) SQUARE WRAP POST
3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

INCH (mm)
 SCALE
 DR. *Gary L. Olson*
 APP. *BA*

A

2005C

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Copper Alloy CA-725

Plating: 0.000030" (7.62 μm) minimum gold per Mil-G-45204 Type II, class 0, over 0.000050" (1.27 μm) minimum nickel, 0.200" (5.08 μm) mating end

Electrical:

Current Rating: 1 A

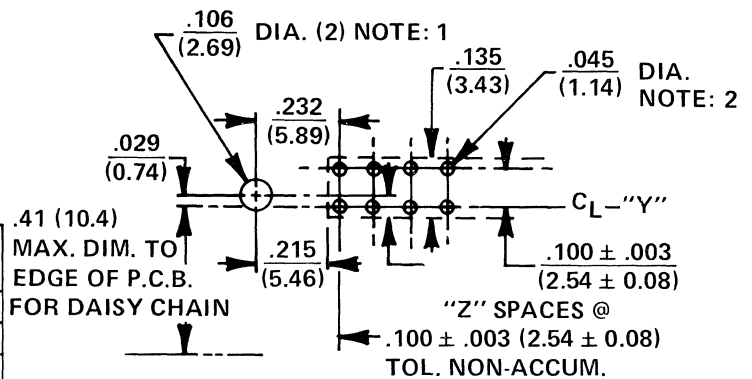
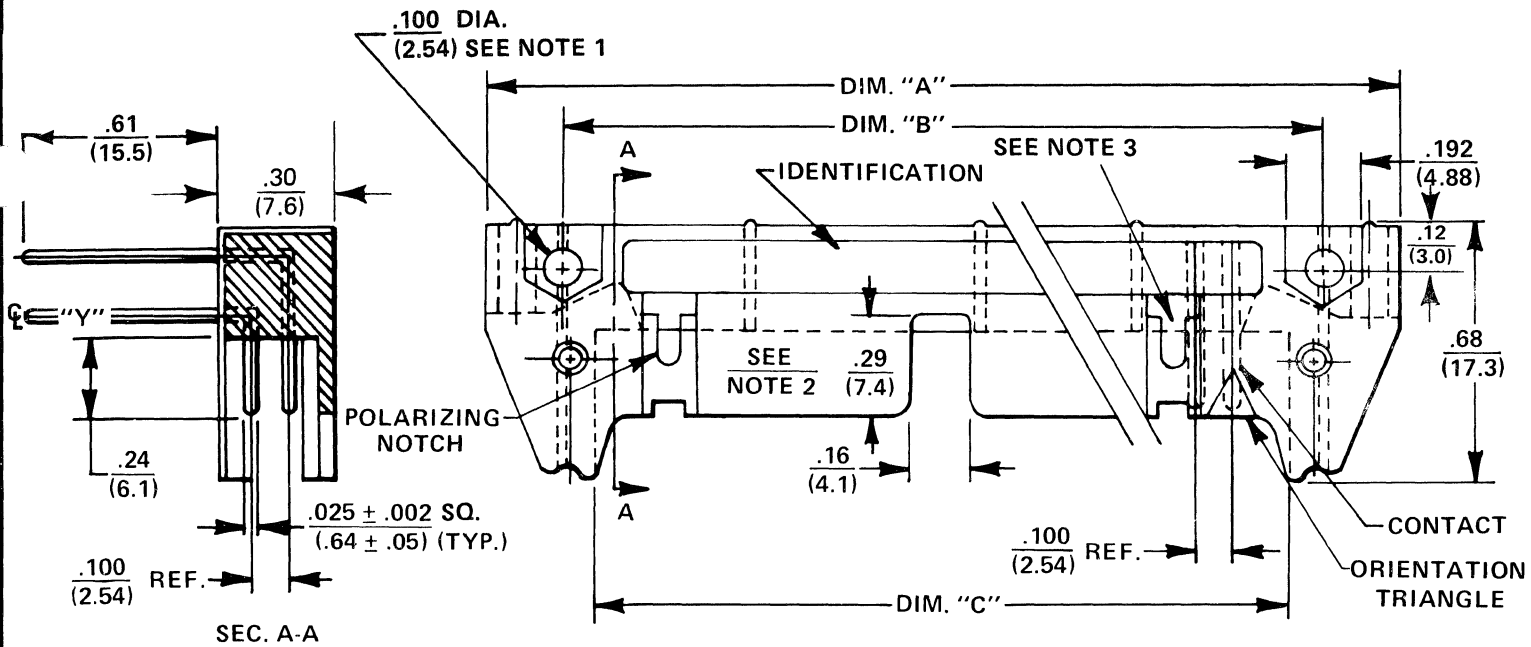
Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000V_{RMS} @ Sea Level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)

2005C



RECOMMENDED
P.C. BOARD HOLE PATTERN
(SHOWN FOR MOUNTING SIDE OF BOARD)

- NOTES:
- 1 ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING), OR NO. 2 RIVET. [WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95)].
 - 2 NO SLOT ON 3446 SERIES.
 - 3 THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"
10	3446-3005	1.27 (32.3)	.86 (21.8)	.71 (18.0)
14	3314-3005	1.47 (37.3)	1.06 (26.9)	.91 (23.1)
16	3408-3005	1.57 (39.9)	1.16 (29.5)	1.01 (25.7)
20	3428-3005	1.76 (44.7)	1.36 (34.5)	1.21 (30.7)
26	3429-3005	2.06 (52.3)	1.66 (42.2)	1.51 (38.4)
34	3431-3005	2.46 (62.5)	2.06 (52.3)	1.91 (48.5)
40	3432-3005	2.76 (70.1)	2.36 (59.9)	2.21 (56.1)
50	3433-3005	3.26 (82.8)	2.86 (72.6)	2.71 (68.8)
60	3372-3005	3.77 (95.8)	3.36 (85.3)	3.21 (81.5)

USED ON

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Electronic
Products
Division



AUG. 4, 1979

8

ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

**SPECIFICATION
RIGHT ANGLE HEADER
.025 (.64) SQUARE WRAP POST
3M PART NOS. 3446, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372**

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///

DR. *Gary L. Olson*
APP. *BA*

A

2006

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

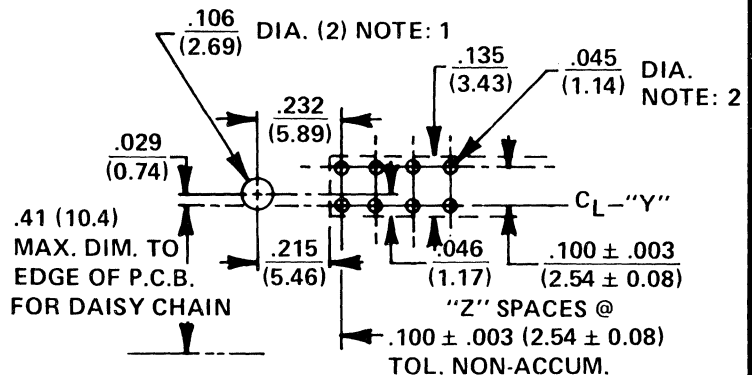
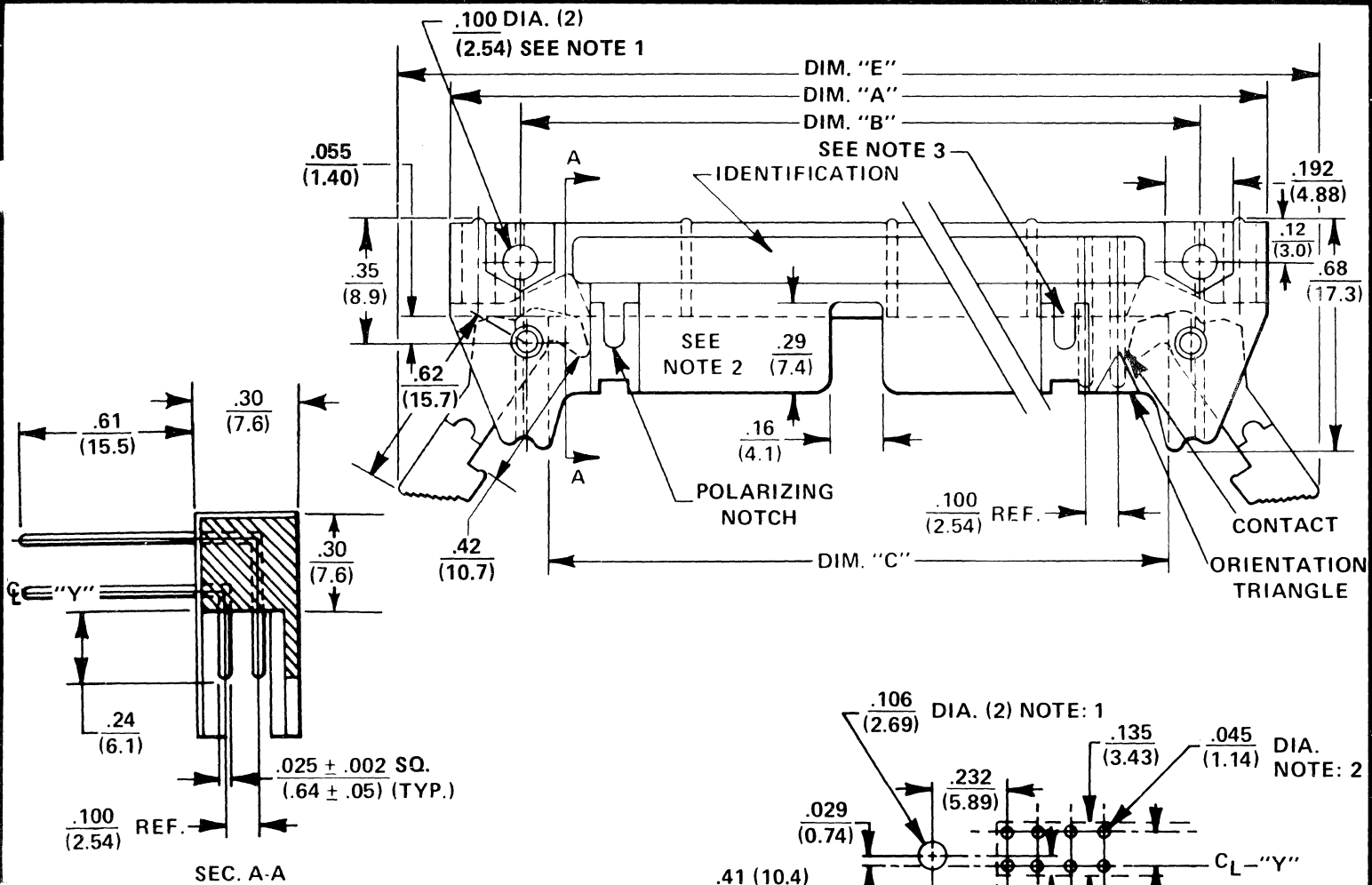
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$

Withstanding Voltage: 1000V_{RMS}

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{C}$ (-55°C to $+105^\circ\text{C}$)



RECOMMENDED
P.C. BOARD HOLE PATTERN
(SHOWN FOR MOUNTING SIDE OF BOARD)

NOTES:

- 1 ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING), OR NO. 2 RIVET. [WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95)].
- 2 NO SLOT ON 3446 SERIES.
- 3 THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ± .020 (.51)
10	3446-3205	1.27 (32.3)	.86 (21.8)	.71 (18.0)	1.90 (48.3)
14	3314-3205	1.47 (37.3)	1.06 (26.9)	.91 (23.1)	2.10 (53.3)
16	3408-3205	1.57 (39.9)	1.16 (29.5)	1.01 (25.7)	2.20 (55.9)
20	3428-3205	1.76 (44.7)	1.36 (34.5)	1.21 (30.7)	2.39 (60.7)
26	3429-3205	2.06 (52.3)	1.66 (42.2)	1.51 (38.4)	2.69 (68.3)
34	3431-3205	2.46 (62.5)	2.06 (52.3)	1.91 (48.5)	3.09 (78.5)
40	3432-3205	2.76 (70.1)	2.36 (59.9)	2.21 (56.1)	3.39 (86.1)
50	3433-3205	3.26 (82.8)	2.86 (72.6)	2.71 (68.8)	3.89 (98.8)
60	3372-3205	3.77 (95.8)	3.36 (85.3)	3.21 (81.5)	4.40 (111.8)

USED ON

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Electronic
Products
Division



AUG. 4, 1979

8

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

**SPECIFICATION
RIGHT ANGLE HEADER
.025 (.64) SQUARE WRAP POST
3M PART NOS. 3446, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372**

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

DR. *Gayle Olson*
APP. *[Signature]*

A

2006A

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

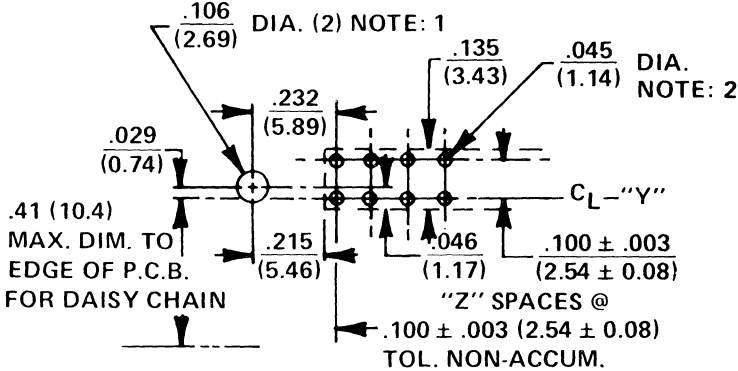
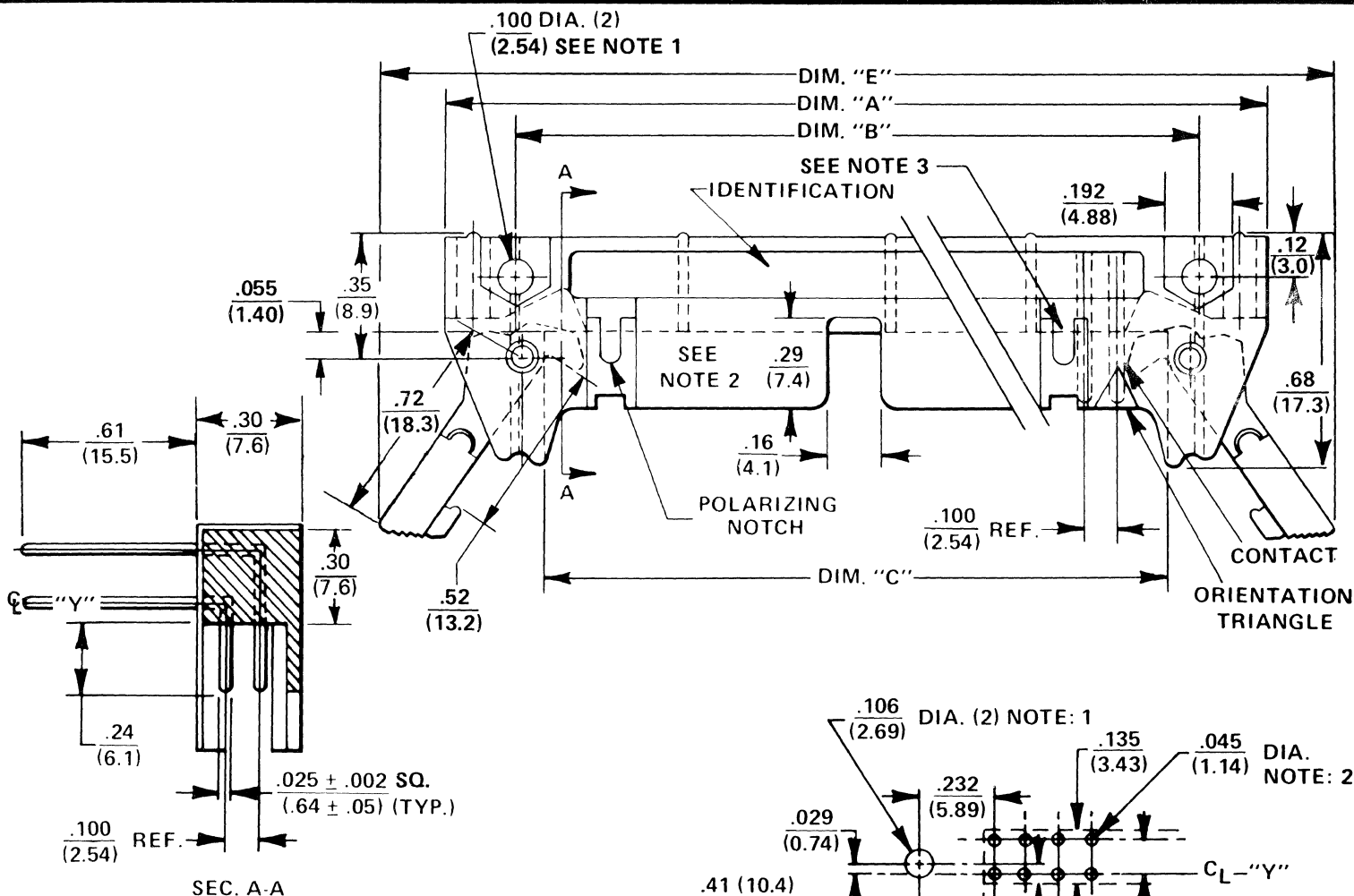
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$

Withstanding Voltage: 1000V_{RMS}

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{C}$ (-55°C to $+105^\circ\text{C}$)



RECOMMENDED
P.C. BOARD HOLE PATTERN
(SHOWN FOR MOUNTING SIDE OF BOARD)

- NOTES:
- 1 ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING), OR NO. 2 RIVET. (WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95)).
 - 2 NO SLOT OF 3446 SERIES.
 - 3 THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ± .02 (.5)
10	3446-3305	1.27 (32.3)	.86 (21.8)	.71 (18.0)	2.06 (52.3)
14	3314-3305	1.47 (37.3)	1.06 (26.9)	.91 (23.1)	2.10 (53.3)
16	3408-3305	1.57 (39.9)	1.16 (29.5)	1.01 (25.7)	2.36 (59.9)
20	3428-3305	1.76 (44.7)	1.36 (34.5)	1.21 (30.7)	2.55 (64.8)
26	3429-3305	2.06 (52.3)	1.66 (42.2)	1.51 (38.4)	2.85 (72.4)
34	3431-3305	2.46 (62.5)	2.06 (52.3)	1.91 (48.5)	3.25 (82.6)
40	3432-3305	2.76 (70.1)	2.36 (59.9)	2.21 (56.1)	3.55 (90.2)
50	3433-3305	3.26 (82.8)	2.86 (72.6)	2.71 (68.8)	4.05 (102.9)
60	3372-3305	3.77 (95.8)	3.36 (85.3)	3.21 (81.5)	4.56 (115.9)

USED ON

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Electronic
Products
Division



AUG. 4, 1979

8

ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
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SPECIFICATION
RIGHT ANGLE HEADER
.025 (.64) SQUARE WRAP POST
3M PART NOS. 3446, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

INCH
(mm)

SCALE

DR. *Garth Olson*
APP. *[Signature]*

A

2006B

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

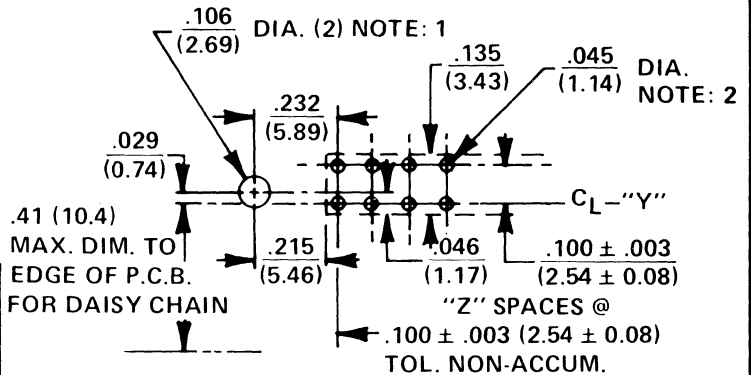
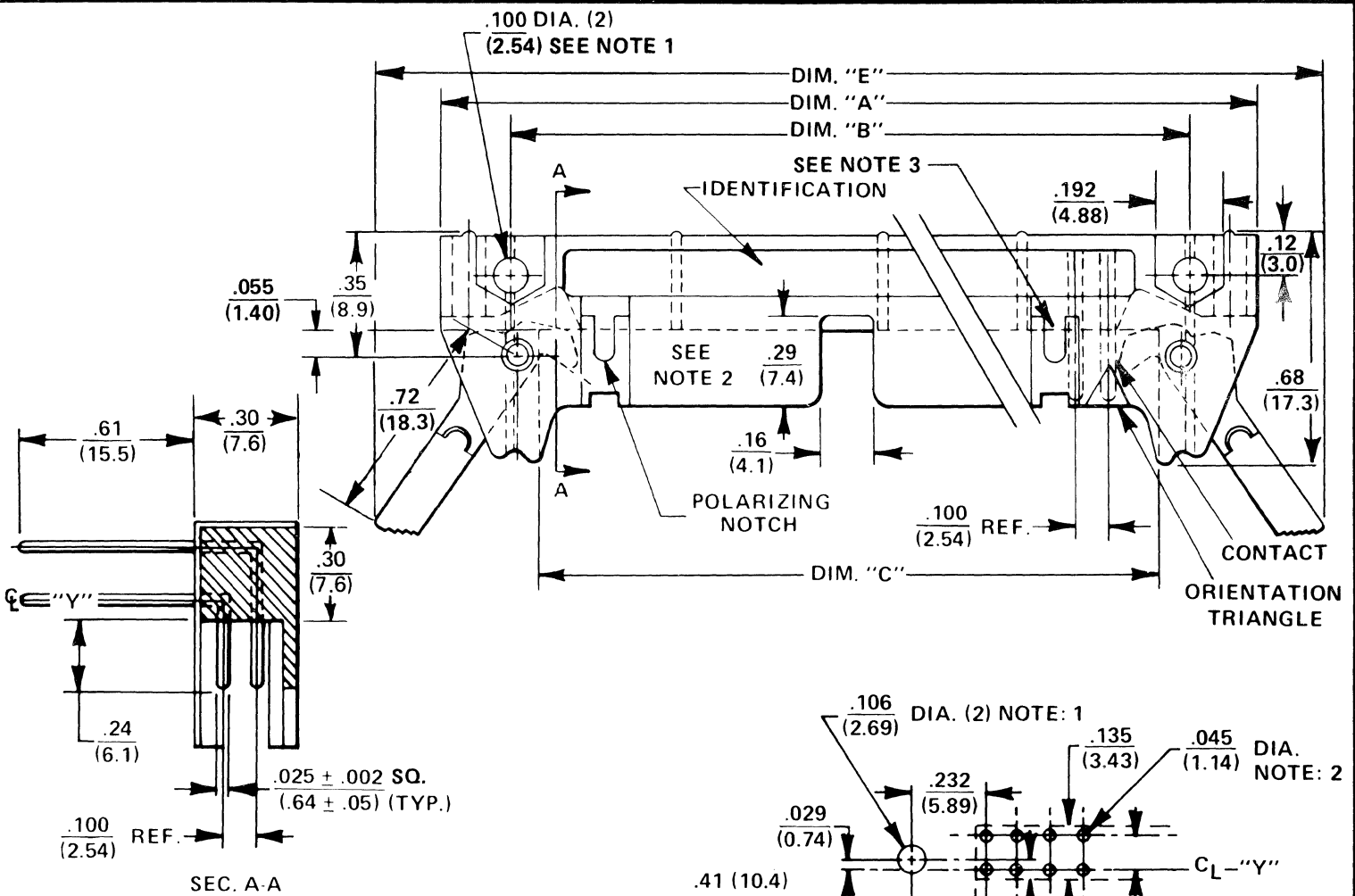
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$

Withstanding Voltage: 1000VRMS

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{C}$ (-55°C to $+105^\circ\text{C}$)



RECOMMENDED
P.C. BOARD HOLE PATTERN
(SHOWN FOR MOUNTING SIDE OF BOARD)

- NOTES:
- 1 ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING), OR NO. 2 RIVET. [WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95)].
 - 2 NO SLOT ON 3446 SERIES.
 - 3 THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ± .02 (.5)
10	3446-3405	1.27 (32.3)	.86 (21.8)	.71 (18.0)	2.06 (52.3)
14	3314-3405	1.47 (37.3)	1.06 (26.9)	.91 (23.1)	2.10 (53.3)
16	3408-3405	1.57 (39.9)	1.16 (29.5)	1.01 (25.7)	2.36 (59.9)
20	3428-3405	1.76 (44.7)	1.36 (34.5)	1.21 (30.7)	2.55 (64.8)
26	3429-3405	2.06 (52.3)	1.66 (42.2)	1.51 (38.4)	2.85 (72.4)
34	3431-3405	2.46 (62.5)	2.06 (52.3)	1.91 (48.5)	3.25 (82.6)
40	3432-3405	2.76 (70.1)	2.36 (59.9)	2.21 (56.1)	3.55 (90.2)
50	3433-3405	3.26 (82.8)	2.86 (72.6)	2.71 (68.8)	4.05 (102.9)
60	3372-3405	3.77 (95.8)	3.36 (85.3)	3.21 (81.5)	4.56 (115.9)

USED ON

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Electronic Products Division
3M

NOV. 8, 1979	1		
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.

SPECIFICATION
RIGHT ANGLE HEADER
.025 (.64) SQUARE WRAP POST
3M PART NOS. 3446, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

INCH (mm)
SCALE
DR. *George Olson*
APP. *BA*

A

2006C

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

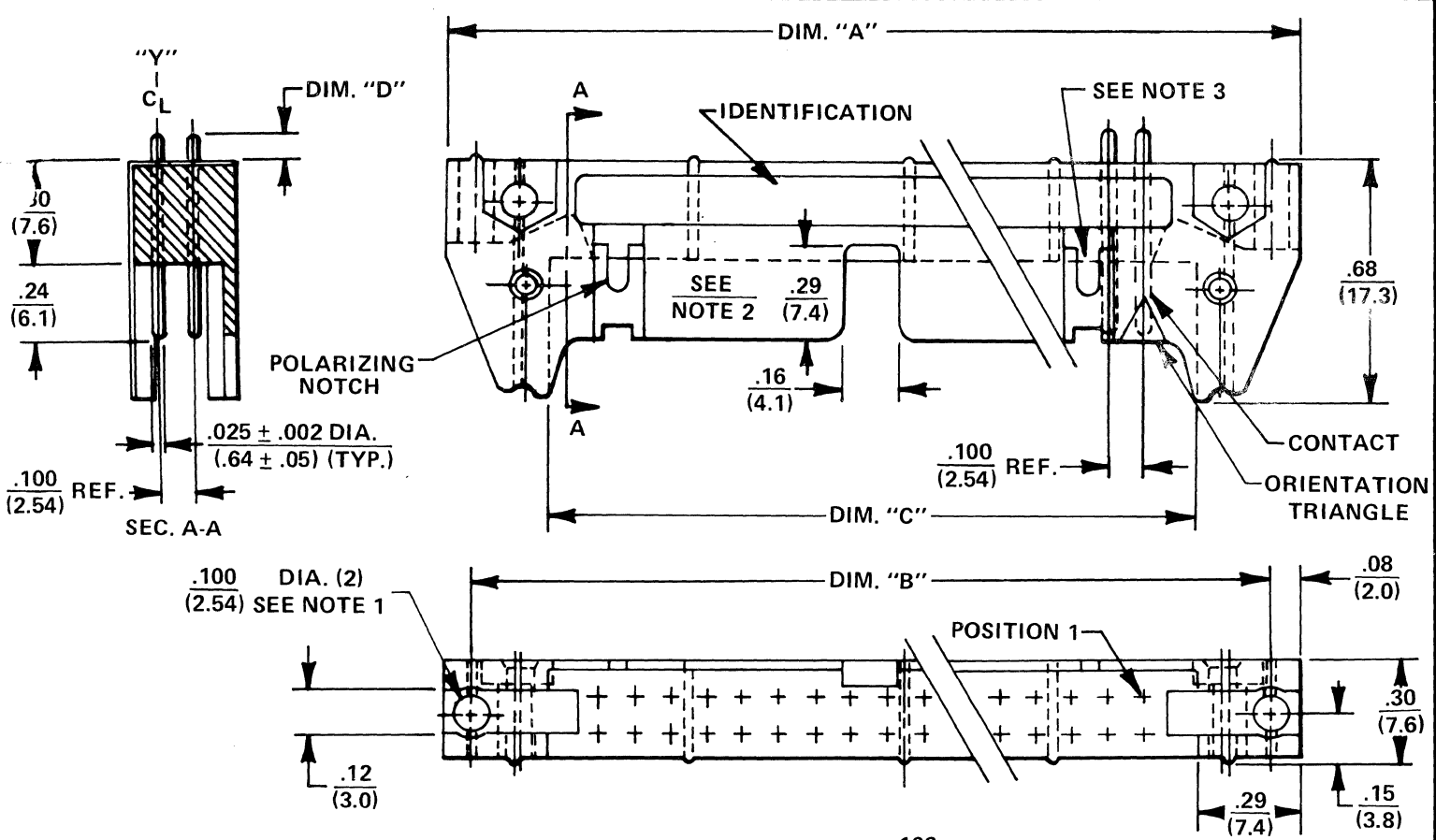
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000V_{RMS} @ Sea Level

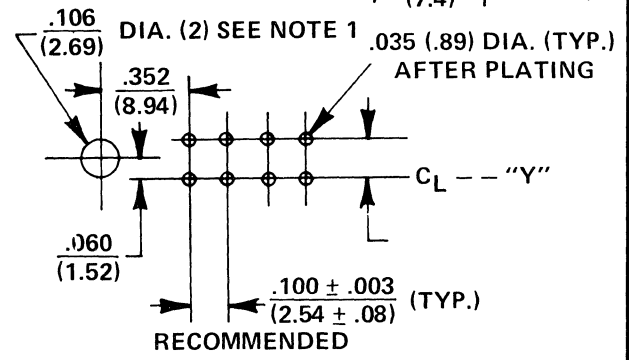
Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"
10	3446-	1.27 (32.3)	1.10 (27.9)	.71 (18.0)
14	3314-	1.47 (37.3)	1.30 (30.3)	.91 (23.1)
16	3408-	1.57 (39.9)	1.40 (35.6)	1.01 (25.7)
20	3428-	1.76 (44.7)	1.60 (40.6)	1.21 (30.7)
26	3429-	2.06 (52.3)	1.90 (48.3)	1.51 (38.4)
34	3431-	2.46 (62.5)	2.30 (58.4)	1.91 (48.5)
40	3432-	2.76 (70.1)	2.60 (66.0)	2.21 (56.1)
50	3433-	3.26 (82.8)	3.10 (78.7)	2.71 (68.8)
60	3372-	3.77 (95.8)	3.60 (91.4)	3.21 (81.5)

3M Part Number	P.C.B. Thickness	DIM "D"
-2002	.062 (1.57)	.092 (2.34)
-2003	.094 - .125 (2.39 - 3.18)	.155 (3.94)



- NOTES:
- ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING), OR NO. 2 RIVET. [WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95)].
 - NO SLOT ON 3446 SERIES.
 - THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

USED ON

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Electronic Products Division
3M

AUG. 4, 1979		8
ISSUE	ISSUE DATE AND CHANGE RECORD	REV. CH.

SPECIFICATION
STRAIGHT HEADER
 .025 (.64) ROUND SOLDER PIN
 3M PART NOS. 3446, 3314, 3408, 3428,
 3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

INCH (mm)
 SCALE
 DR. *George Olson*
 APP. *BM*
A

2007

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

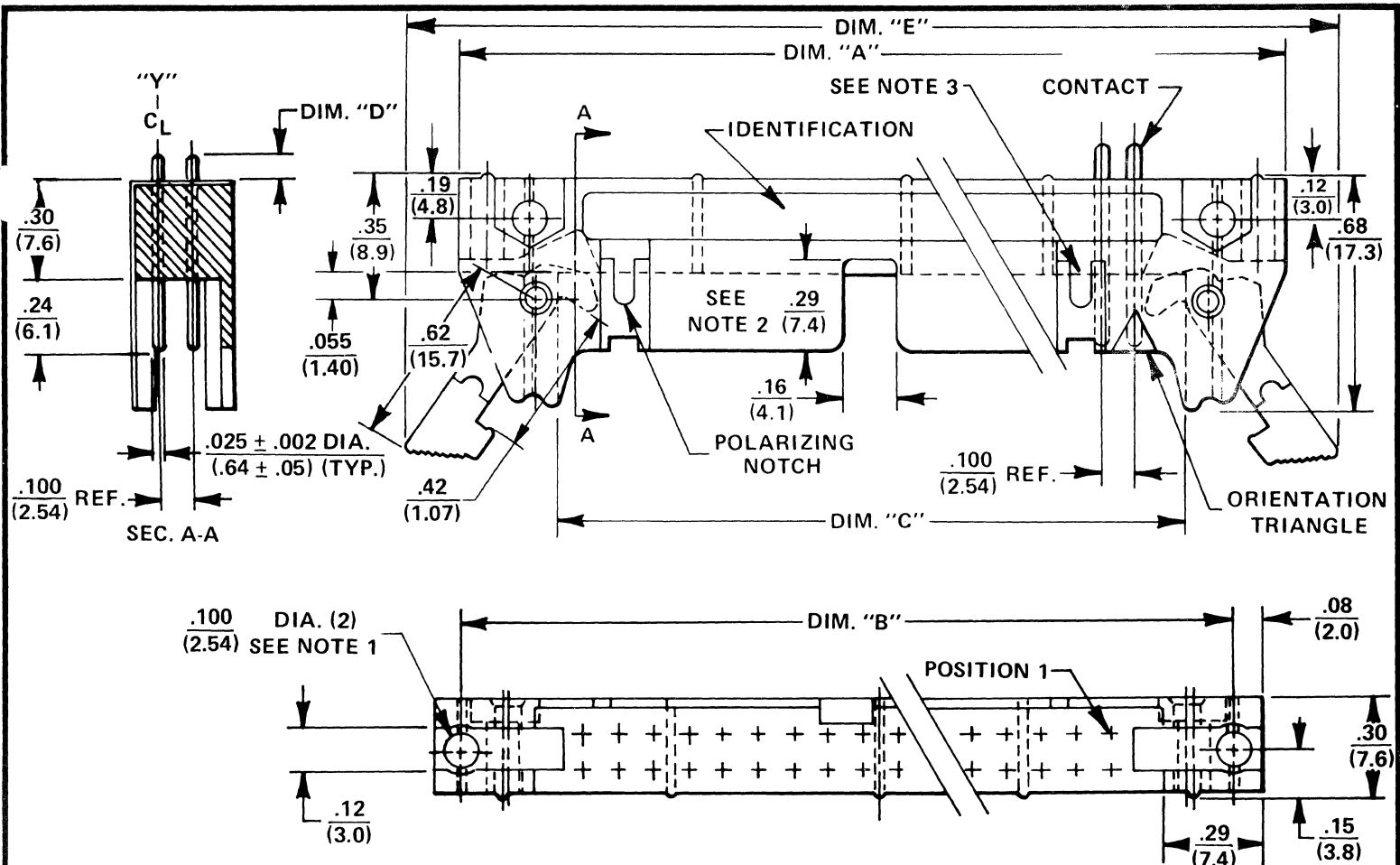
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$

Withstanding Voltage: 1000V_{RMS}

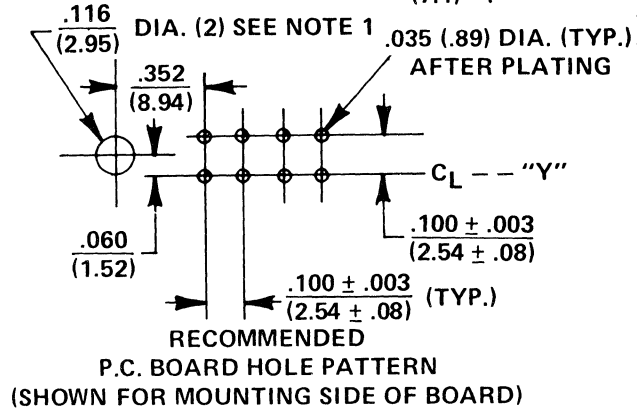
Environmental:

Temperature Rating: -67°F to $+221^\circ\text{C}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ± .020 (.51)
10	3446-220	1.27 (32.3)	1.10 (27.9)	.71 (18.0)	1.90 (48.3)
14	3314-220	1.47 (37.3)	1.30 (30.3)	.91 (23.1)	2.10 (53.3)
16	3408-220	1.57 (39.9)	1.40 (35.6)	1.01 (25.7)	2.20 (55.9)
20	3428-220	1.76 (44.7)	1.60 (40.6)	1.21 (30.7)	2.39 (60.7)
26	3429-220	2.06 (52.3)	1.90 (48.3)	1.51 (38.4)	2.69 (68.3)
34	3431-220	2.46 (62.5)	2.30 (58.4)	1.91 (48.5)	3.09 (78.5)
40	3432-220	2.76 (70.1)	2.60 (66.0)	2.21 (56.1)	3.39 (86.1)
50	3433-220	3.26 (82.8)	3.10 (78.7)	2.71 (68.8)	3.89 (98.8)
60	3372-220	3.77 (95.8)	3.60 (91.4)	3.21 (81.5)	4.40 (111.8)

3M Part Number	P.C.B Thickness	DIM "D" ± .010 (± .25)
-2202	.062 (1.57)	.092 (2.34)
-2203	.094 - .125 (2.39 - 3.18)	.155 (3.94)



- NOTES:
- ACCEPTS NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING).
 - NO SLOT ON 3446 SERIES.
 - THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

USED ON

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Electronic Products Division



	AUG. 4, 1979	8	
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.

**SPECIFICATION
STRAIGHT HEADER
.025 (.64) ROUND SOLDER PIN
3M PART NOS. 3446, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372**

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

INCH (mm)
SCALE
DR. *George Olson*
APP. *BA*

A

2007A

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

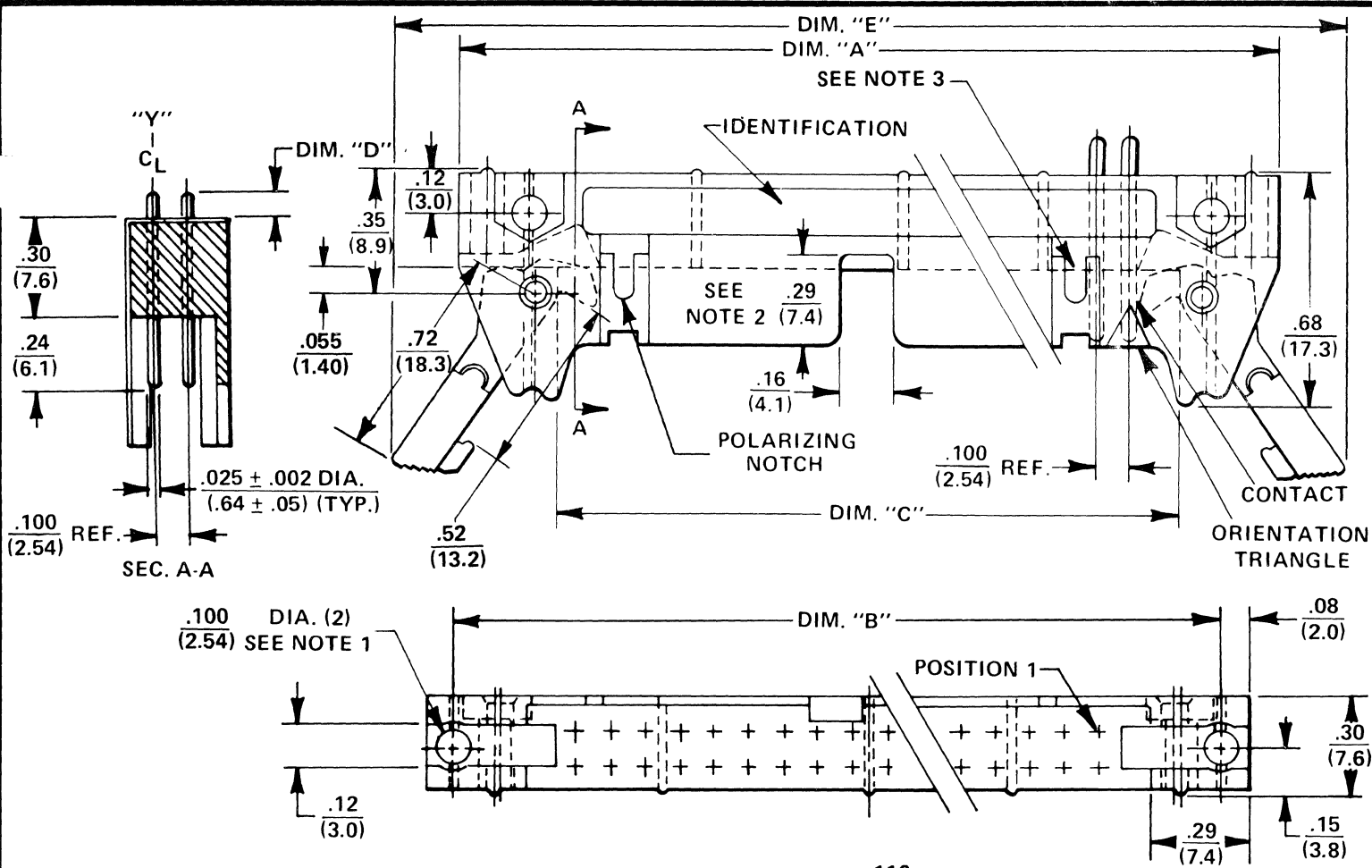
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$

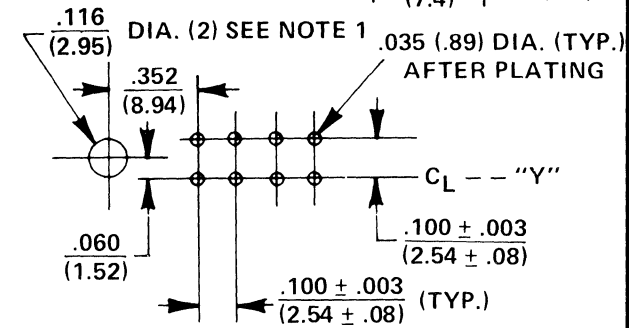
Withstanding Voltage: 1000VRMS

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{C}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ± .02 (.5)
10	3446-230_	1.27 (32.3)	1.10 (27.9)	.71 (18.0)	2.06 (52.3)
14	3314-230_	1.47 (37.3)	1.30 (30.3)	.91 (23.1)	2.10 (53.3)
16	3408-230_	1.57 (39.9)	1.40 (35.6)	1.01 (25.7)	2.36 (59.9)
20	3428-230_	1.76 (44.7)	1.60 (40.6)	1.21 (30.7)	2.55 (64.8)
26	3429-230_	2.06 (52.3)	1.90 (48.3)	1.51 (38.4)	2.85 (72.4)
34	3431-230_	2.46 (62.5)	2.30 (58.4)	1.91 (48.5)	3.25 (82.6)
40	3432-230_	2.76 (70.1)	2.60 (66.0)	2.21 (56.1)	3.55 (90.2)
50	3433-230_	3.26 (82.8)	3.10 (78.7)	2.71 (68.8)	4.05 (102.9)
60	3372-230_	3.77 (95.8)	3.60 (91.4)	3.21 (81.5)	4.56 (115.9)



- NOTES:
- 1 ACCEPTS NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING).
 - 2 NO SLOT ON 3446 SERIES.
 - 3 THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

3M Part Number	P.C.B. Thickness	DIM. "D" ± .010 (± .25)
- 2302	.062 (1.57)	.092 (2.34)
- 2303	.094 - .125 (2.39 - 3.18)	.155 (3.94)

USED ON

IMPORTANT NOTICE TO PURCHASER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied.

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Electronic Products Division



AUG. 4, 1979

8

ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
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SPECIFICATION STRAIGHT HEADER
 .025 (.64) ROUND SOLDER PIN
 3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED			
	INCH (mm)		
	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

SCALE

DR *Garry H. Olson*

APP. *[Signature]*

A

2007B

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

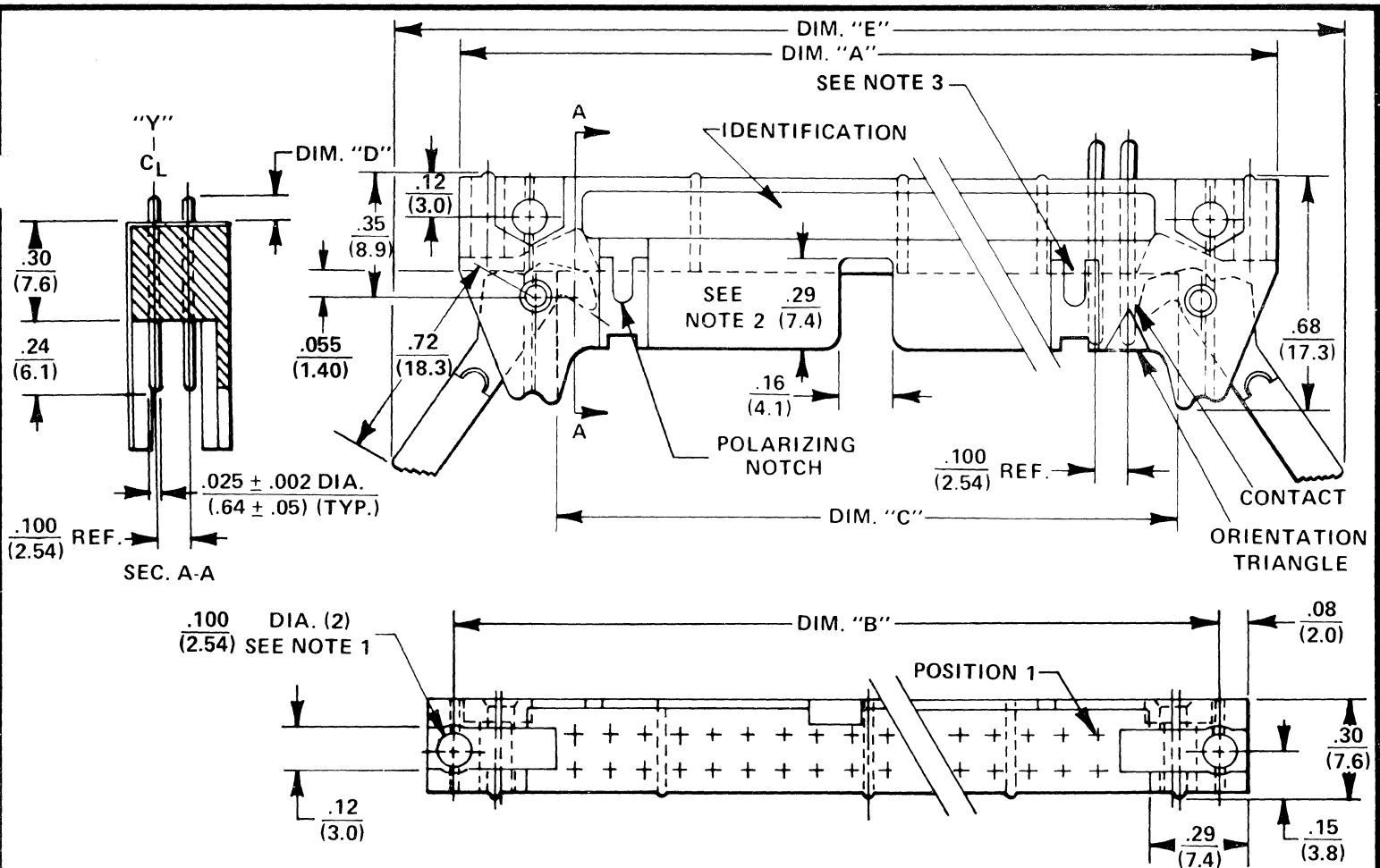
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$

Withstanding Voltage: 1000VRMS

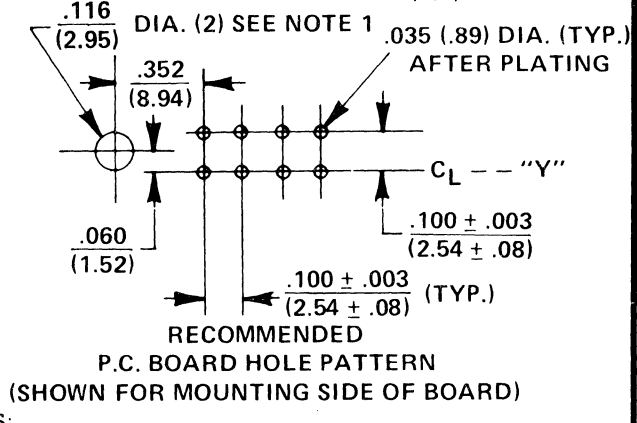
Environmental:

Temperature Rating: -67°F to $+221^\circ\text{C}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ±.02 (.5)
10	3446-240	1.27 (32.3)	1.10 (27.9)	.71 (18.0)	2.06 (52.3)
14	3314-240	1.47 (37.3)	1.30 (30.3)	.91 (23.1)	2.10 (53.3)
16	3408-240	1.57 (39.9)	1.40 (35.6)	1.01 (25.7)	2.36 (59.9)
20	3428-240	1.76 (44.7)	1.60 (40.6)	1.21 (30.7)	2.55 (64.8)
26	3429-240	2.06 (52.3)	1.90 (48.3)	1.51 (38.4)	2.85 (72.4)
34	3431-240	2.46 (62.5)	2.30 (58.4)	1.91 (48.5)	3.25 (82.6)
40	3432-240	2.76 (70.1)	2.60 (66.0)	2.21 (56.1)	3.55 (90.2)
50	3433-240	3.26 (82.8)	3.10 (78.7)	2.71 (68.8)	4.05 (102.9)
60	3372-240	3.77 (95.8)	3.60 (91.4)	3.21 (81.5)	4.56 (115.9)

3M Part Number	P.C.B. Thickness	DIM. "D" ±.010 (±.25)
-2402	.062 (1.57)	.092 (2.34)
-2403	.094 - .125 (2.39 - 3.18)	.155 (3.94)



- NOTES:
- 1 ACCEPTS NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING).
 - 2 NO SLOT ON 3446 SERIES.
 - 3 THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

USED ON

IMPORTANT NOTICE TO PURCHASER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:

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Electronic Products Division



NOV. 8, 1979	1
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SPECIFICATION STRAIGHT HEADER
.025 (.64) ROUND SOLDER PIN
3M PART NOS. 3446, 3314, 3408, 3428, 3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

INCH (mm)
 SCALE
 DR. *Garth Olson*
 APP. *[Signature]*

A

2007C

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

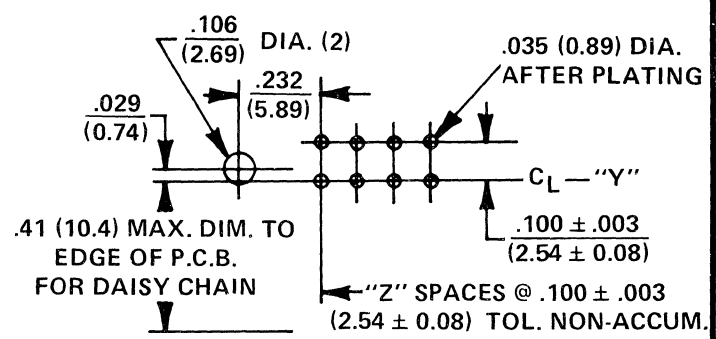
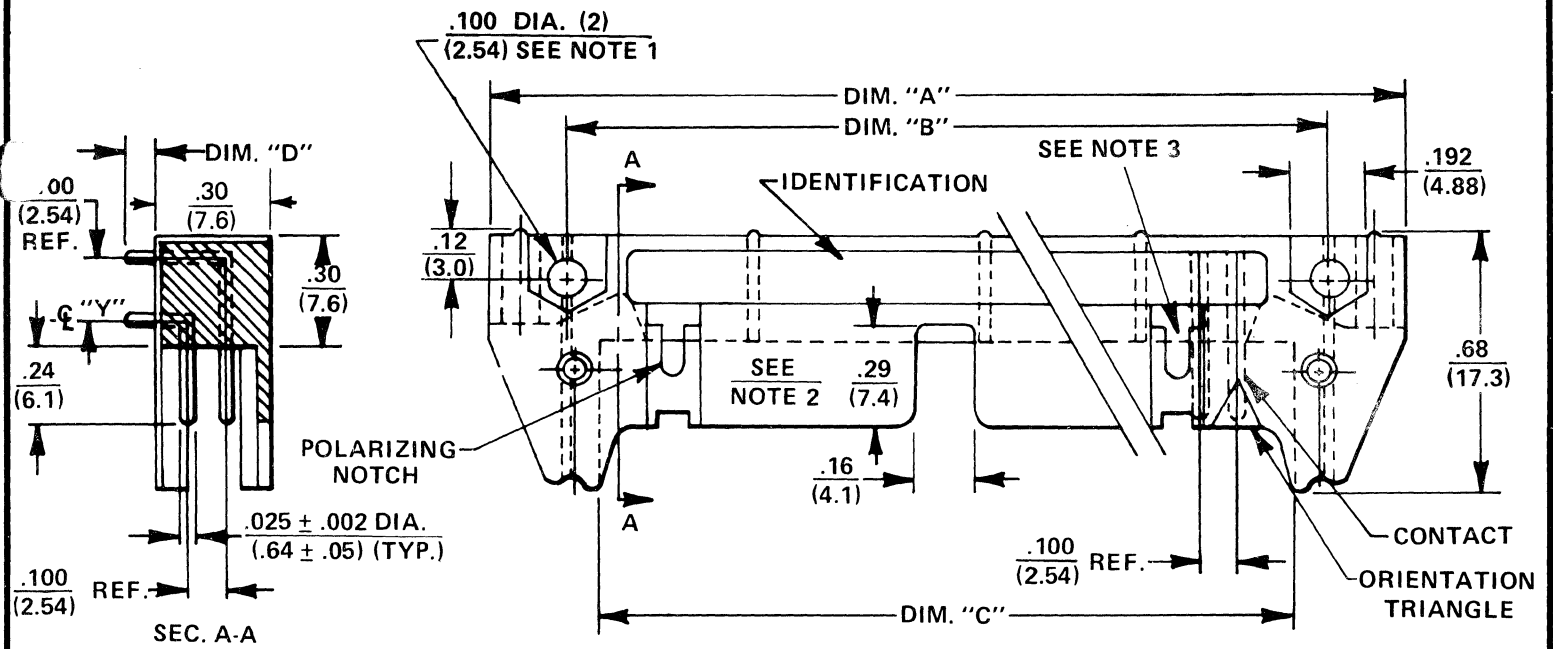
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000VRMS @ Sea Level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"
10	3446-	1.27 (32.3)	.86 (21.8)	.71 (18.0)
14	3314-	1.47 (37.3)	1.06 (26.9)	.91 (23.1)
16	3408-	1.57 (39.9)	1.16 (29.5)	1.01 (25.7)
20	3428-	1.76 (44.7)	1.36 (34.5)	1.21 (30.7)
26	3429-	2.06 (52.3)	1.66 (42.2)	1.51 (38.4)
34	3431-	2.46 (62.5)	2.06 (52.3)	1.91 (48.5)
40	3432-	2.76 (70.1)	2.36 (59.9)	2.21 (56.1)
50	3433-	3.26 (82.8)	2.86 (72.6)	2.71 (68.8)
60	3372-	3.77 (95.8)	3.36 (85.3)	3.21 (81.5)

3M Part Number	P.C.B. Thickness	DIM "D" ± .010 (± .25)
-1002	.062 (1.57)	.092 (2.34)
-1003	.094 - .125 (2.39 - 3.18)	.155 (3.94)

RECOMMENDED
P.C. BOARD HOLE PATTERN
(SHOWN FOR MOUNTING SIDE OF BOARD)

- NOTES:
- ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING), OR NO. 2 RIVET. [WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 (2.95)].
 - NO SLOT ON 3446 SERIES.
 - THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

USED ON

IMPORTANT NOTICE TO PURCHASER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:
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Electronic Products Division



AUG. 4, 1979

8

ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
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**SPECIFICATION
STRAIGHT HEADER
.025 (.64) ROUND SOLDER PIN
3M PART NOS. 3346, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372**

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

INCH (mm)
SCALE
DR. *George Olson*
APP. *[Signature]*

A

2008

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

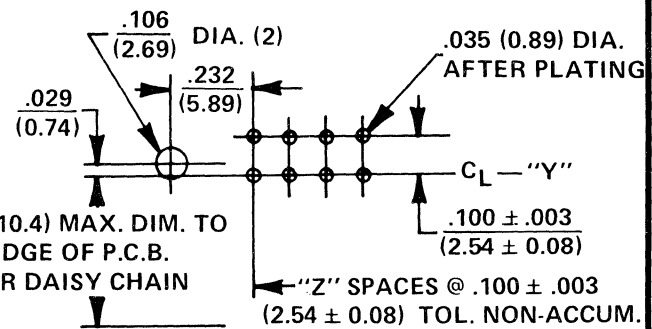
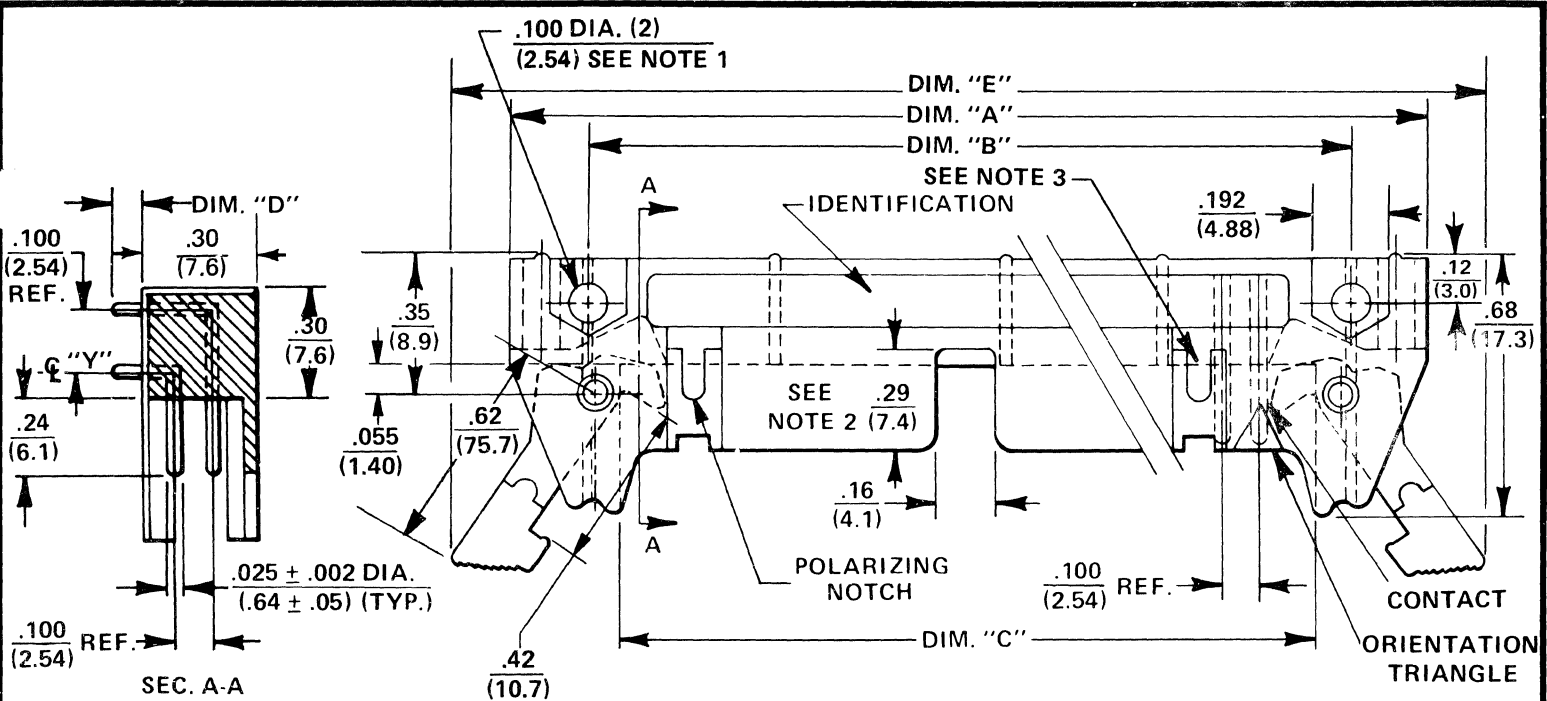
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$

Withstanding Voltage: 1000V_{RMS}

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{C}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ± .020 (.51)
10	3446-120	1.27 (32.3)	.86 (21.8)	.71 (18.0)	1.90 (48.3)
14	3314-120	1.47 (37.3)	1.06 (26.9)	.91 (23.1)	2.10 (53.3)
16	3408-120	1.57 (39.9)	1.16 (29.5)	1.01 (25.7)	2.20 (55.9)
20	3428-120	1.76 (44.7)	1.36 (34.5)	1.21 (30.7)	2.39 (60.7)
26	3429-120	2.06 (52.3)	1.66 (42.2)	1.51 (38.4)	2.69 (68.3)
34	3431-120	2.46 (62.5)	2.06 (52.3)	1.91 (48.5)	3.09 (78.5)
40	3432-120	2.76 (70.1)	2.36 (59.9)	2.21 (56.1)	3.39 (86.1)
50	3433-120	3.26 (82.8)	2.86 (72.6)	2.71 (68.8)	3.89 (98.8)
60	3372-120	3.77 (95.8)	3.36 (85.3)	3.21 (81.5)	4.40 (111.8)

3M Part Number	P.C.B Thickness	DIM "D" ± .010 (± .25)
-1202	.062 (1.57)	.092 (2.34)
-1203	.094 - .125 (2.39 - 3.18)	.155 (3.94)

USED ON

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Electronic Products Division



AUG. 4, 1979

8

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

SPECIFICATION
RIGHT ANGLE HEADER
.025 (.64) ROUND SOLDER PIN
3M PART NOS. 3346, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

INCH (mm)

SCALE

DR. *Garth Olson*
 APP. *BA*

A

2008A

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

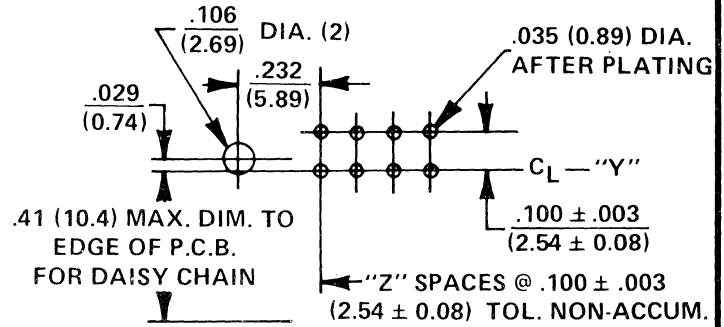
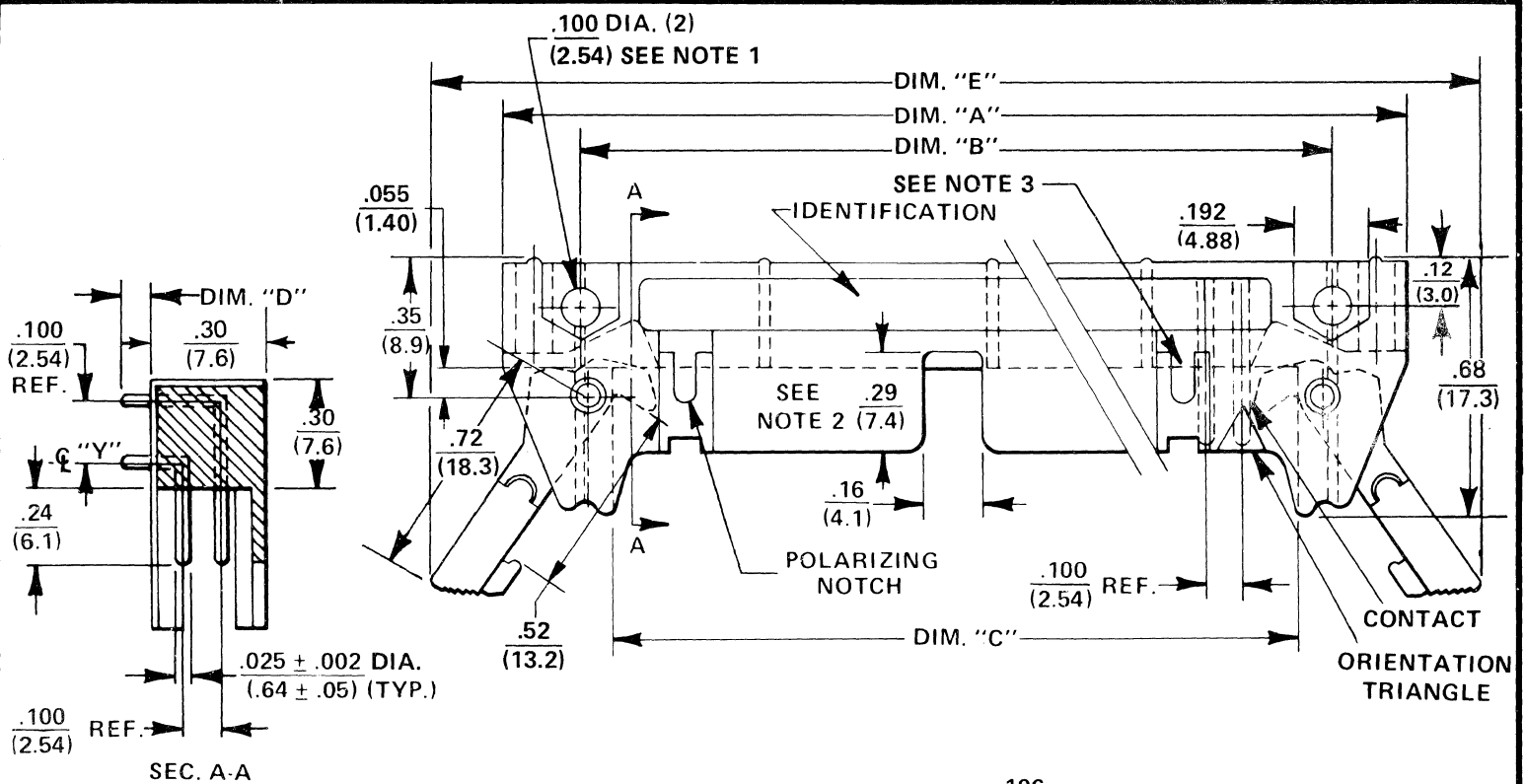
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$

Withstanding Voltage: 1000V_{RMS}

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{C}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ± .02 (.5)
10	3446-130	1.27 (32.3)	.86 (21.8)	.71 (18.0)	2.06 (52.3)
14	3314-130	1.47 (37.3)	1.06 (26.9)	.91 (23.1)	2.10 (53.3)
16	3408-130	1.57 (39.9)	1.16 (29.5)	1.01 (25.7)	2.36 (59.9)
20	3428-130	1.76 (44.7)	1.36 (34.5)	1.21 (30.7)	2.55 (64.8)
26	3429-130	2.06 (52.3)	1.66 (42.2)	1.51 (38.4)	2.85 (72.4)
34	3431-130	2.46 (62.5)	2.06 (52.3)	1.91 (48.5)	3.25 (82.6)
40	3432-130	2.76 (70.1)	2.36 (59.9)	2.21 (56.1)	3.55 (90.2)
50	3433-130	3.26 (82.8)	2.86 (72.6)	2.71 (68.8)	4.05 (102.9)
60	3372-130	3.77 (95.8)	3.36 (85.3)	3.21 (81.5)	4.56 (115.9)

3M Part Number	P.C.B. Thickness	DIM. "D" ± .010 (± .25)
-1302	.062 (1.57)	.092 (2.34)
-1303	.094 - .125 (2.39 - 3.18)	.155 (3.94)

RECOMMENDED P.C. BOARD HOLE PATTERN (SHOWN FOR MOUNTING SIDE OF BOARD)

- NOTES:
- ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING) OR NO. 2 RIVET. (WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 [2.95]).
 - NO SLOT ON 3446 SERIES.
 - THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

USED ON

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Electronic Products Division

3M

	AUG. 4, 1979	8	
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.

SPECIFICATION
RIGHT ANGLE HEADER
.025 (.64) ROUND SOLDER PIN
3M PART NOS. 3446, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED				INCH (mm)	SCALE
	.0	.00	.000		
INCH	± .1	± .01	± .005	DR. <i>Gary H. Olson</i>	A
mm	± .3	± .13	APP. <i>BJA</i>		

2008B

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0
over 0.000050" (1.27 μm) nickel

Electrical:

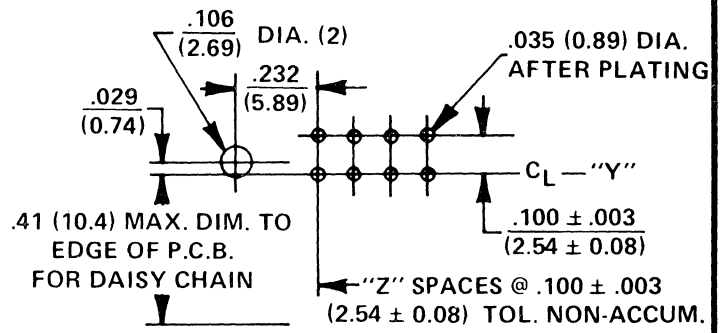
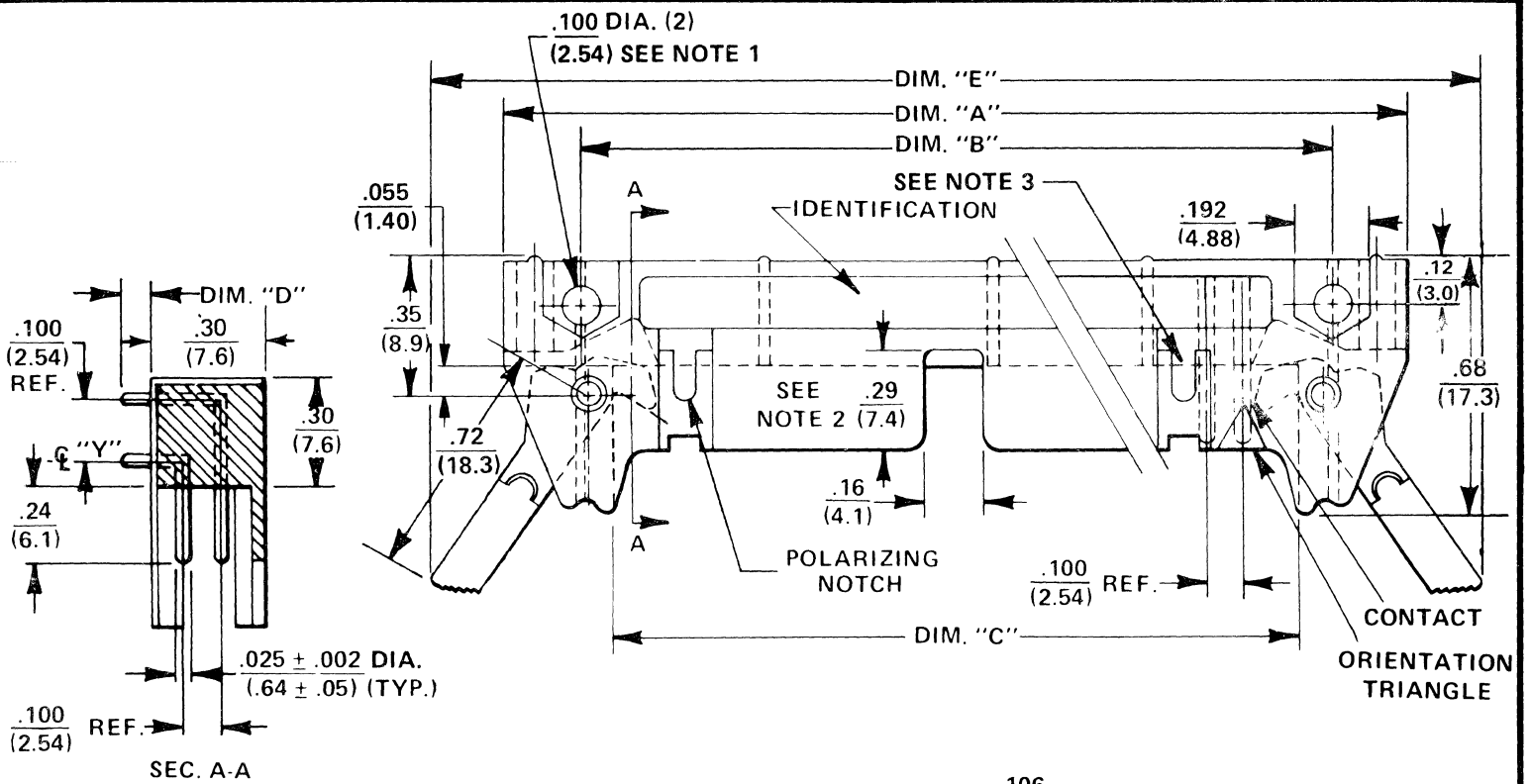
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$

Withstanding Voltage: 1000V_{RMS}

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{C}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part Number	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "E" ± .02 (.5)
10	3446-140	1.27 (32.3)	.86 (21.8)	.71 (18.0)	2.06 (52.3)
14	3314-140	1.47 (37.3)	1.06 (26.9)	.91 (23.1)	2.10 (53.3)
16	3408-140	1.57 (39.9)	1.16 (29.5)	1.01 (25.7)	2.36 (59.9)
20	3428-140	1.76 (44.7)	1.36 (34.5)	1.21 (30.7)	2.55 (64.8)
26	3429-140	2.06 (52.3)	1.66 (42.2)	1.51 (38.4)	2.85 (72.4)
34	3431-140	2.46 (62.5)	2.06 (52.3)	1.91 (48.5)	3.25 (82.6)
40	3432-140	2.76 (70.1)	2.36 (59.9)	2.21 (56.1)	3.55 (90.2)
50	3433-140	3.26 (82.8)	2.86 (72.6)	2.71 (68.8)	4.05 (102.9)
60	3372-140	3.77 (95.8)	3.36 (85.3)	3.21 (81.5)	4.56 (115.9)

3M Part Number	P.C.B. Thickness	DIM. "D" ± .010 (± .25)
-1402	.062 (1.57)	.092 (2.34)
-1403	.094 - .125 (2.39 - 3.18)	.155 (3.94)

- NOTES:
- ACCEPTS NO. 2-56 ROUND HEAD SCREW (FRONT MOUNTING), NO. 4 THREAD CUTTING TAPPING SCREW (REAR MOUNTING) OR NO. 2 RIVET. (WHEN USING NO. 4 SELF-TAPPING SCREW, PANEL HOLE DIAMETER SHOULD BE INCREASED TO .116 [2.95]).
 - NO SLOT ON 3446 SERIES.
 - THIS NOTCH NON-EXISTENT ON 3446 AND 3314 SERIES.

USED ON

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Electronic Products Division
3M
 SCALE
 DR. *Garyh. Olson*
 APP. *BA*

NOV. 9, 1979	1		
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.

SPECIFICATION
RIGHT ANGLE HEADER
.025 (.64) ROUND SOLDER PIN
3M PART NOS. 3446, 3314, 3408, 3428,
3429, 3431, 3432, 3433, 3372

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	± .05

2008C

Scotchflex Header Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Phosphor Bronze

Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0 over 0.000050" (1.27 μm) nickel

Electrical:

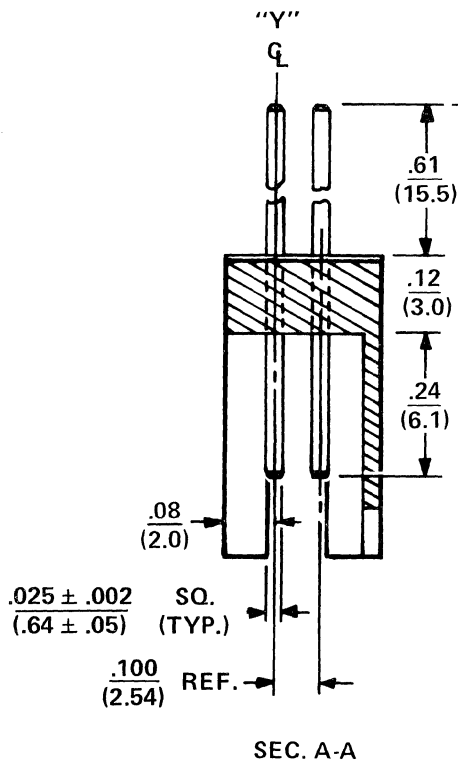
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000V_{RMS} @ Sea Level

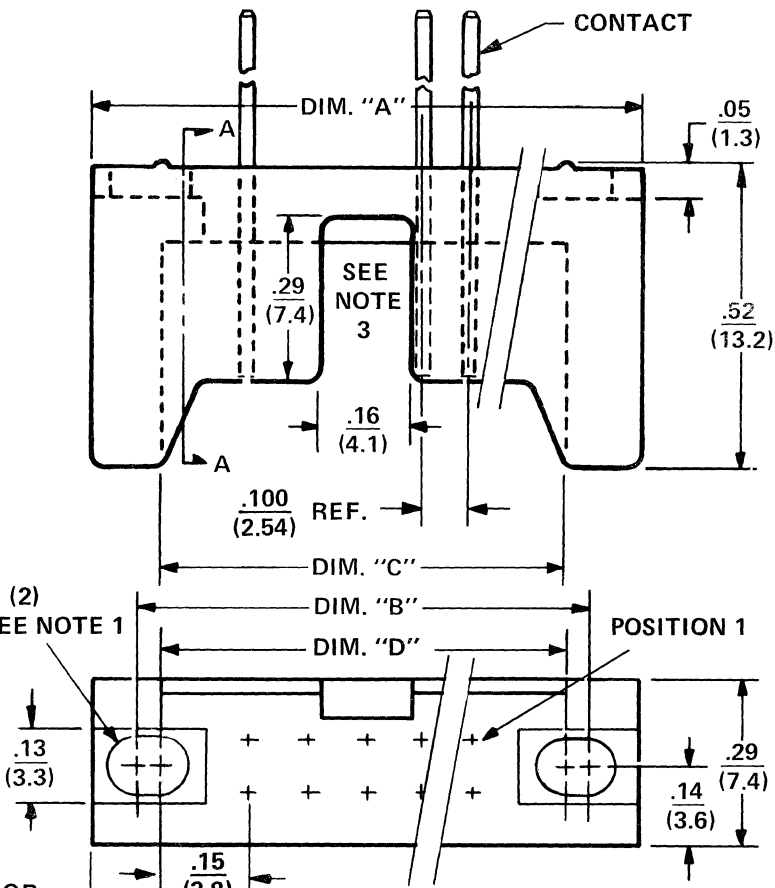
Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



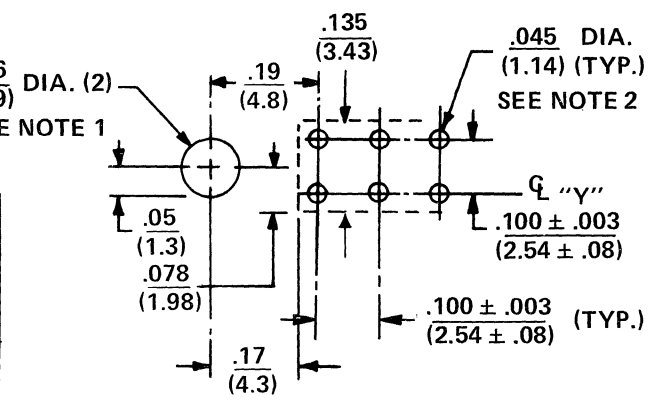
$.025 \pm .002$ SQ. (TYP.)
 $(.64 \pm .05)$

$.100$ REF. (2.54)



- NOTES:
- 1 ACCEPTS NO. 2-56 HEX HD SCREW OR NO. 1-72 RD HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.
 - 2 ALTERNATE - SLOT (DOTTED LINES).
 - 3 DOUBLE SLOT ON 3496 SERIES.

Contact Quantity	3M Part Number	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"
10	3491-4005	.95 (24.1)	.78 (19.8)	.71 (18.0)	.70 (17.8)
20	3492-4005	1.45 (36.8)	1.28 (32.5)	1.21 (30.7)	1.20 (30.5)
26	3493-4005	1.75 (44.5)	1.58 (40.1)	1.51 (38.4)	1.50 (38.1)
34	3494-4005	2.15 (54.6)	1.98 (50.3)	1.91 (48.5)	1.90 (48.3)
40	3495-4005	2.45 (62.2)	2.28 (57.9)	2.21 (56.1)	2.20 (55.9)
50	3496-4005	2.95 (74.9)	2.78 (70.6)	2.71 (68.8)	2.70 (68.6)



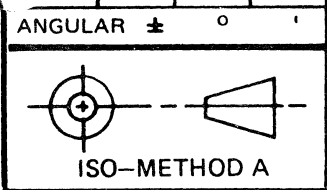
RECOMMENDED HOLE PATTERN (SHOWN FOR MOUNTING SIDE OF BOARD)

USED ON

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.



INCH (mm)

DR. *G. J. Johnson*

APP. *[Signature]*

SCALE /

A

ISSUE	JAN. 12, 1976	2	REV.	CH.
TITLE		SPECIFICATION STRAIGHT HEADER .025 (.64) SQUARE WRAP POST		

2022

SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0 over 0.000050"
(1.27 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, and orientation triangle

ELECTRICAL

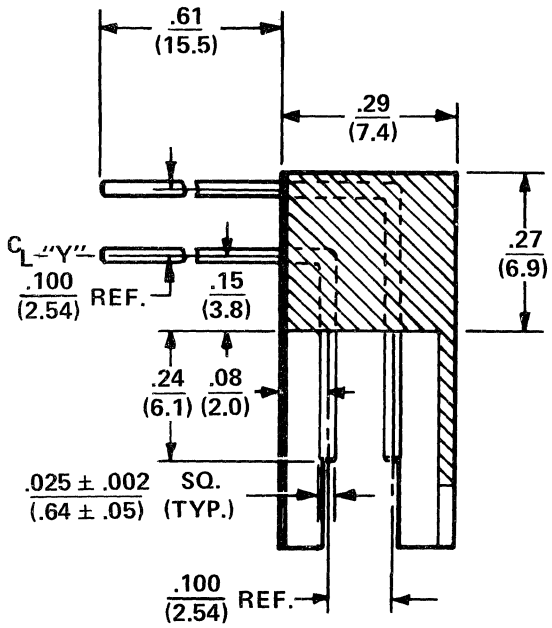
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

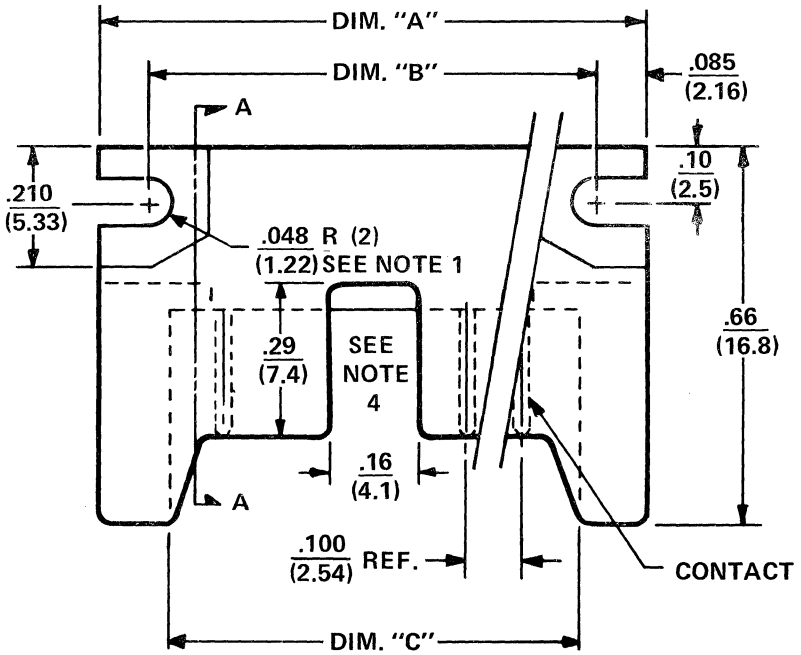
DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to 221°F (-55°C to +105°C)



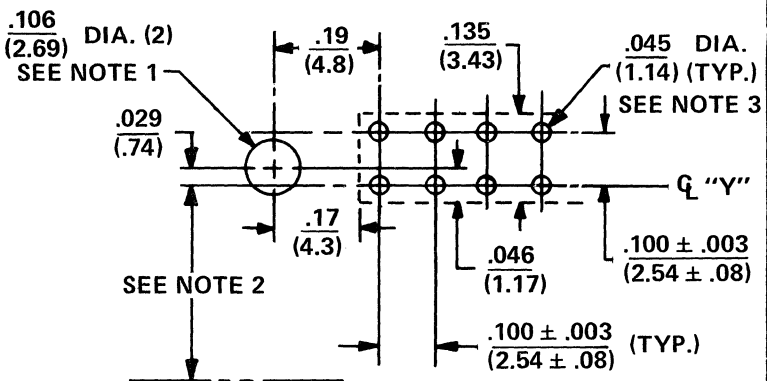
SEC. A-A



NOTES:

- 1 ACCEPTS ANY NO. 2 SCREW; CAN BE FRONT- OR REAR-MOUNTED.
- 2 .41 (10.4) MAX. DIM. TO EDGE OF P.C.B. FOR BUSSING.
- 3 ALTERNATE - SLOT (DOTTED LINES).
- 4 DOUBLE SLOT ON 3496 SERIES.

Contact Quantity	3M Part Number	Dim "A"	Dim "B"	Dim "C"
10	3491-3005	.95 (24.1)	.78 (19.8)	.71 (18.0)
20	3492-3005	1.45 (36.8)	1.28 (32.5)	1.21 (30.7)
26	3493-3005	1.75 (44.5)	1.58 (40.1)	1.51 (38.4)
34	3494-3005	2.15 (54.6)	1.98 (50.3)	1.91 (48.5)
40	3495-3005	2.45 (62.2)	2.28 (57.9)	2.21 (56.1)
50	3496-3005	2.95 (74.9)	2.78 (70.6)	2.71 (68.8)

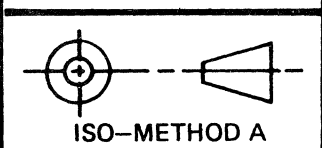


RECOMMENDED HOLE PATTERN (SHOWN FOR MOUNTING SIDE OF BOARD)

USED ON

TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	±.05
ANGULAR	±	°	'

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.



DR. *B. L. Johnson*
 APP. *B. P. J.*

A

JANUARY 18, 1977	2
ISSUE	ISSUE DATE AND CHANGE RECORD
TITLE	REV. CH.

SPECIFICATION
 RIGHT ANGLE HEADER
 .025 (.64) SQUARE WRAP POST

2023

SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .100" (2.54 mm) by .100" (2.54 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0 over 0.000050"
(1.27 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, and orientation triangle

ELECTRICAL

CURRENT RATING 1 A

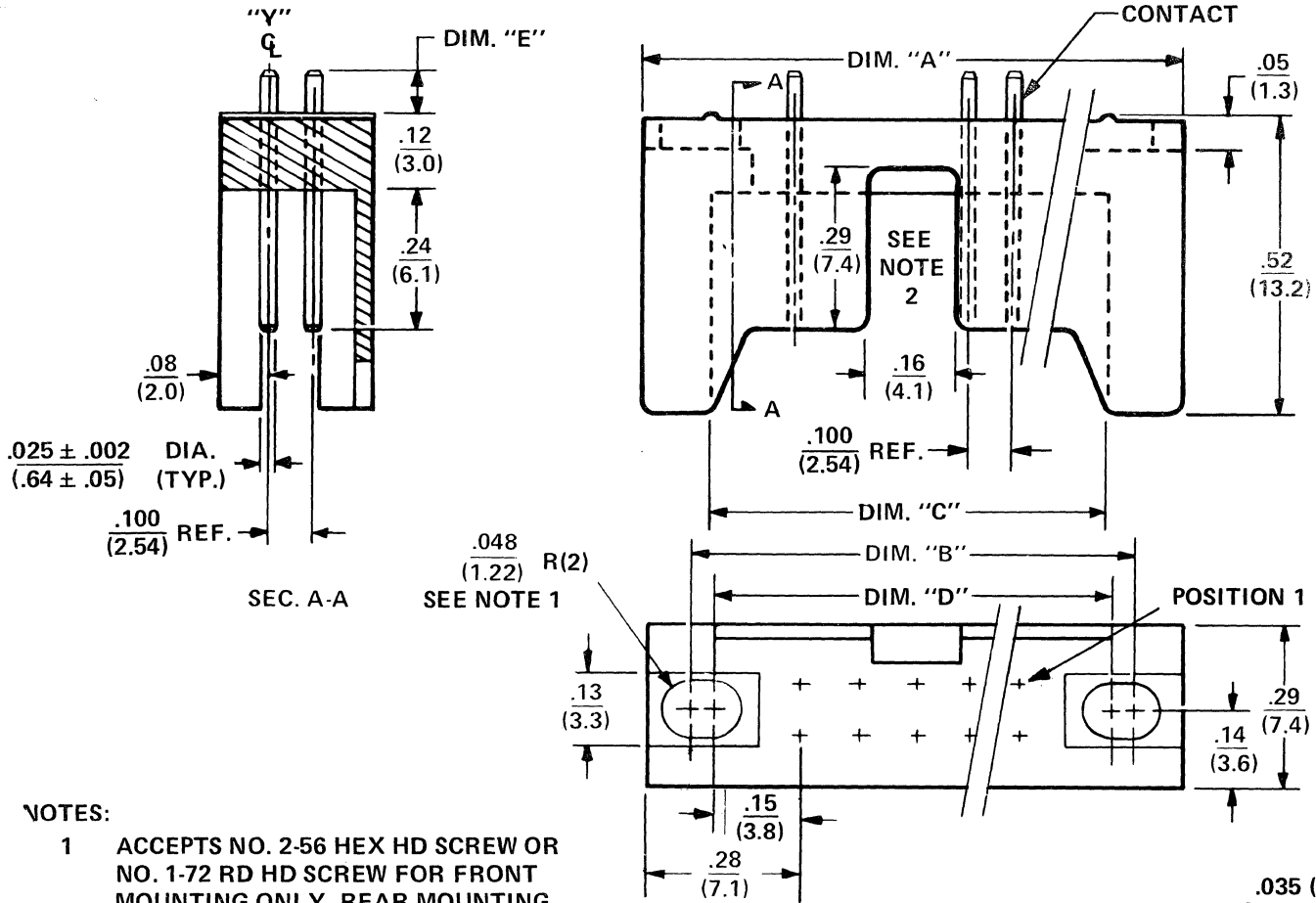
INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

-67°F to +221F (-55°C to
+105°C)

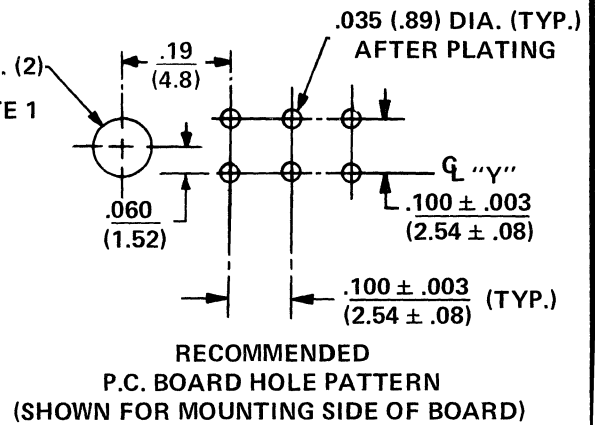
3M Part Number	P.C.B. Thickness	Dim. "E" ± .010 (.25)
-2002	.062 (1.57)	.092 (2.34)
-2003	.094-.125 (2.39-3.18)	.155 (3.94)



NOTES:

- ACCEPTS NO. 2-56 HEX HD SCREW OR NO. 1-72 RD HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.
- DOUBLE SLOT ON 3496 SERIES.

Contact Quantity	3M Part Number	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"
10	3491-	.95 (24.1)	.78 (19.8)	.71 (18.0)	.70 (17.8)
20	3492-	1.45 (36.8)	1.28 (32.5)	1.21 (30.7)	1.20 (30.5)
26	3493-	1.75 (44.5)	1.58 (40.1)	1.51 (38.4)	1.50 (38.1)
34	3494-	2.15 (54.6)	1.98 (50.3)	1.91 (48.5)	1.90 (48.3)
40	3495-	2.45 (62.2)	2.28 (57.9)	2.21 (56.1)	2.20 (55.9)
50	3496-	2.95 (74.9)	2.78 (70.6)	2.71 (68.8)	2.70 (68.6)



USED ON

FEBRUARY 8, 1977

2

TOLERANCE UNLESS NOTED

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.



ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

SPECIFICATION
STRAIGHT HEADER
.025 (.64) ROUND SOLDER PIN

	.0	.00	.000
--	----	-----	------

INCH	± .1	± .01	± .005
------	------	-------	--------

mm	± .3	± .13	
----	------	-------	--

ANGULAR	±	°	'
---------	---	---	---



ISO-METHOD A

INCH (mm)

SCALE /

DR. *G.L. Olson*

APP. *BAU*

A

2024

SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 μ m) gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μ m) nickel

MARKING Raised figures; 3M logo, part identification
number, and orientation triangle

ELECTRICAL

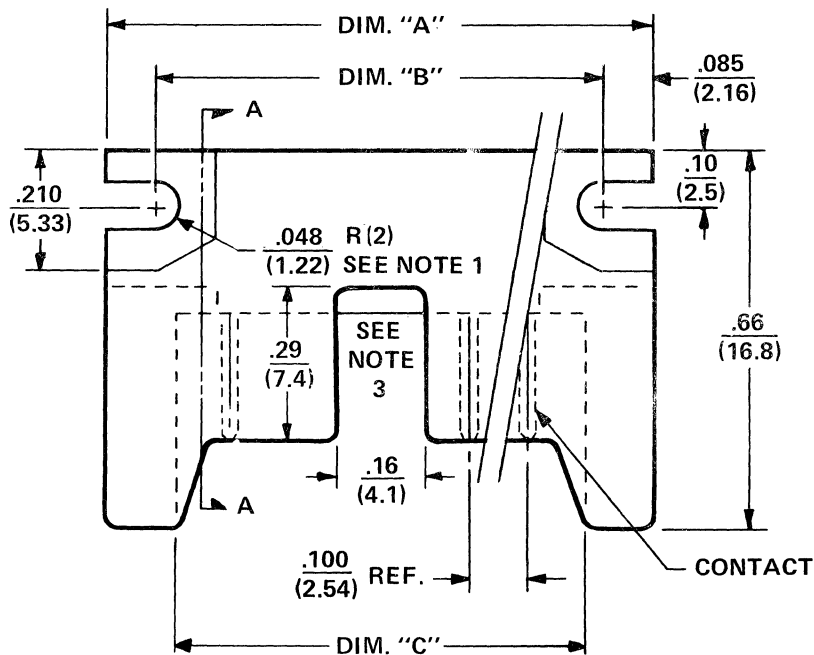
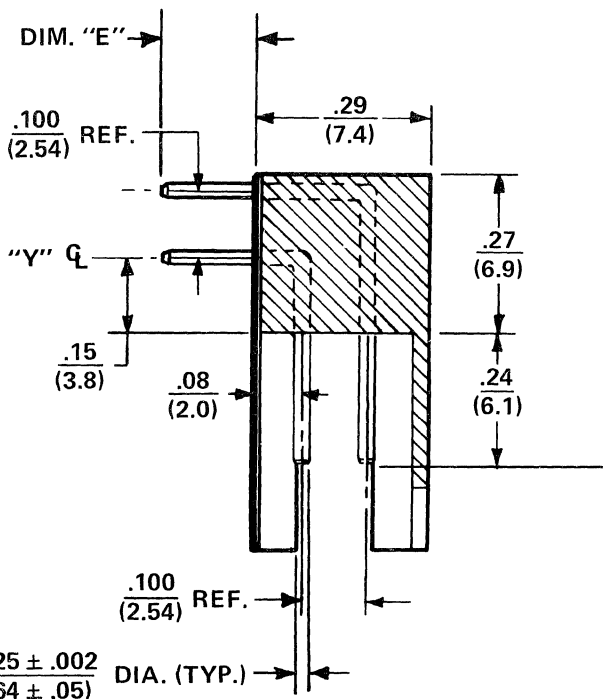
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

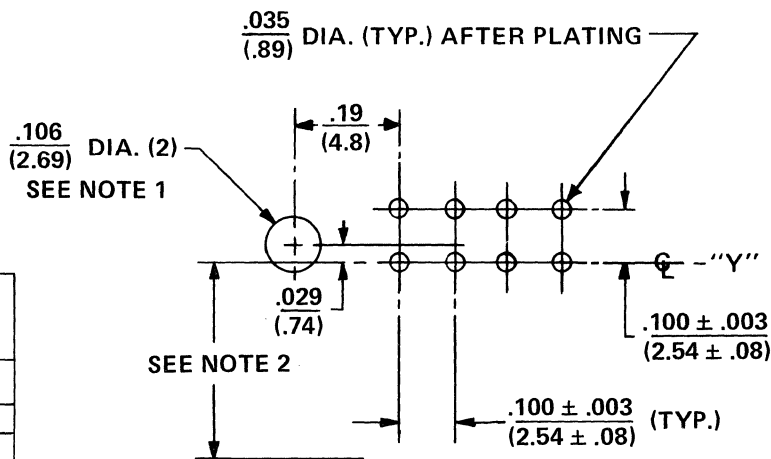
ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°C (-55°C to
+105°C)



3M Part Number	P.C.B. Thickness	DIM. "E" ± .010 (.25)
-1002	.062 (1.57)	.092 (2.34)
-1003	.094-.125 (2.39-3.18)	.155 (3.94)

Contact Quantity	3M Part Number	Dim "A"	Dim "B"	Dim "C"
10	3491-	.95 (24.1)	.78 (19.8)	.71 (18.0)
20	3492-	1.45 (36.8)	1.28 (32.5)	1.21 (30.7)
26	3493-	1.75 (44.5)	1.58 (40.1)	1.51 (38.4)
34	3494-	2.15 (54.6)	1.98 (50.3)	1.91 (48.5)
40	3495-	2.45 (62.2)	2.28 (57.9)	2.21 (56.1)
50	3496-	2.95 (74.9)	2.78 (70.6)	2.71 (68.8)



RECOMMENDED
P.C. BOARD HOLE PATTERN
(SHOWN FOR MOUNTING SIDE OF BOARD)
NOTES:

- 1 ACCEPTS ANY NO. 2 SCREW; CAN BE FRONT- OR REAR-MOUNTED.
- 2 .41 (10.4) MAX. DIM. TO EDGE OF P.C.B. FOR BUSSING.
- 3 DOUBLE SLOT ON 3496 SERIES.

USED ON

TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

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ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

DR. *B. J. Johnson*
APP. *[Signature]*

A

FEBRUARY 8, 1977

2

ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
-------	------------------------------	------	-----

TITLE

SPECIFICATION
RIGHT ANGLE HEADER
.025 (.64) ROUND SOLDER PIN

2025

SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .100" (2.54 mm) by .100" (2.54 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, and orientation triangle

ELECTRICAL

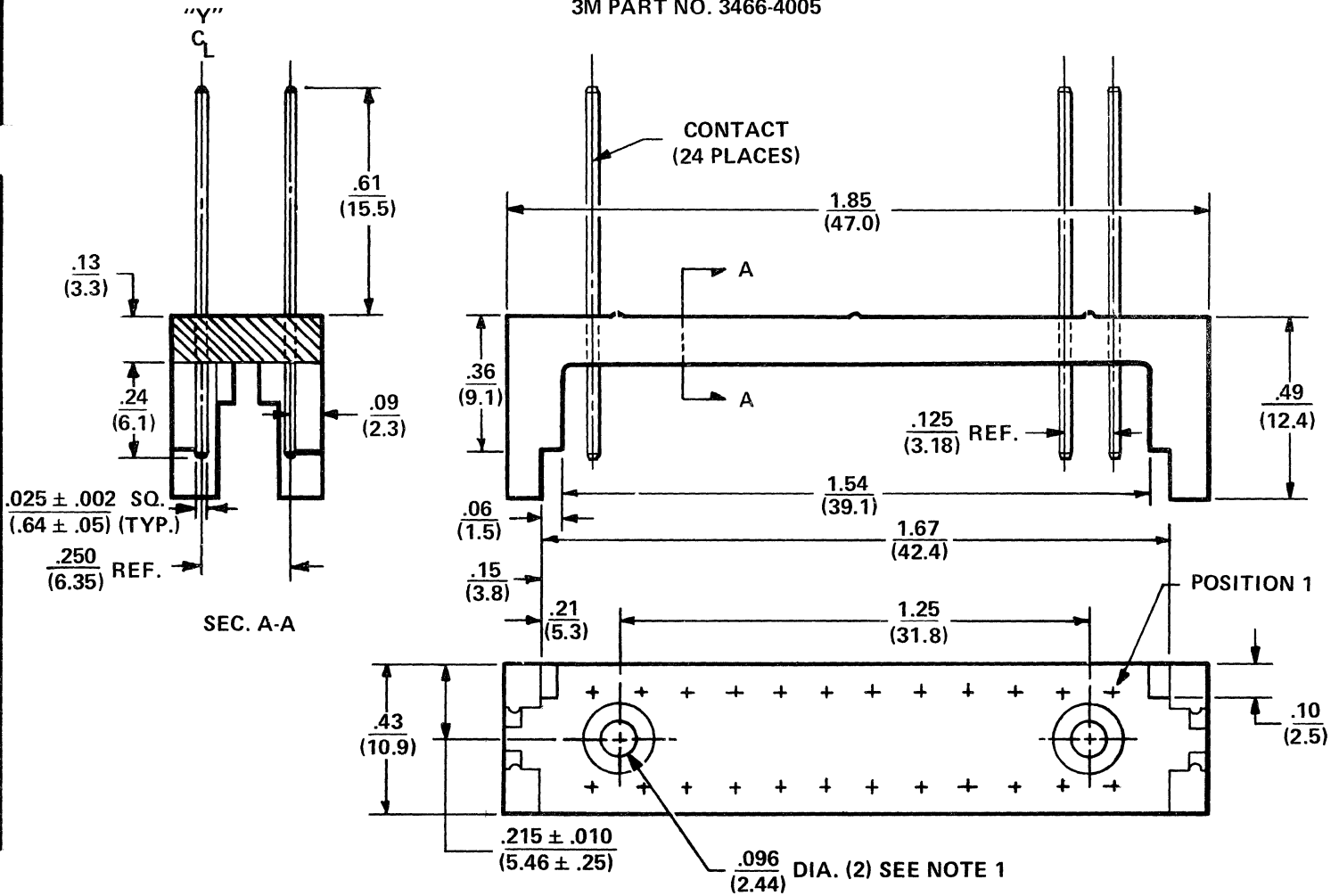
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



NOTES:

- 1 ACCEPTS NO. 2-56 RD HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.

RECOMMENDED HOLE PATTERN (SHOWN FOR MOUNTING SIDE OF BOARD)

USED ON

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

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ELECTRONIC PRODUCTS DIVISION

St. Paul Minnesota

ISSUE

FEBRUARY 8, 1977

ISSUE DATE AND CHANGE RECORD

2

REV. CH.

TITLE

SPECIFICATION STRAIGHT HEADER .025 (.64) SQUARE WRAP POST

GULAR ± 0

INCH (mm)

SCALE /

DR. *G.L. Olson*

APP. *BRA*

A

2028

SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .125" (3.18 mm) by .250" (6.35 mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μm) nickel

ELECTRICAL

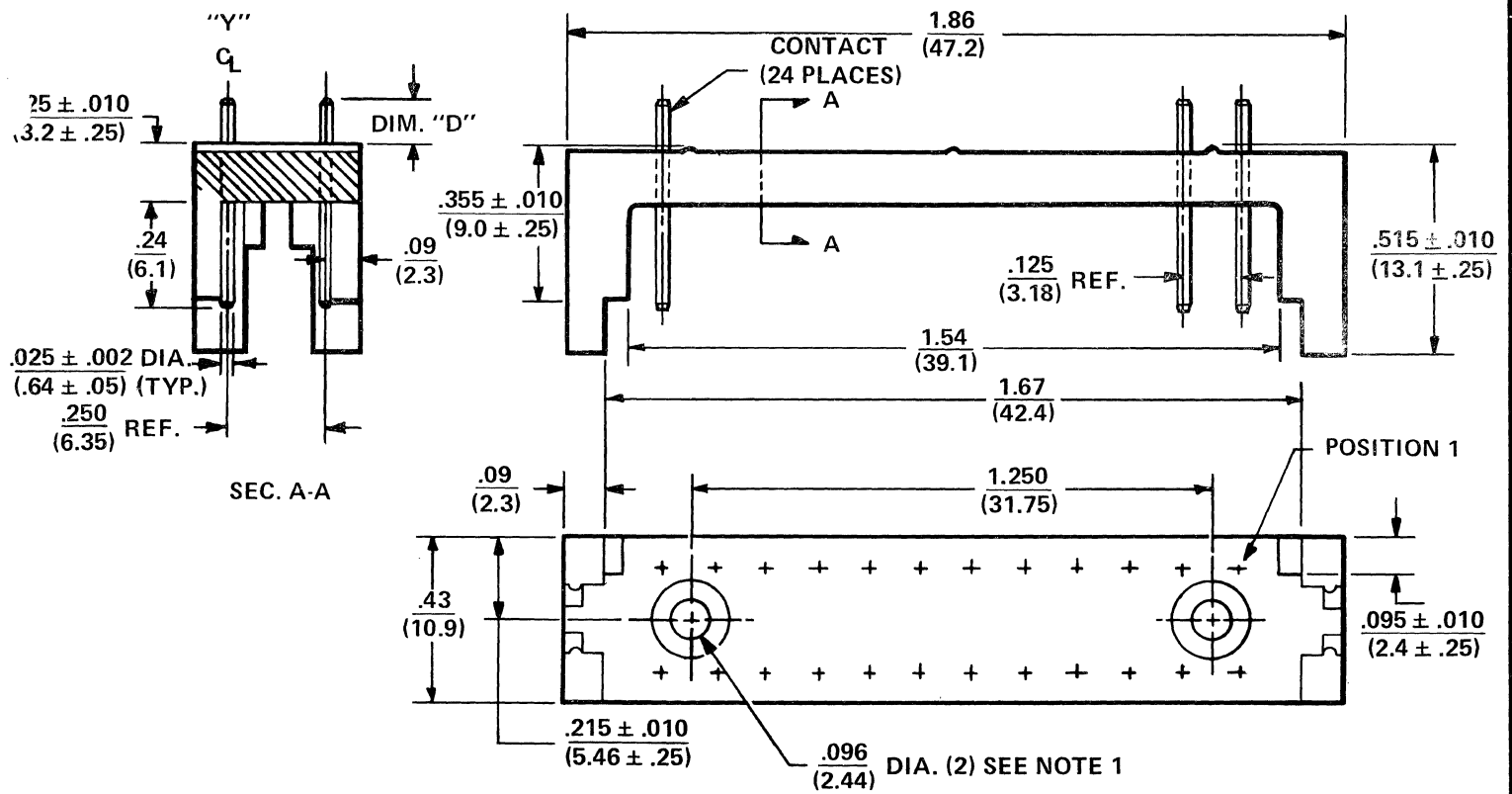
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°C (-55°C to
+105°C)



.025 ± .002 DIA.
(.64 ± .05) (TYP.)
.250 REF.
(6.35)

SEC. A-A

CONTACT
(24 PLACES)
A

POSITION 1

.106 (2.69) DIA. (2) SEE NOTE 1

.035 (.89) DIA. (TYP.)
AFTER PLATING
.250 ± .003
(6.35 ± .08)

.125 (3.18)
.125 ± .003 (3.18 ± .08) (TYP.)

3M PART NUMBER	P.C.B. THICKNESS	DIM. "D"
3466-2002	.062 (1.57)	.092 (2.34)
3466-2003	.094 - .125 (2.39 - 3.18)	.155 (3.94)

RECOMMENDED P.C. BOARD HOLE PATTERN
(SHOWN FOR MOUNTING SIDE OF BOARD)

- NOTES:
- ACCEPTS NO. 2-56 RD HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.

USED ON

IMPORTANT NOTICE TO PURCHASER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, express or implied:
Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. No statement or recommendation not contained herein shall have any force effect until in an agreement signed by officers of seller and manufacturer.

Electronic Products Division



	DECEMBER 14, 1978	4	
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.

SPECIFICATION
STRAIGHT HEADER
.025 (.64) ROUND SOLDER PIN

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	APP.

INCH (mm)

SCALE

A

2030

SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .125" (3.18mm) by .250" (6.35mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 μm), gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, and orientation triangle

ELECTRICAL

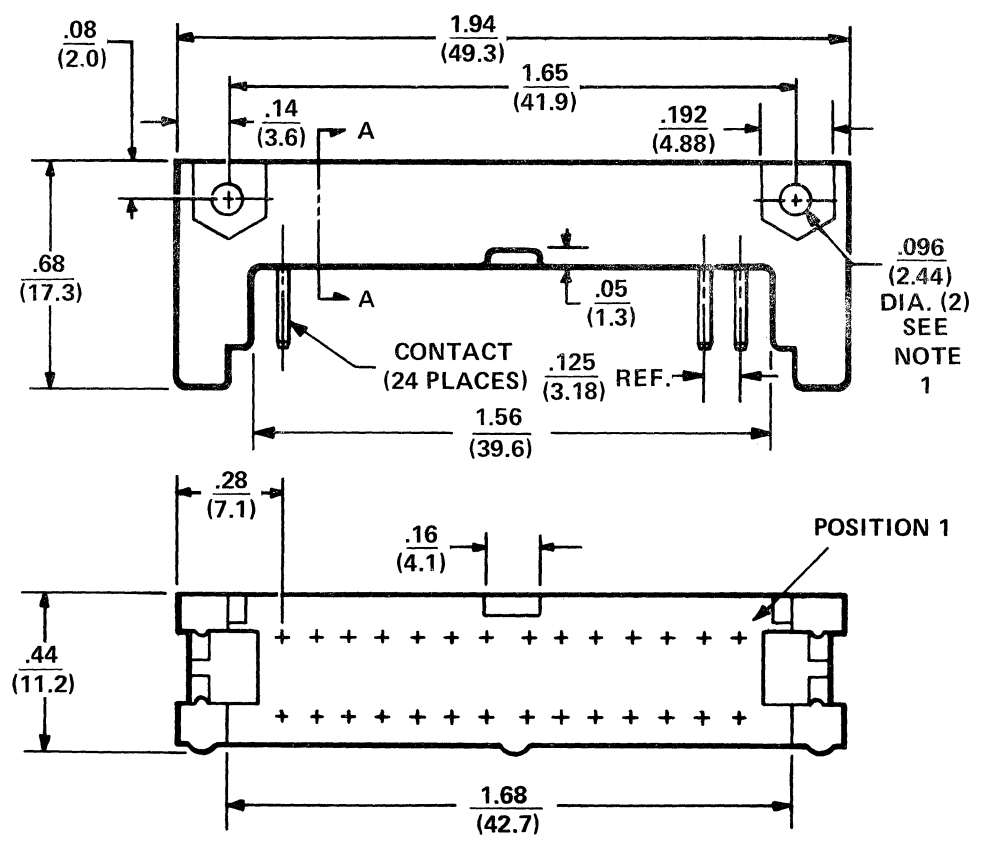
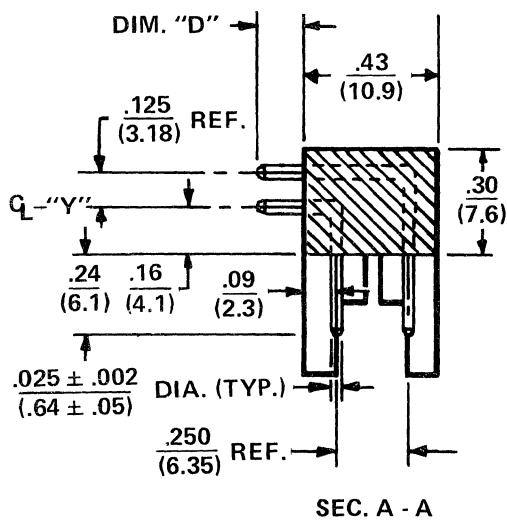
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

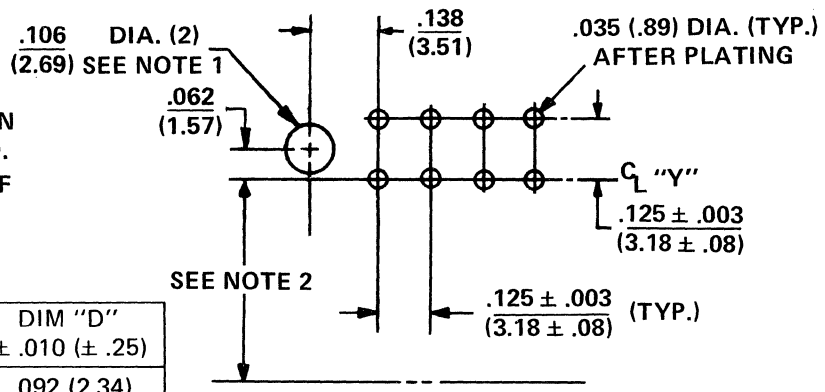
ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°C (-55°C to
+105°C)



NOTES:

- 1 ACCEPTS ANY NO. 2 SCREW; CAN BE FRONT- OR REAR-MOUNTED.
- 2 .41 (10.4) MAX. DIM. TO EDGE OF P.C.B. FOR BUSSING.



3M PART NUMBER	P.C.B. THICKNESS	DIM "D" ± .010 (± .25)
3466-1002	.062 (1.57)	.092 (2.34)
3466-1003	.094-.125 (2.39-3.18)	.155 (3.94)

RECOMMENDED P.C. BOARD HOLE PATTERN (SHOWN FOR MOUNTING SIDE OF BOARD)

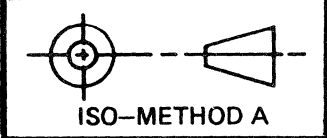
USED ON

TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

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St. Paul Minnesota



DR. *B.L. O'Brien*
APP. *B.P.Y.*

A

ISSUE	OCTOBER 18, 1977	REV.	3	CH.	
TITLE	SPECIFICATION RIGHT ANGLE HEADER .025 (.64) ROUND SOLDER PIN				
2031					

SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .125" (3.18mm) by .250" (6.35mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, and orientation triangle

ELECTRICAL

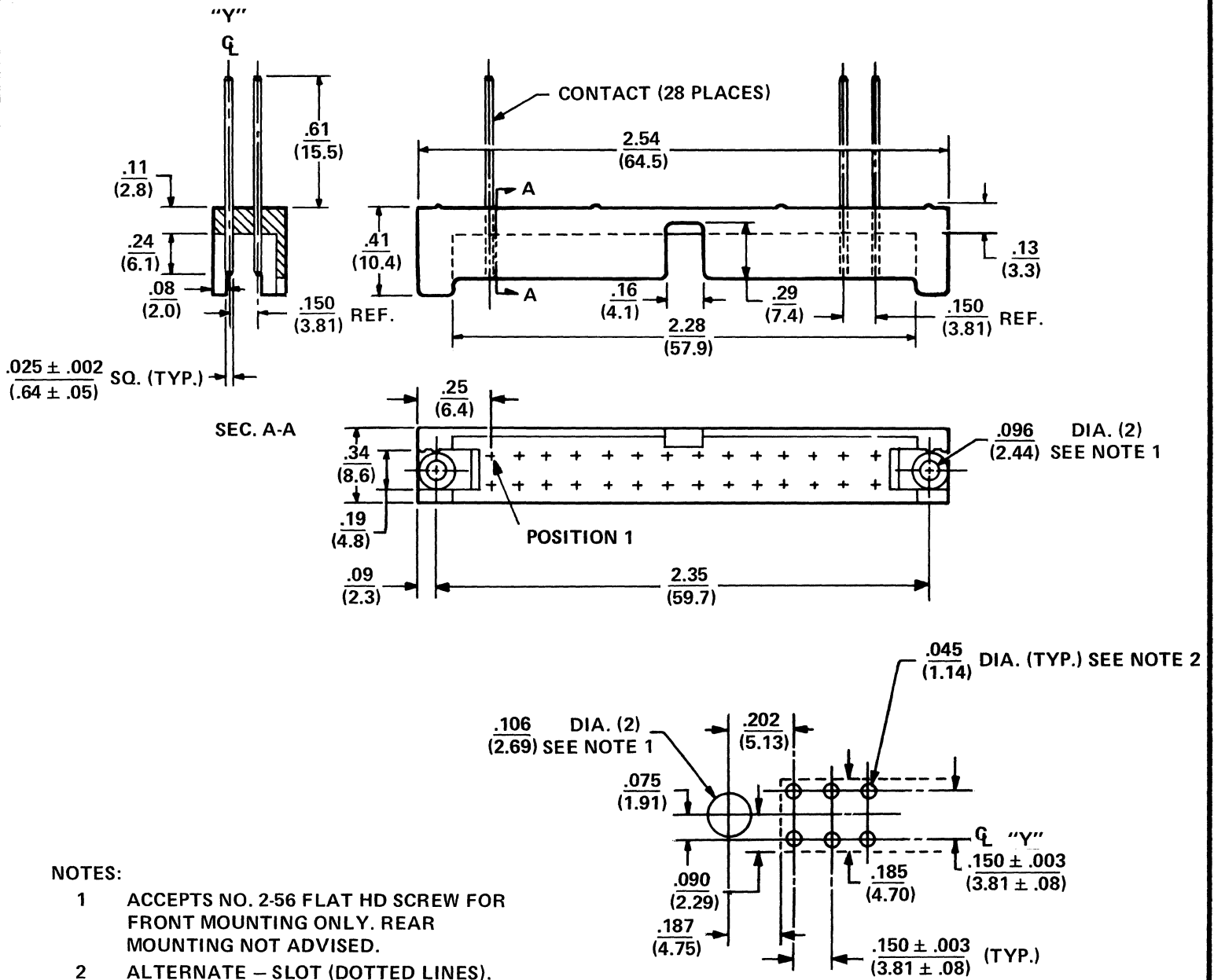
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



NOTES:

- 1 ACCEPTS NO. 2-56 FLAT HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.
- 2 ALTERNATE - SLOT (DOTTED LINES).

RECOMMENDED HOLE PATTERN (SHOWN FOR MOUNTING SIDE OF BOARD)

USED ON

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

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ISSUE

FEBRUARY 8, 1977

TITLE

SPECIFICATION
STRAIGHT HEADER
.025 (.64) SQUARE WRAP POST

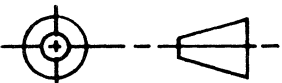
2

REV. CH.

ANGULAR ± ° ' "

INCH (mm)

SCALE /



ISO-METHOD A

DR. *B. L. Olson*

APP. *B. L. Olson*

A

2032

SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and wrap panels having a .150" (3.81mm) by .150 (3.81mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 μ m) gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μ m) nickel

MARKING Raised figures; 3M logo, part identification
number, and orientation triangle

ELECTRICAL

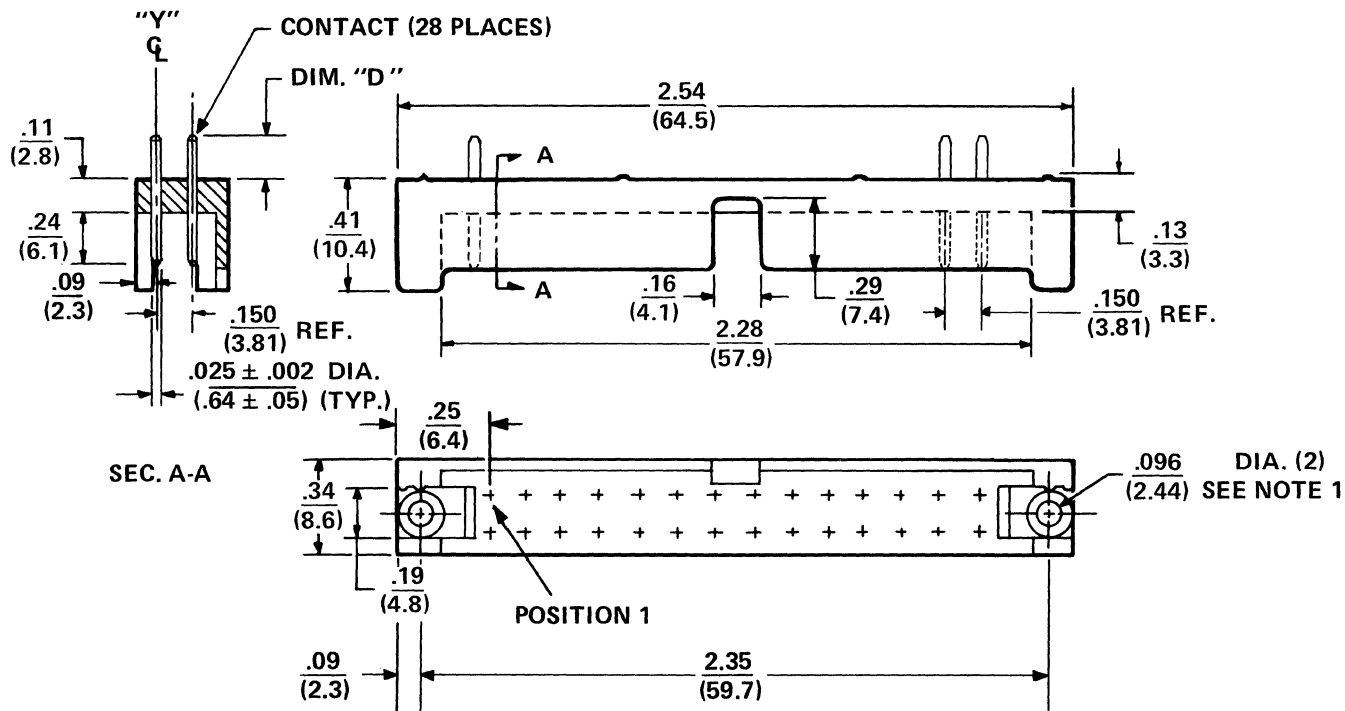
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

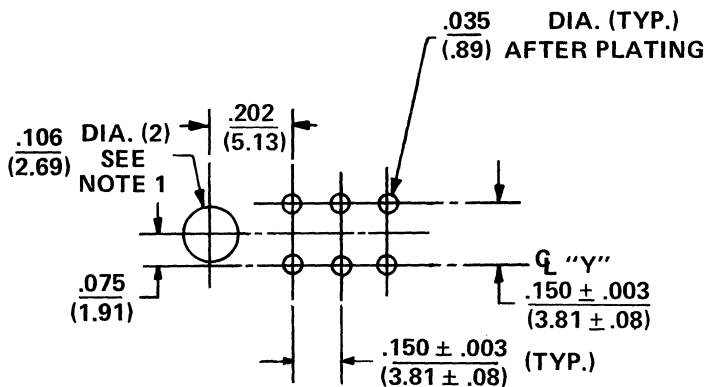
DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to 221°F (-55°C to
+105°C)



3M PART NUMBER	P.C.B. THICKNESS	DIM. "D" ± .010 (± .25)
3467-2002	.062 (1.57)	.092 (2.34)
3467-2003	.094 - .125 (2.39 - 3.18)	.155 (3.94)



NOTE:

- ACCEPTS NO. 2-56 FLAT HD SCREW FOR FRONT MOUNTING ONLY. REAR MOUNTING NOT ADVISED.

USED ON

TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	
ANGULAR	±	°	'

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.



ISSUE	FEBRUARY 8, 1977	REV.	3	CH.	
TITLE	SPECIFICATION STRAIGHT HEADER .025 (.64) ROUND SOLDER PIN				

INCH (mm)
SCALE /
DR. *G. L. Olson*
APP. *BRH*
A

2034

SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .150" (3.81mm) by .150" (3.81mm grid).

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μm) nickel

MARKING Raised figures; 3M logo, part identification
number, and orientation triangle

ELECTRICAL

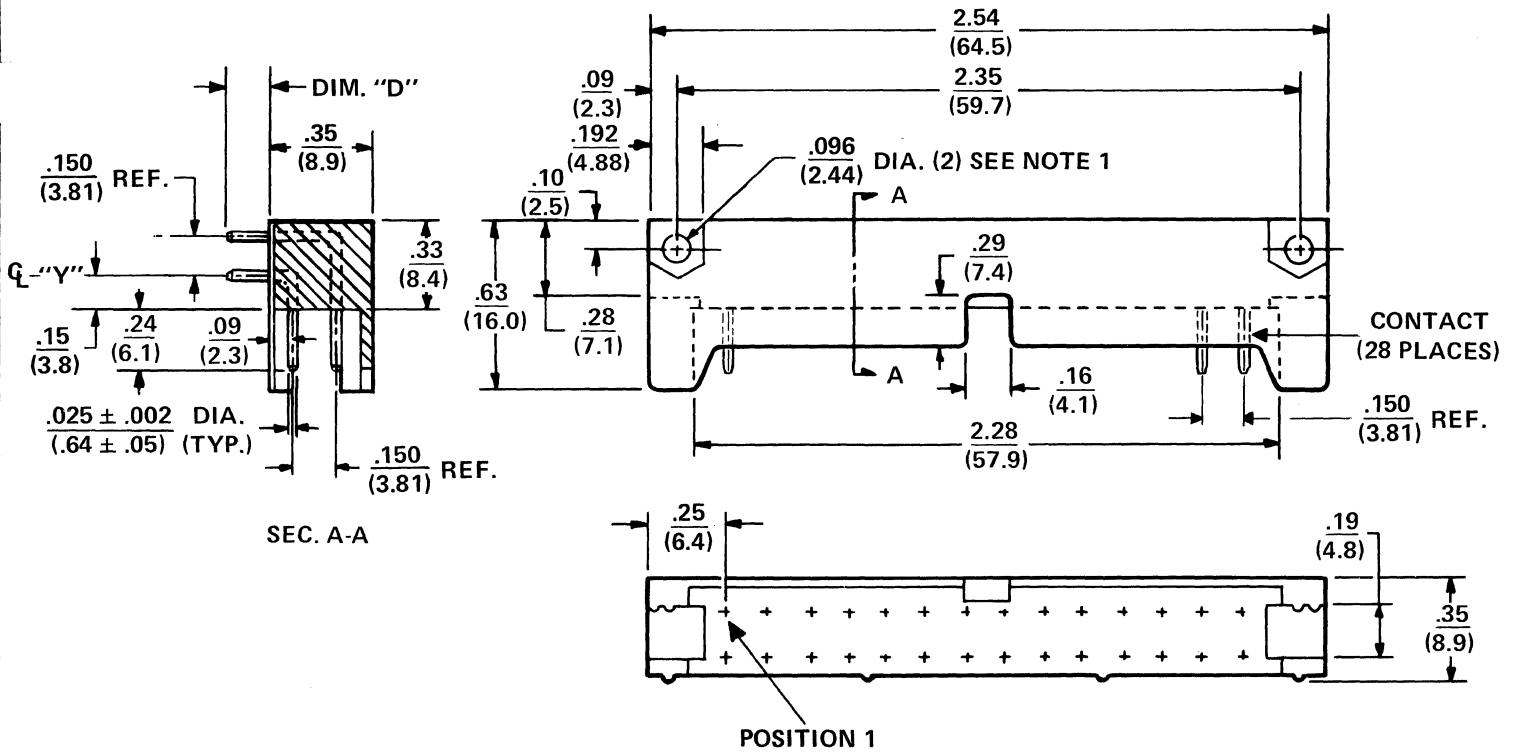
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

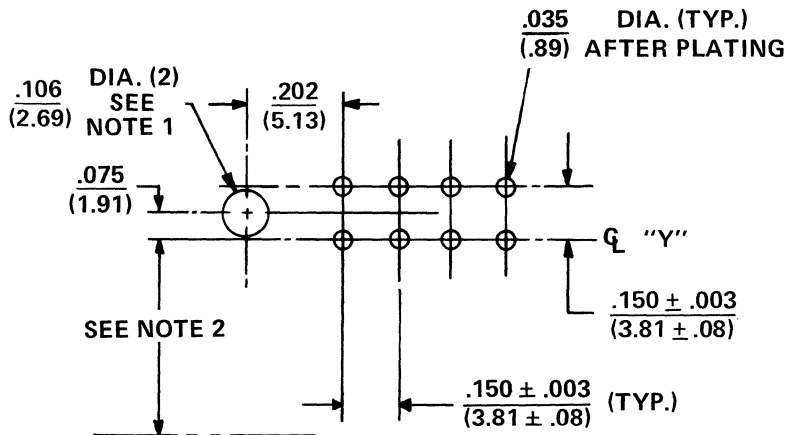
TEMPERATURE RATING -67°F to +221°C (-55°C to
+105°C)



3M PART NUMBER	P.C.B. THICKNESS	DIM. "D" ± .010 (± .25)
3467-1002	.062 (1.57)	.092 (2.34)
3467-1003	.094 - .125 (2.39 - 3.18)	.155 (3.94)

NOTES:

- 1 ACCEPTS ANY NO. 2 SCREW; CAN BE FRONT- OR REAR-MOUNTED.
- 2 .41 (10.4) MAX. DIM. TO EDGE OF P.C.B. FOR BUSSING.



RECOMMENDED P.C. BOARD HOLE PATTERN (SHOWN FOR MOUNTING SIDE OF BOARD)

USED ON

TOLERANCE UNLESS NOTED			
	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	
ANGULAR ± ° ' "			
 ISO-METHOD A			

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied.

INCH (mm)

DR *G. L. Olson*

APP. *BRH*

3M
COMPANY
ELECTRONIC PRODUCTS DIVISION
St. Paul
Minnesota

SCALE /

A

ISSUE	FEBRUARY 8, 1977	REV.	3	CH.	
TITLE	SPECIFICATION RIGHT ANGLE HEADER .025 (.64) ROUND SOLDER PIN				
2035					

SCOTCHFLEX HEADER SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between socket connectors and printed circuit boards having a .150" (3.81mm) by .150" (3.81mm) grid.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Phosphor Bronze

CONTACT PLATING 0.000030" (.762 μm) gold per
Mil-G-45204 Type II, class 0 over
0.000050" (1.27 μm) nickel

MARKING Raised figures, 3M logo, part identification
number, and orientation triangle

ELECTRICAL

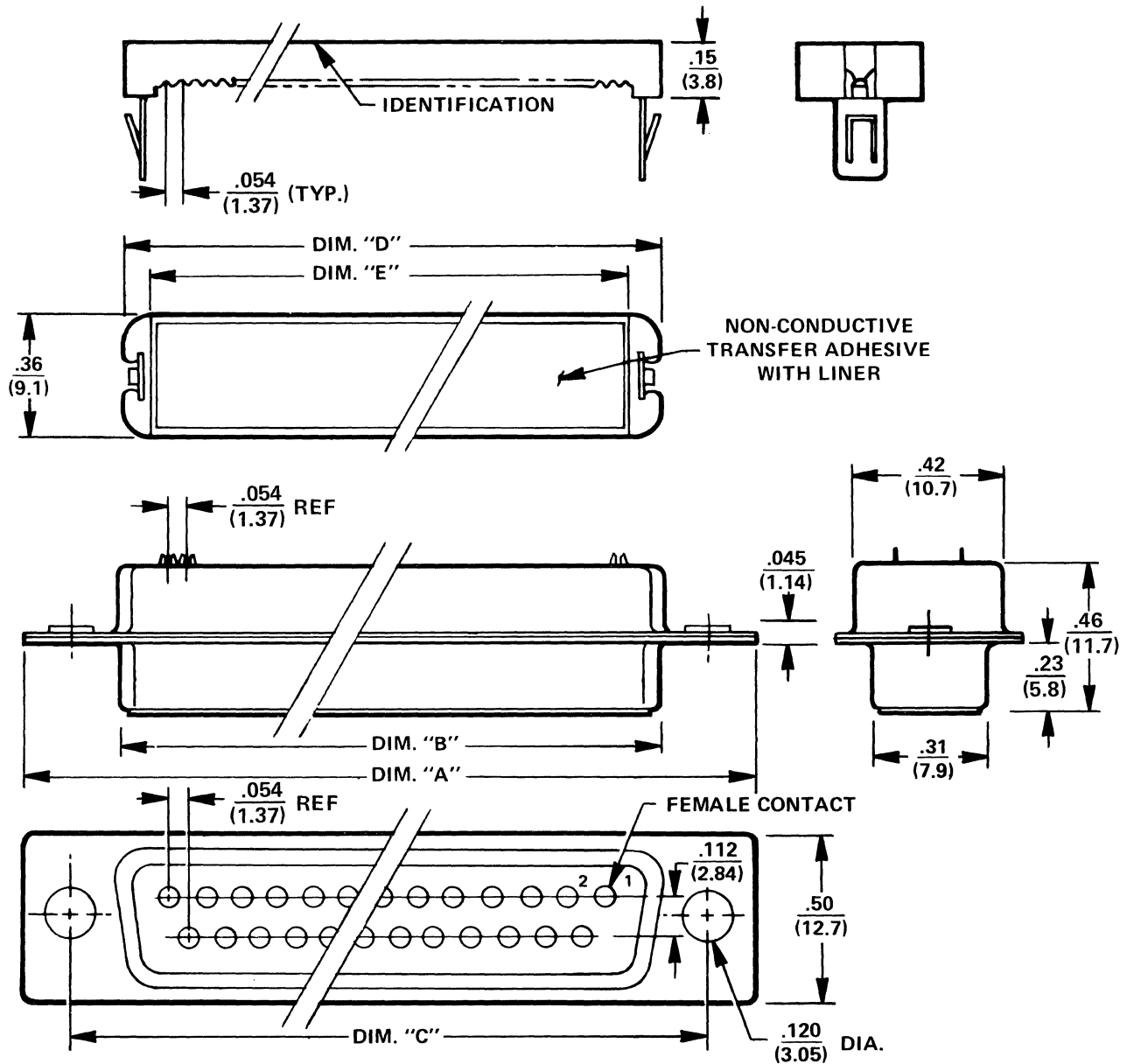
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to 221°F (-55°C to
+105°C)



CONTACT QUANTITY	3M PART NUMBER	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	DIM. "E"
25	3483-1000	2.09 (53.1)	1.51 (38.4)	1.85 (47.0)	1.53 (38.9)	1.38 (35.1)
37	3503-1000	2.74 (69.6)	2.16 (54.8)	2.50 (63.5)	2.18 (55.4)	2.03 (51.6)

USED ON

SEPTEMBER 19, 1979

4

ISSUE

ISSUE DATE AND CHANGE RECORD

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Electronic Products Division



DELTA CONNECTOR SPECIFICATION
3M PART NO. 3483, 3503

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	± .05

DR. GARY H. OLSON

APP. R. D. DUNN

A

2026

Scotchflex Delta Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition socket having .054" (1.37 mm) x .112" (2.84 mm) contact spacing transition between round conductor flat cable on .054" (1.37 mm) centers and a plug connector having similar spacing.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, contact position numbers

Shell Material: Steel

Plating: Yellow chromate over clear cadmium per QQ-P-416 Type II Class 2

Contact Material: Beryllium Copper

Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0, over 0.000050" (1.27 μm) nickel

Wire accommodation: 26 AWG solid
28 AWG stranded

Insertion Force: .8 lb (3.6N) per contact
typical

Withdrawal Force: .7 lb (3.1N) per contact
typical

Electrical:

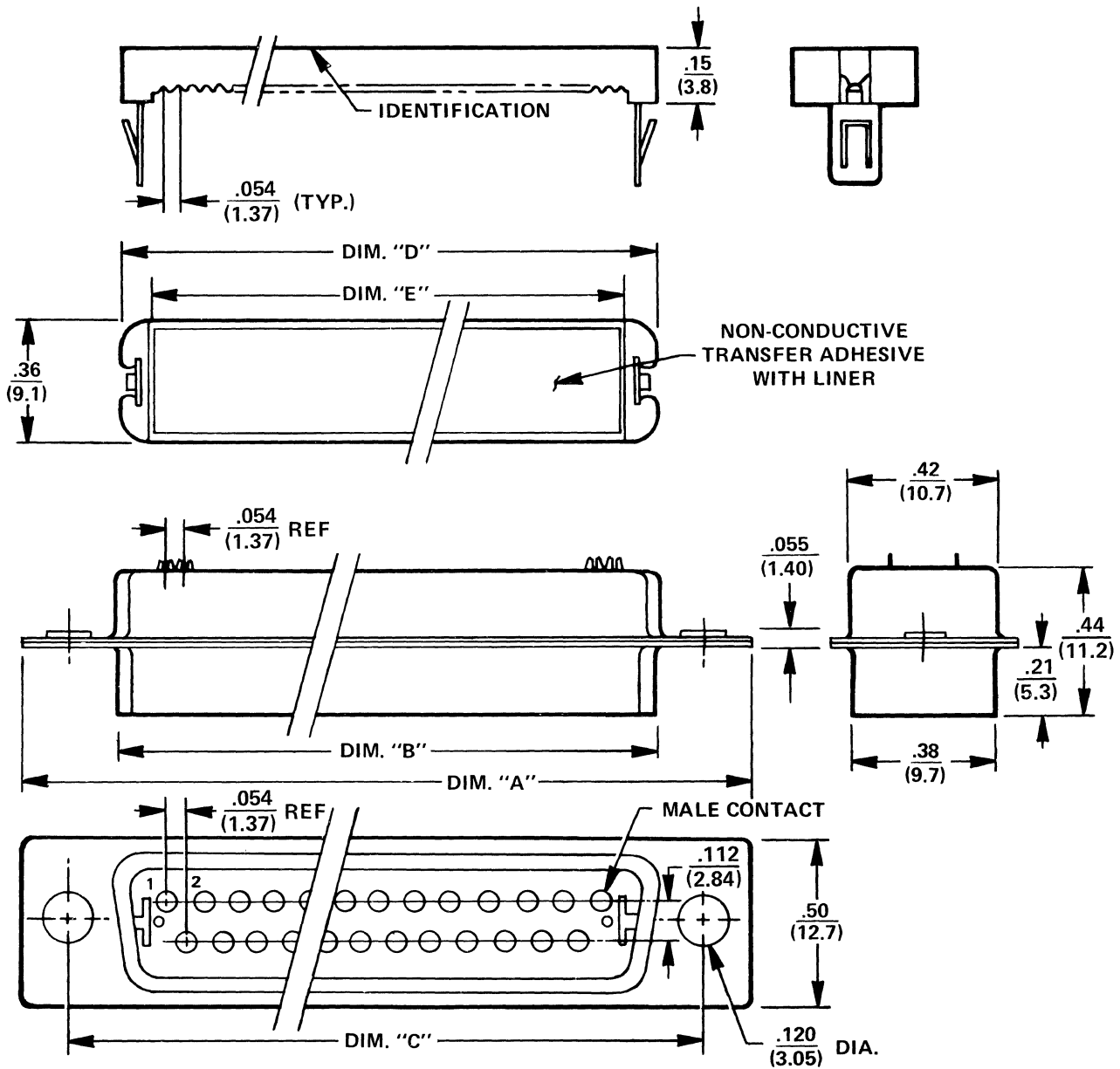
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500V_{dc}

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to +221°F (-55°C to +105°C)



CONTACT QUANTITY	3M PART NUMBER	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	DIM. "E"
25	3482-1000	2.09 (53.1)	1.58 (40.1)	1.85 (47.0)	1.53 (38.9)	1.38 (35.1)
37	3502-1000	2.74 (69.6)	2.23 (56.7)	2.50 (63.5)	2.18 (55.4)	2.03 (51.6)

USED ON

SEPTEMBER 19, 1979

4

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Electronic Products Division



ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

**DELTA
CONNECTOR SPECIFICATION
3M PART NO. 3482, 3502**

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	± .05

DR. *GARY H. OLSON*

APP. *G. A. D. NICOLL*

A

2027

Scotchflex Delta Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition plug having .054" (1.37 mm) x .112" (2.84 mm) contact spacing transition between round conductor flat cable on .054" (1.37 mm) centers and a socket connector having similar spacing.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, contact position numbers.

Shell Material: Steel

Plating: Yellow chromate over clear cadmium per QQ-P-416 Type II Class 2

Contact Material: Beryllium Copper

Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0, over 0.000050" (1.27 μm) nickel.

Wire accommodation: 26 AWG solid
28 AWG
stranded

Insertion Force: .8 lb (3.6N) per contact
typical

Withdrawal Force: .7 lb (3.1N) per contact
typical

Electrical:

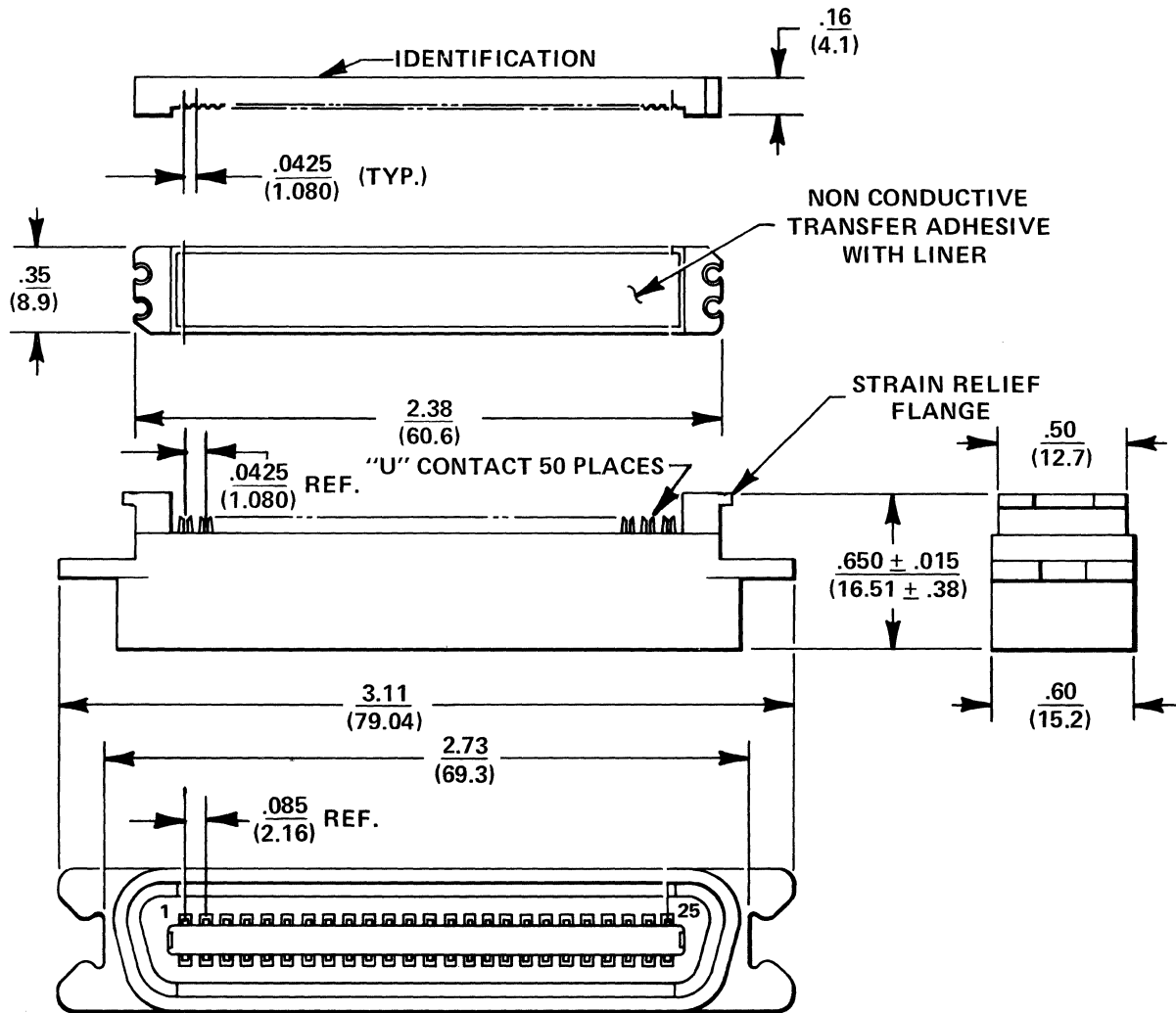
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500Vdc

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to +221°F (-55°C to +105°C)



USED ON

JANUARY 18, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	
	±	±	±

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ELECTRONIC PRODUCTS DIVISION

St. Paul
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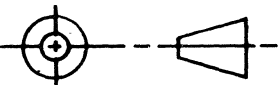
TITLE

RIBBON CONNECTOR
SPECIFICATION

ANGULAR ± ° ' "

INCH
(mm)

SCALE /



ISO-METHOD A

DR. *G.L. Olson*

APP. *G.W.D.*

A

2046

SCOTCHFLEX DELTA RIBBON CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position plug having .085" (2.16 mm) contact spacing transition between round conductor flat cable on .0425" (1.080 mm) centers and a socket connector having similar spacing.

SPECIFICATIONS:

PHYSICAL INSULATOR MATERIAL Glass reinforced polyester
 U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030 (1.27 μm) min. gold per
 Mil-G-45204 Type II on mating interface,
 gold flash overall, 0.000100 (2.54 min.)
 nickel underplate.

MARKING Raised figures; 3M logo, part identification
 number and contact position numbers.

WIRE ACCOMMODATION 26 AWG solid
 28 AWG stranded

INSERTION FORCE 1b. per contact typical

WITHDRAWAL FORCE 1b. per contact typical

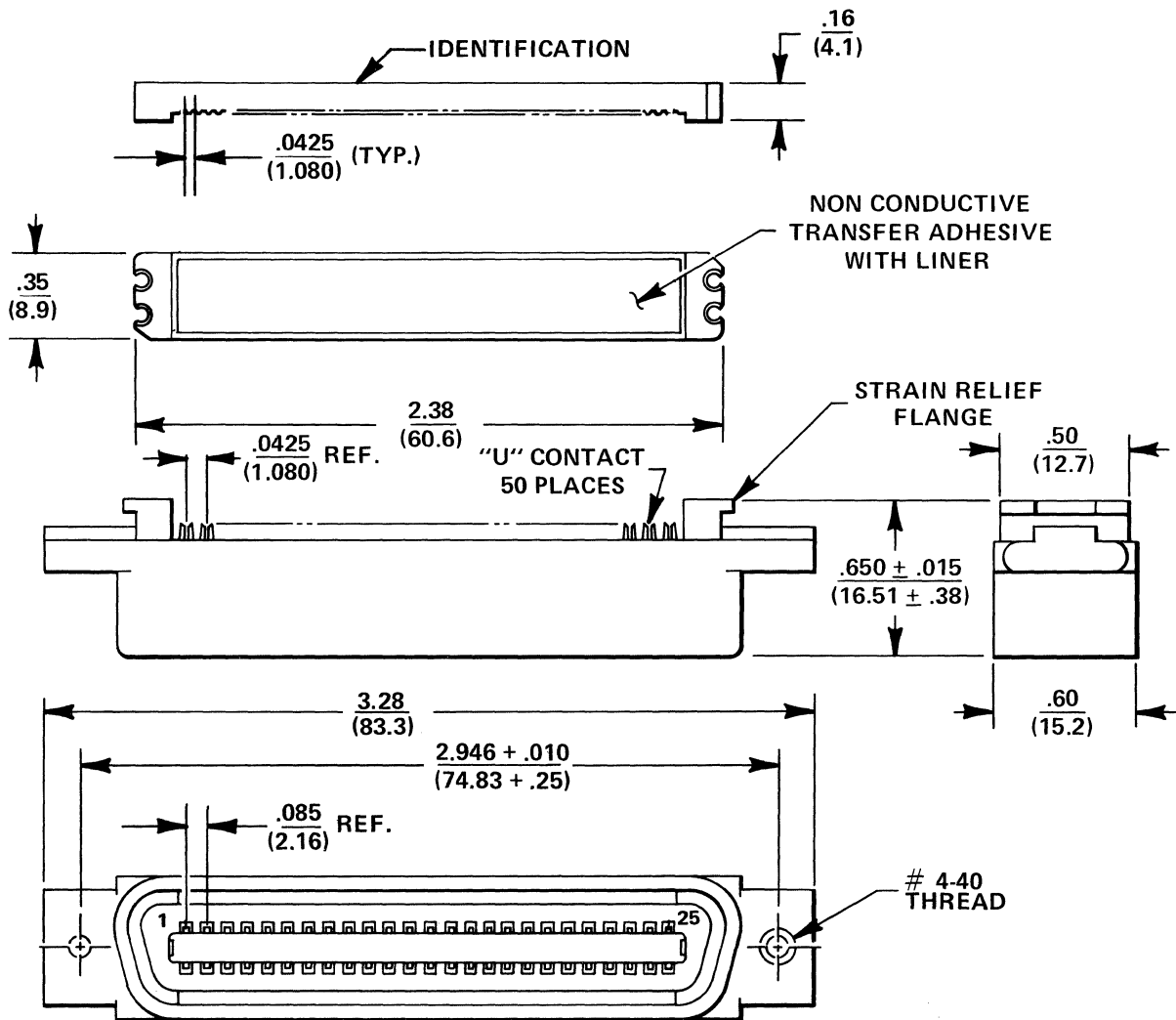
ELECTRICAL

CURRENT RATING 1 A

INSULATION RESISTANCE > 1 x 10⁹Ω

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL TEMPERATURE RATING -67°F to +221°F (-55°C to
 +105°C)



USED ON

JANUARY 18, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .5	± .13	± .005
DEC.	± .3	± .01	± .005
ANGULAR	±	0	

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ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

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TITLE

RIBBON CONNECTOR
SPECIFICATION

INCH
(mm)

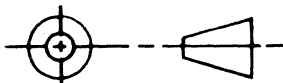
SCALE /

DR. *G.L. Olson*

APP. *ASD*

A

2047



ISO-METHOD A

SCOTCHFLEX DELTA RIBBON CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multi-position plug having .085" (2.16 mm) contact spacing transition between round conductor flat cable on .0425" (1.080 mm) centers and a socket connector having similar spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030 (1.27 μm) min. gold per
Mil-G-45204 Type II on mating interface,
gold flash overall, 0.000100 (2.54 mm)
min. nickel underplate

MARKING Raised figures; 3M logo, part identification
number and contact position numbers.

WIRE ACCOMMODATION 26 AWG solid
28 AWG stranded

INSERTION FORCE 1b. () per contact typical

WITHDRAWAL FORCE 1b. () per contact typical

ELECTRICAL

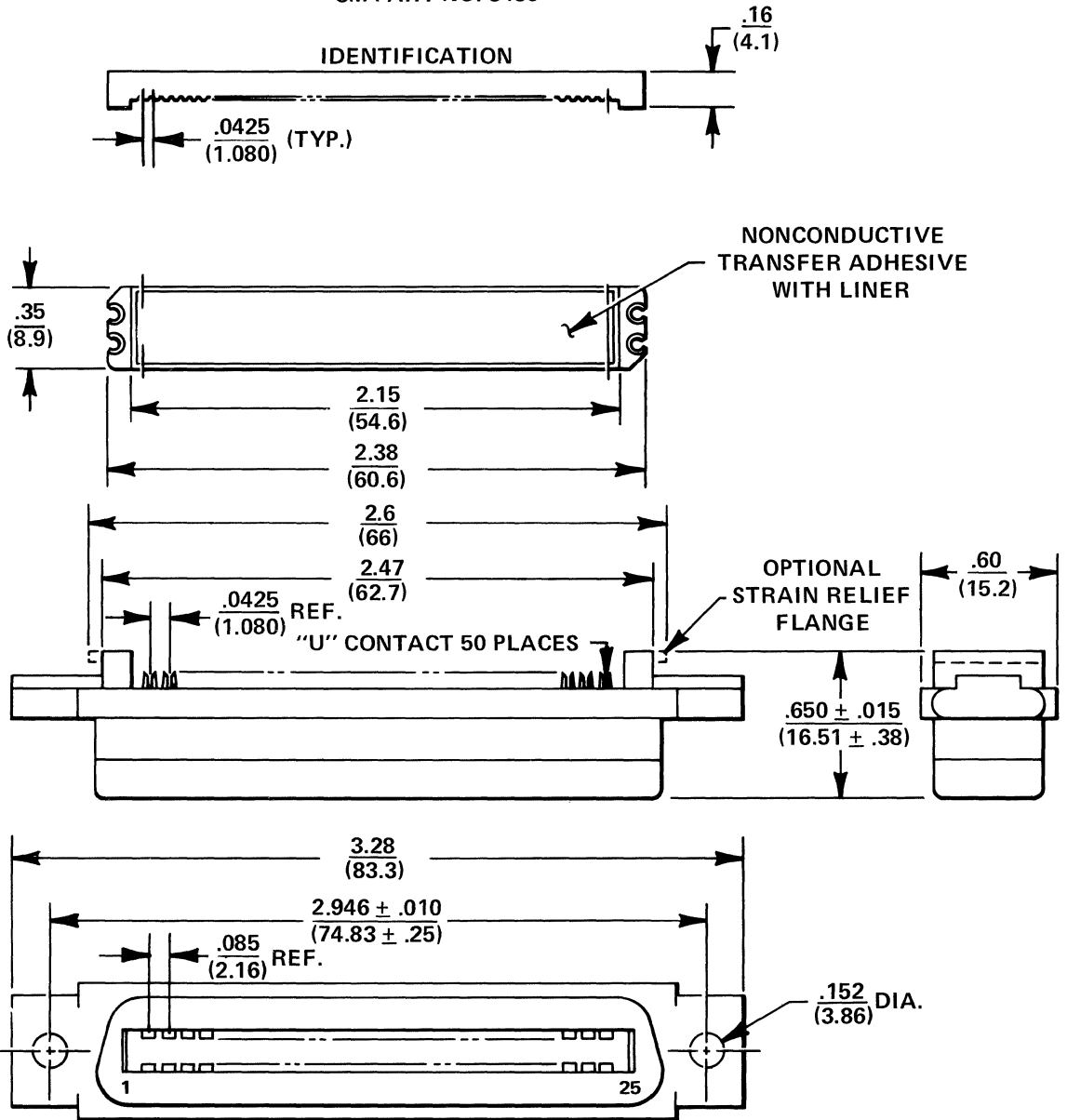
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



3M PART NUMBER	STRAIN RELIEF PROVISION
3489-1000	WITHOUT STRAIN RELIEF FLANGES
3489-1001	WITH STRAIN RELIEF FLANGES

USED ON

JANUARY 18, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///
	±	±	±

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Minnesota

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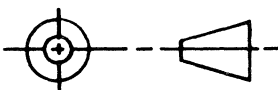
TITLE

RIBBON CONNECTOR SPECIFICATION

GULAR ± ° ' "

INCH (mm)

SCALE /



ISO-METHOD A

DR. *G.L. Olson*
APP. *AOA*

A

2048

SCOTCHFLEX DELTA RIBBON CONNECTOR SPECIFICATION

SCOPE: This specification details the requirements for a multiposition socket having .085" (2.16 mm) contact spacing transition between round conductor flat cable on .0425" (1.080 mm) centers and a plug connector having similar spacing.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000030 (1.27 μ m) min. gold per
Mil-G-45204 Type II on mating
interface, gold flash overall, 0.000100
(2.54 mm) min. nickel underplate.

MARKING Raised figures; 3M logo, part identification
number and contact position numbers.

WIRE ACCOMMODATION 26 AWG solid
28 AWG stranded

INSERTION FORCE lb. () per contact typical

WITHDRAWAL FORCE lb. () per contact typical

ELECTRICAL

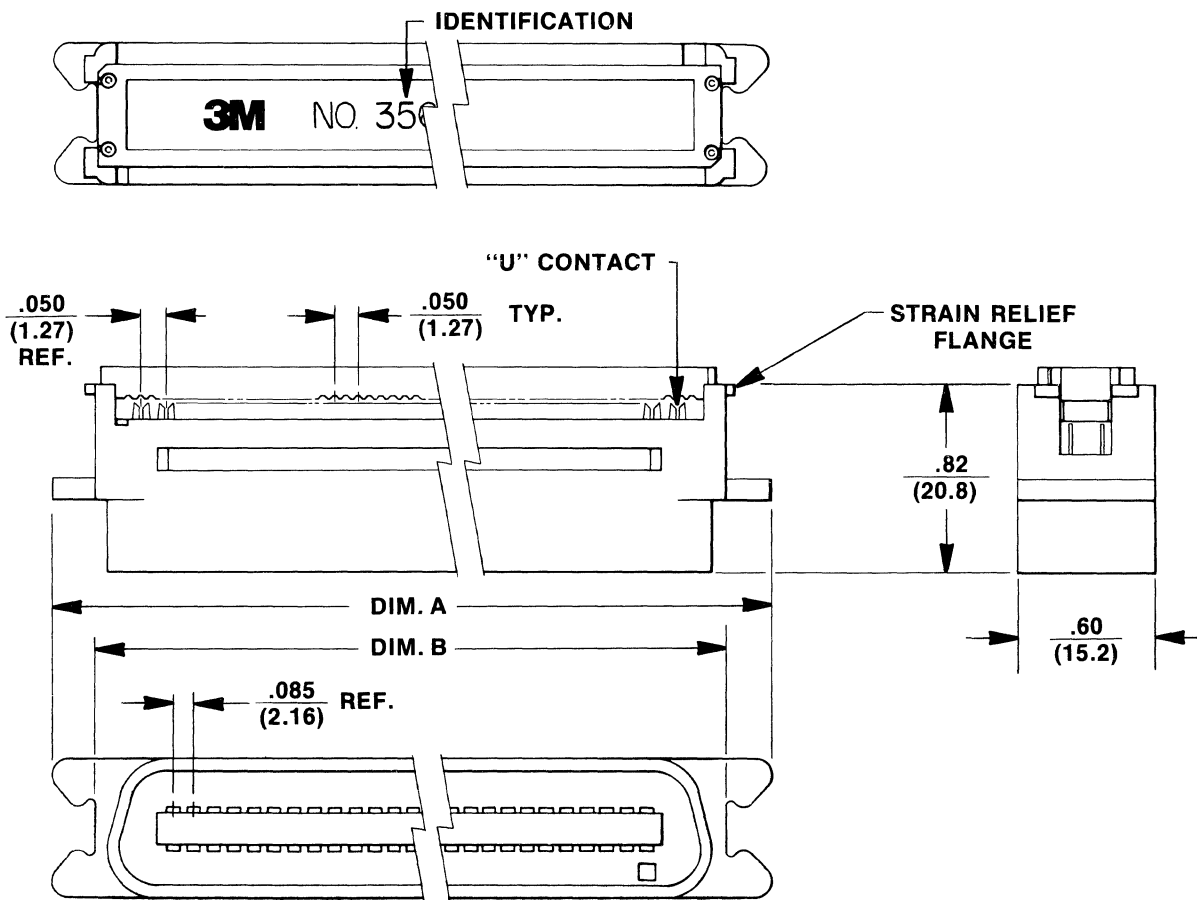
CURRENT RATING 1 A

INSULATION RESISTANCE $>1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



No. of Positions	3M Part Number	DIM "A"	DIM "B"
14	3572-1001	$\frac{1.58}{(40.13)}$	$\frac{1.20}{(30.48)}$
24	3548-1001	$\frac{2.01}{(51.05)}$	$\frac{1.63}{(41.40)}$
36	3366-1001	$\frac{2.52}{(64.0)}$	$\frac{2.14}{(54.36)}$
50	3564-1001	$\frac{3.11}{(79.0)}$	$\frac{2.73}{(69.3)}$

USED ON

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OCTOBER 3, 1979

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DELTA RIBBON SPECIFICATION
3M PART NO. 3564-1001

TOLERANCE UNLESS NOTED

$\frac{\text{INCH}}{\text{(mm)}}$

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR. *GARY H. OLSON*
APP. *A.D. Driscoll*

A

2061

Scotchflex Delta Ribbon Specification

Scope: This specification details the requirements for a multiposition socket, having .085" (2.16 mm) contact spacing, transition between round conductor flat cable on .050" (1.27 mm) centers and a plug connector having similar spacing.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number.

Contact Material: Beryllium Copper

Plating: 0.000030" (.762 μm) min. gold on wiper per Mil-G-45204 Type II, class 0, grade C, gold flash on wire terminal over 0.000100" (2.54 μm) min. nickel per QQ-N-290, Type VII class 1 throughout

Wire accommodation: 28 AWG solid or stranded

Insertion Force: .24 lb (1.1N) per contact typical

Withdrawal Force: .15 lb (0.7N) per contact typical

Electrical:

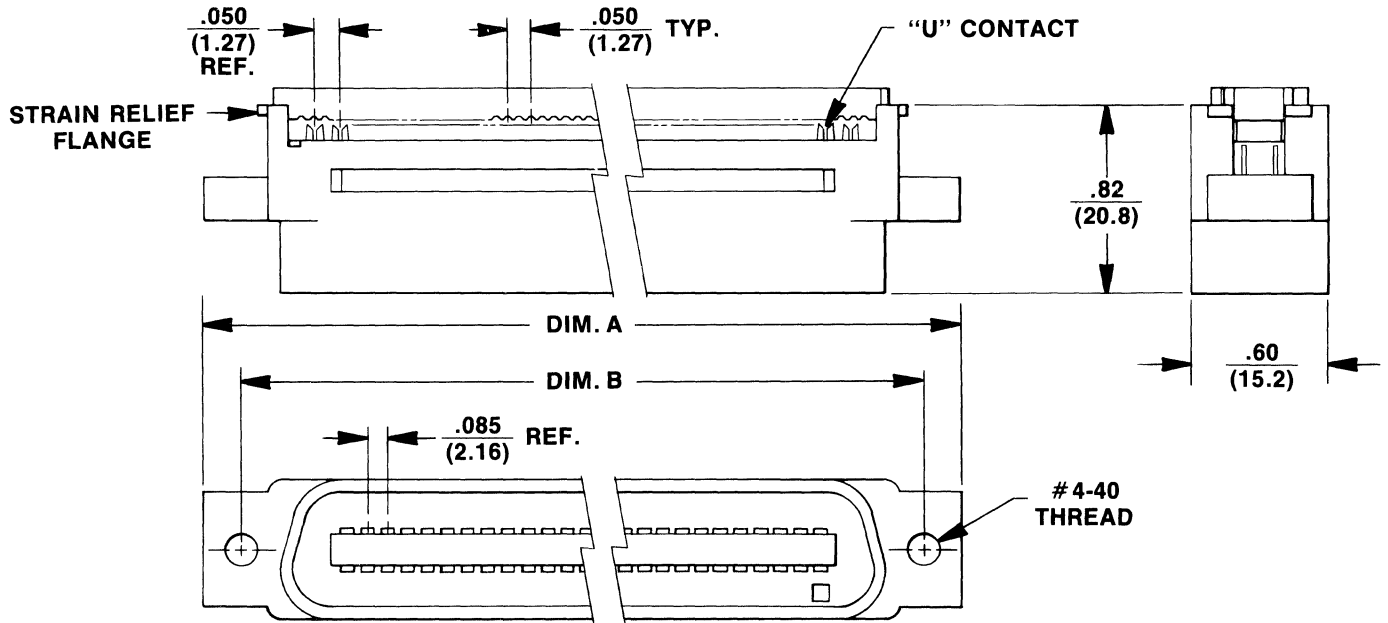
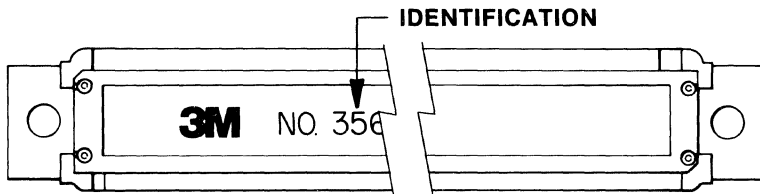
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega @ 500 \text{ vdc}$

Withstanding Voltage: $1000V_{\text{RMS}} @ \text{sea level}$

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



No. of Positions	3M Part Number	DIM. "A"	DIM. "B" ± .010
14	3572-1002	$\frac{1.75}{(44.45)}$	$\frac{1.42}{(36.07)}$
24	3548-1002	$\frac{2.17}{(55.19)}$	$\frac{1.84}{(46.74)}$
36	3366-1002	$\frac{2.68}{(68.07)}$	$\frac{2.35}{(59.69)}$
50	3564-1002	$\frac{3.28}{(83.3)}$	$\frac{2.946}{74.83}$

USED ON

OCTOBER 3, 1979

1

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3M

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**DELTA RIBBON SPECIFICATION
3M PART NO. 3564-1002**

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///

DR. *GARY L. OLSON*

APP. *A. D. DRISCOLL*

A

2062

Scotchflex Delta Ribbon Specification

Scope: This specification details the requirements for a multiposition plug, having .085" (2.16 mm) contact spacing, transition between round conductor flat cable on .050" (1.27 mm) centers and a socket connector having similar spacing.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number.

Contact Material: Beryllium Copper

Plating: 0.000030" (.762 μm) min. gold on wiper per Mil-G-45204 Type II, class 0, grade C, gold flash on wire terminal over 0.000100" (2.54 μm) min nickel per QQ-N-290 Type VII, Class 1 throughout

Wire accommodation: 28 AWG solid or stranded

Insertion Force: .24 lb (1.1N) per contact typical

Withdrawal Force: .15 lb (0.7N) per contact typical

Electrical:

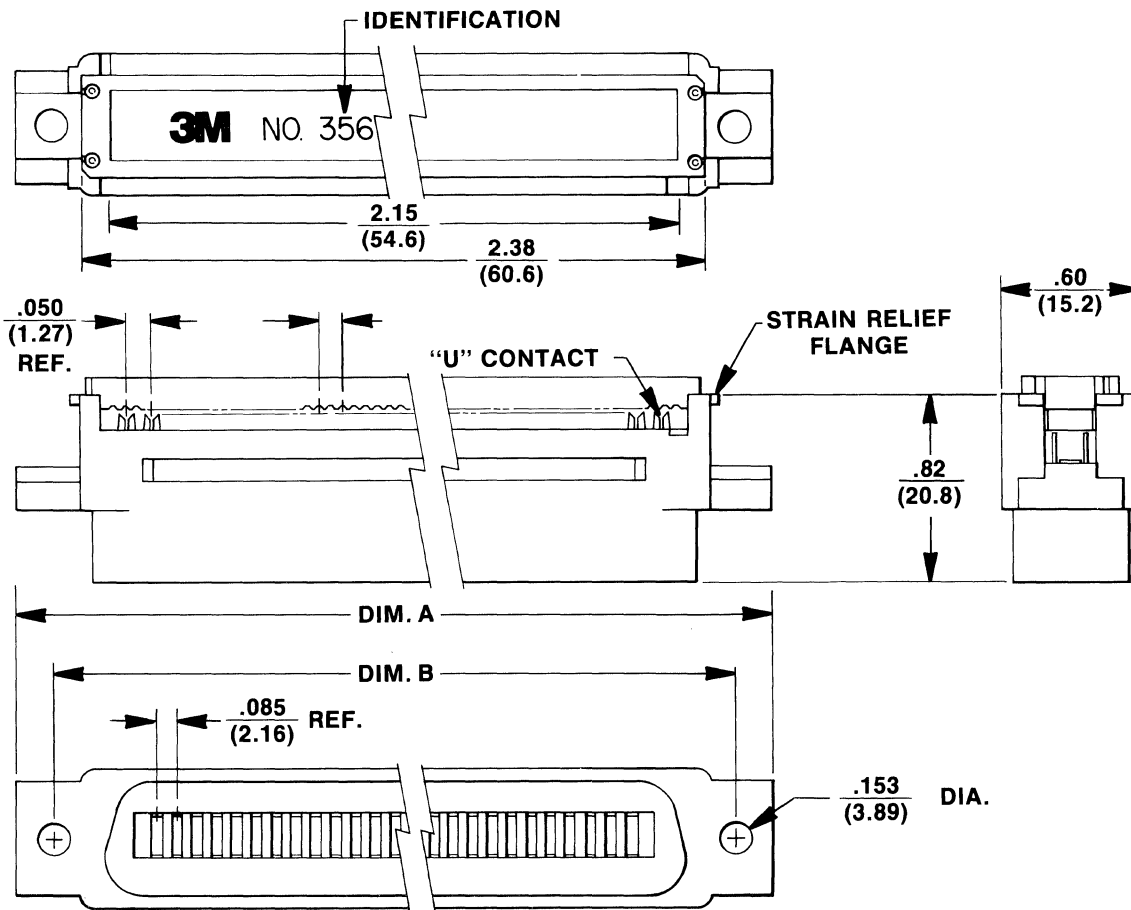
Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500vdc

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



No. of Positions	3M Part Number	Dim. "A"	Dim. "B" ± .010
14	3573-1000	$\frac{1.75}{(44.45)}$	$\frac{1.42}{(36.07)}$
24	3549-1000	$\frac{2.17}{(55.19)}$	$\frac{1.84}{(46.74)}$
36	3367-1000	$\frac{2.68}{(68.07)}$	$\frac{2.35}{(59.69)}$
50	3565-1000	$\frac{3.28}{(83.3)}$	$\frac{2.946}{74.83}$

USED ON

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Electronic Products Division



OCTOBER 3, 1979

1

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**DELTA RIBBON SPECIFICATION
3M PART NO. 3565-1000**

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///

DR. *GARY L. OLSON*
APP. *A. D. DRISCOLL*

A

2063

Scotchflex Delta Ribbon Specification

Scope: This specification details the requirements for a multiposition plug, having .085" (2.16 mm) contact spacing, transition between round conductor flat cable on .0425" (1.080 mm) centers and a socket connector having similar spacing.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number.

Contact Material: Beryllium Copper

Plating: 0.000030" (.762 μm) min. gold on wiper per Mil-G-45204 Type II, class 0, grade C, gold flash on wire terminal over 0.000100" (2.54 μm) min nickel per QQ-N-290, Type VII, class 1, throughout

Wire accommodation: 28 AWG solid or stranded

Insertion Force: .24 lb (1.1N) per contact typical

Withdrawal Force: .15 lb (0.7N) per contact typical

Electrical:

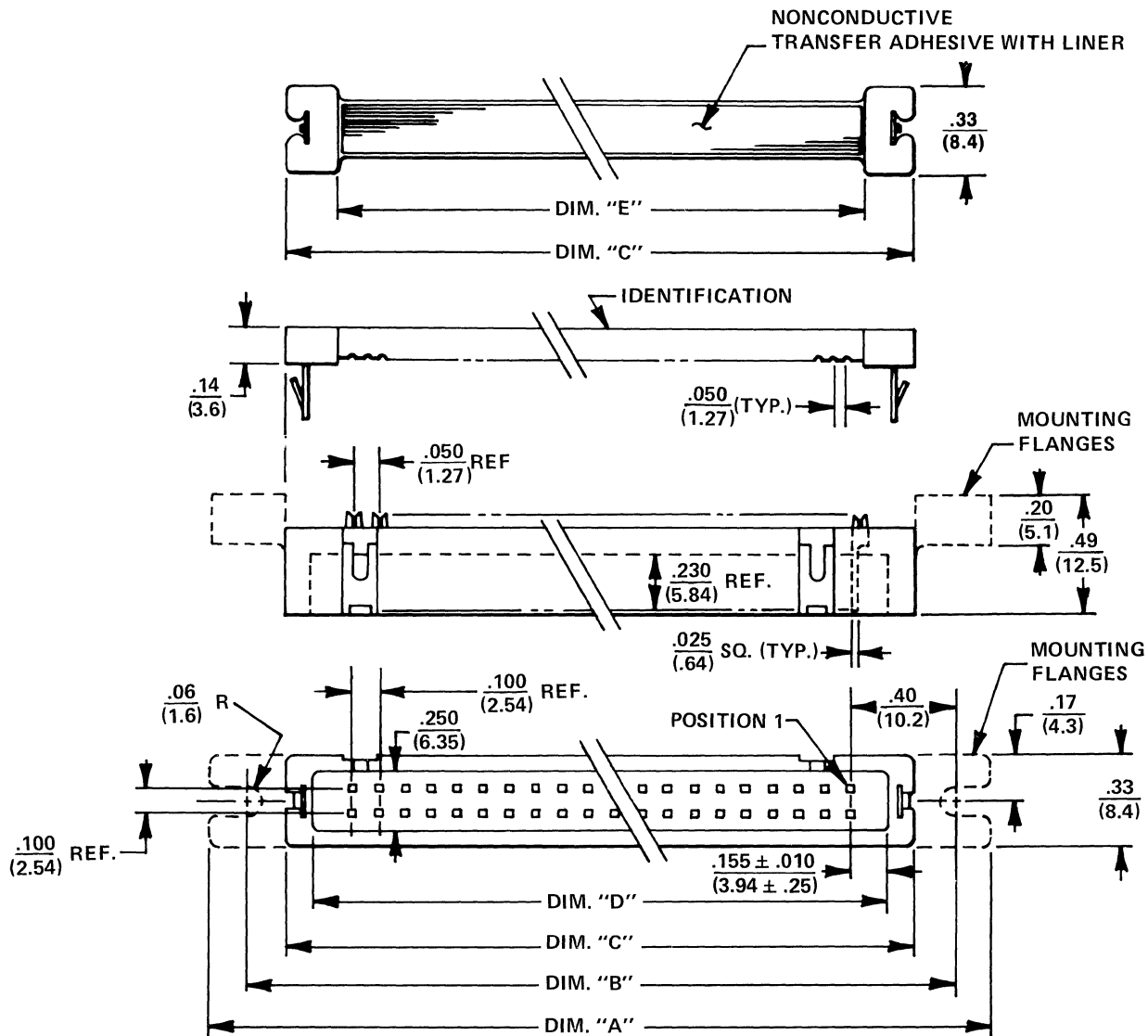
Current Rating: 1 A typical

Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)



Contact Quantity	3M Part No.	DIM. "A" ± .02 (.5)	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"
10	3325	1.50 (38.1)	1.20 (30.5)	.90 (22.9)	.71 (18.0)	.51 (13.0)
20	3326	2.00 (50.8)	1.70 (43.2)	1.40 (35.6)	1.21 (30.7)	1.05 (26.7)
26	3328	2.30 (58.6)	2.00 (50.8)	1.70 (43.2)	1.51 (38.4)	1.35 (34.3)
34	3329	2.70 (68.6)	2.40 (61.0)	2.10 (53.3)	1.91 (48.5)	1.75 (44.5)
40	3324	3.00 (76.2)	2.70 (68.6)	2.40 (61.0)	2.21 (56.1)	2.05 (52.1)
50	3331	3.50 (88.9)	3.20 (81.3)	2.90 (73.7)	2.71 (68.8)	2.55 (64.8)
60	3332	4.00 (101.6)	3.70 (94.0)	3.41 (86.6)	3.21 (81.5)	3.05 (77.5)

3M Part Number	Mounting Style
-0000	With Mounting Flanges
-0001	Without Mounting Flanges

USED ON

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Electronic
Products
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	OCTOBER 27, 1979	2	
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.

PLUG CONNECTOR SPECIFICATION
3M PART NO. 3325, 3326, 3328,
3329, 3324, 3331, 3322.

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR. GARY H. OLSON

APP.

A

2055

Scotchflex Plug Specification

UL File No. E68080, Guide RTRT2

CSA File No. LR-40971, Guide 365-E-1, Class 6233

Scope: This specification details the requirements for a multiposition plug transition between round conductor flat cable on .050" (1.27 mm) centers and socket connectors having a .100" (2.54 mm) by .100" (2.54 mm) grid.

Specifications:

Physical:

Insulator Material: Glass reinforced polyester

Flammability rating: UL 94V-0

Color: Gray

Marking: Raised figures; 3M logo, part identification number, and orientation triangle

Contact Material: Beryllium Copper

Plating: 0.000030" (.762 μm) gold per Mil-G-45204 Type II, class 0, over 0.000100" (2.54 μm) nickel

Wire accommodation: 26 AWG solid or stranded
28 AWG solid or stranded
30 AWG solid

Insertion Force: .5 lb (2.2N) per contact typical

Withdrawal Force: .5 lb (2.2N) per contact typical

Electrical:

Current Rating: 1 A

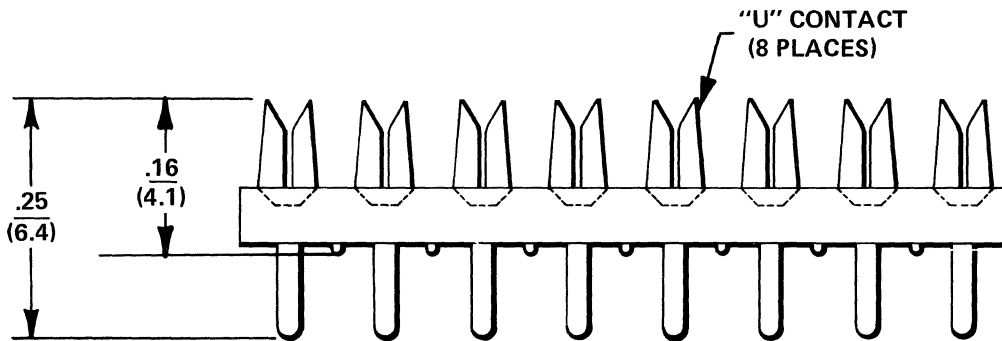
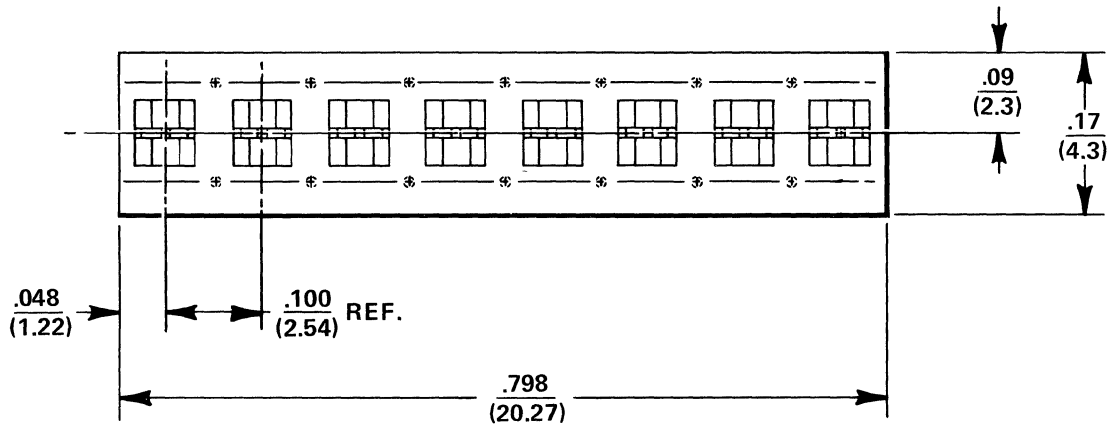
Insulation Resistance: $> 1 \times 10^9 \Omega$ @ 500 vdc

Withstanding Voltage: 1000V_{RMS} @ sea level

Environmental:

Temperature Rating: -67°F to $+221^\circ\text{F}$ (-55°C to $+105^\circ\text{C}$)

2055



USED ON

JANUARY 18, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
	±	±	±

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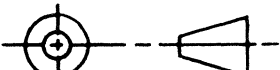
TITLE

BREADBOARD STRIP
CONNECTOR SPECIFICATION

ANGULAR ±

INCH
(mm)

SCALE /



ISO-METHOD A

DR. *G.L. Olson*

APP. *RKR*

A

2043

SCOTCHFLEX BREADBOARD SOLDER STRIP SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between discrete conductors on .100" (2.54 mm) centers and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING Au/Ni - 0.000020" (.508 μ m)
gold per Mil-G-45204 Type II, class 00
over 0.000050" (1.27 μ m) nickel

WIRE ACCOMMODATION 30 AWG solid

ELECTRICAL

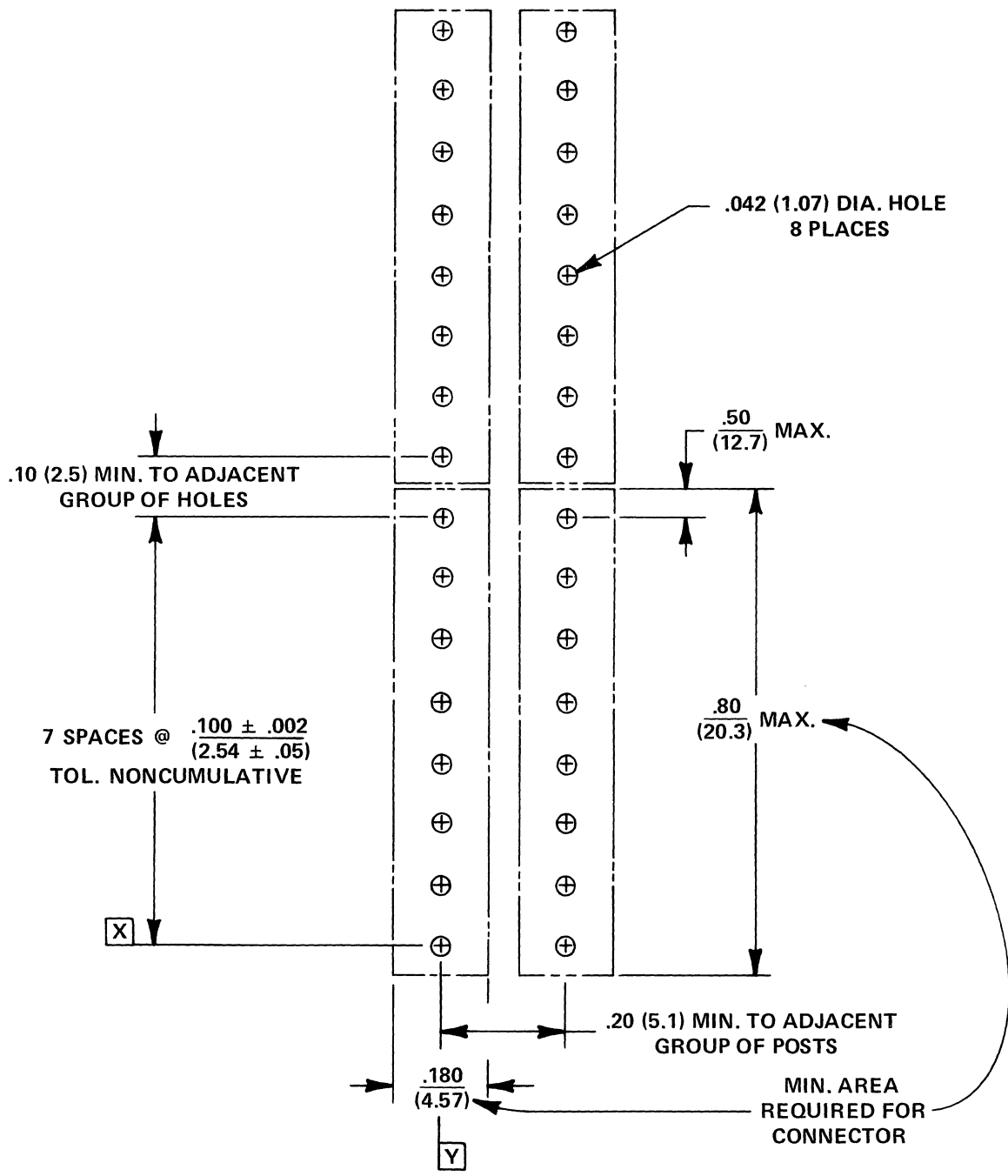
CURRENT RATING 1 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to
+105°C)



USED ON

3M PART NO. 3355-0800

JANUARY 18, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	$\pm .1$	$\pm .01$	$\pm .005$
mm	$\pm .3$	$\pm .13$	$\pm .05$
ANGULAR	\pm	\pm	\pm

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TITLE

PCB HOLE PATTERN
SPECIFICATION

INCH
(mm)

SCALE /

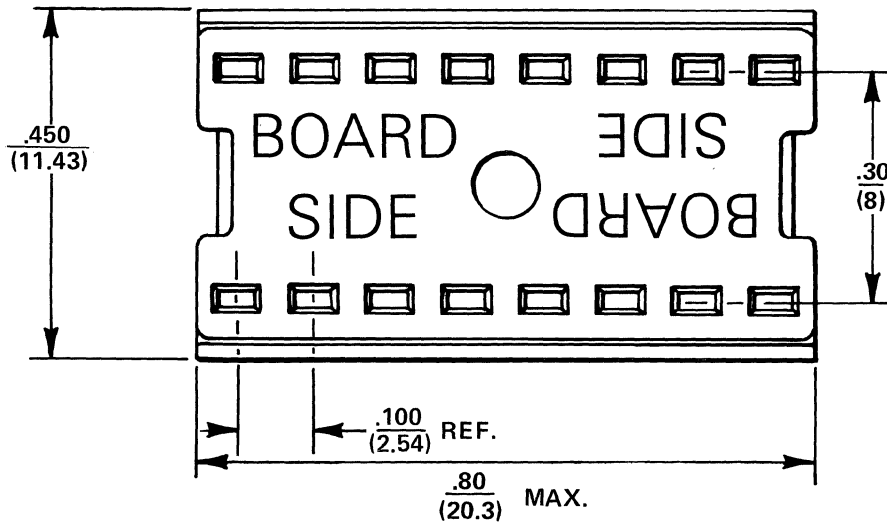
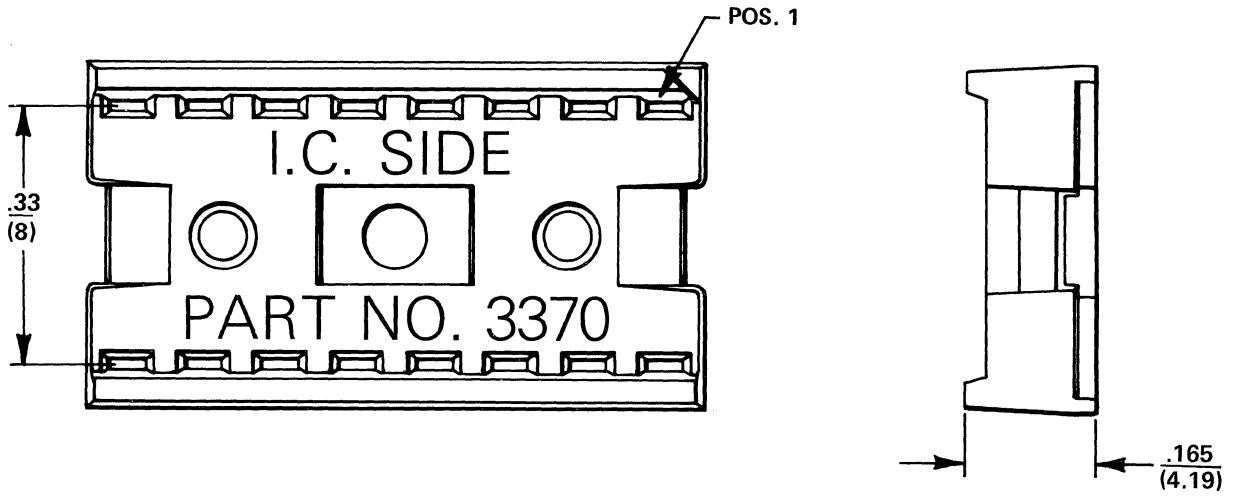
DR. *G.L. Olson*

APP. *RKR*

A

2043 A

3M PART NO. 3370



USED ON

JUNE 28, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
ANGULAR	±	°	'

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TITLE

BREADBOARD
SOCKET
SPECIFICATION

INCH
(mm)

SCALE /

DR. *G.L. Olson*

APP. *RKR*

A

2052

SCOTCHFLEX BREADBOARD DUAL SOCKET SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between integrated circuit packages on .100" (2.54 mm) x .300" (7.62 mm) centers and breadboard plug strips.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000020" (.508 μ m) min. tin

WIRE ACCOMMODATION 30 AWG solid

ELECTRICAL

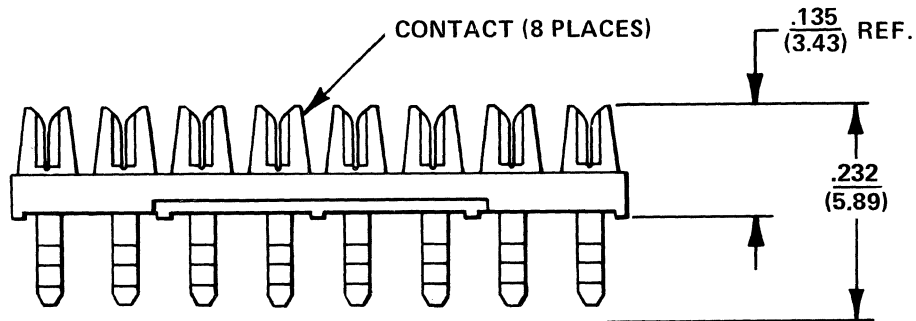
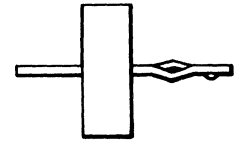
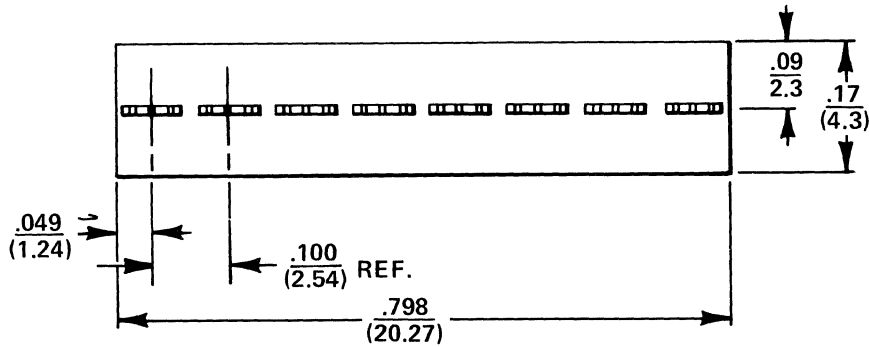
CURRENT RATING .5 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to +105°C)



USED ON

JUNE 28, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
	±	±	±
ANGULAR	±	°	'

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INCH
(mm)

SCALE /

ISSUE

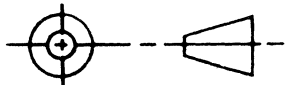
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

BREADBOARD
SOLDER STRIP
SPECIFICATION



ISO-METHOD A

DR.

APP.

A

2053

SCOTCHFLEX BREADBOARD SOLDER STRIP SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between discrete conductors on .100" (2.54 mm) centers or a breadboard socket connector and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.00020" (.508 μ m) min. tin

WIRE ACCOMMODATION 30 AWG solid

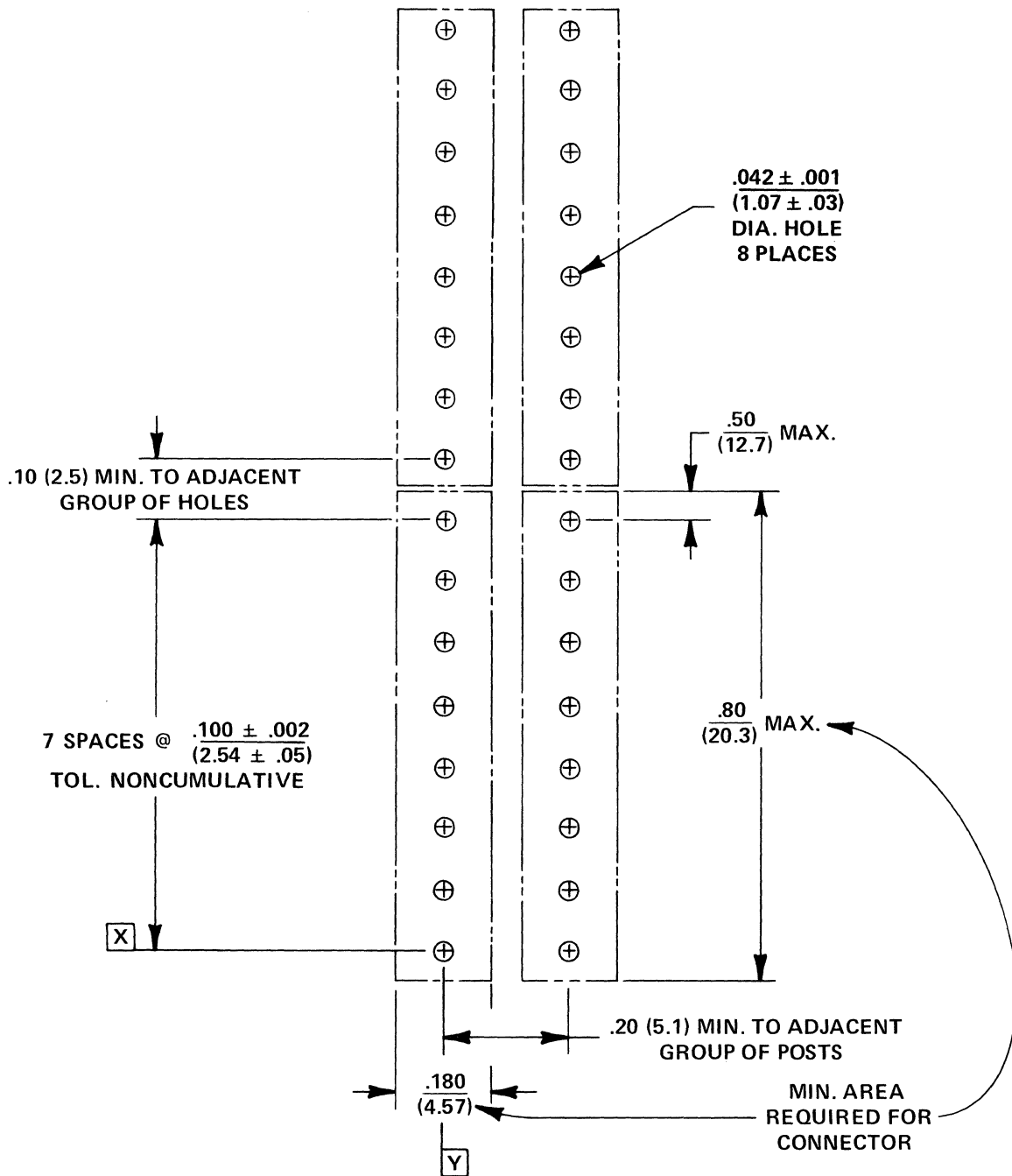
ELECTRICAL

CURRENT RATING .5 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL TEMPERATURE RATING -67°F to +221°F (-55°C to +105°C)



USED ON 3M PART NO. 3397-0800

JUNE 28, 1977

1

TOLERANCE UNLESS NOTED

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TITLE

PCB HOLE PATTERN
SPECIFICATION

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	± .05
ANGULAR	±	°	±

INCH
(mm)

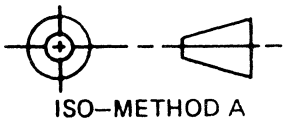
SCALE /

DR. *G.L. Olson*

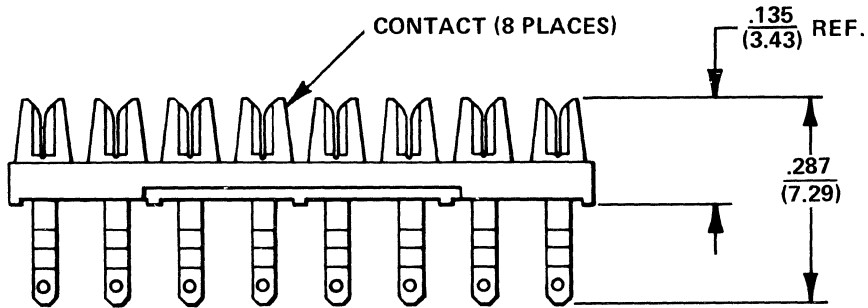
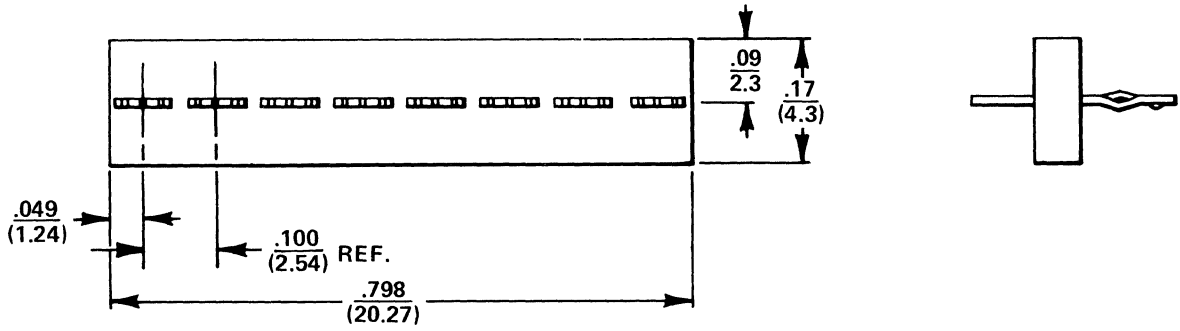
APP. *PKR*

A

2053 A



ISO-METHOD A



USED ON

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JANUARY 2, 1979

2

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ISSUE DATE AND CHANGE RECORD

REV.

CH.

BREADBOARD
PLUG STRIP
SPECIFICATION

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR.

APP.

A

2059

SCOTCHFLEX BREADBOARD PLUG STRIP SPECIFICATION

SCOPE: This specification details the requirements for a multiposition transition between discrete conductors on .100" (2.54 mm) centers or a breadboard socket connector and a printed circuit board.

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL Glass reinforced polyester
U.L. flammability rating 94V-0

COLOR Gray

CONTACT MATERIAL Beryllium Copper

CONTACT PLATING 0.000020 " (.508 μ m) min. tin

WIRE ACCOMMODATION 30 AWG solid

ELECTRICAL

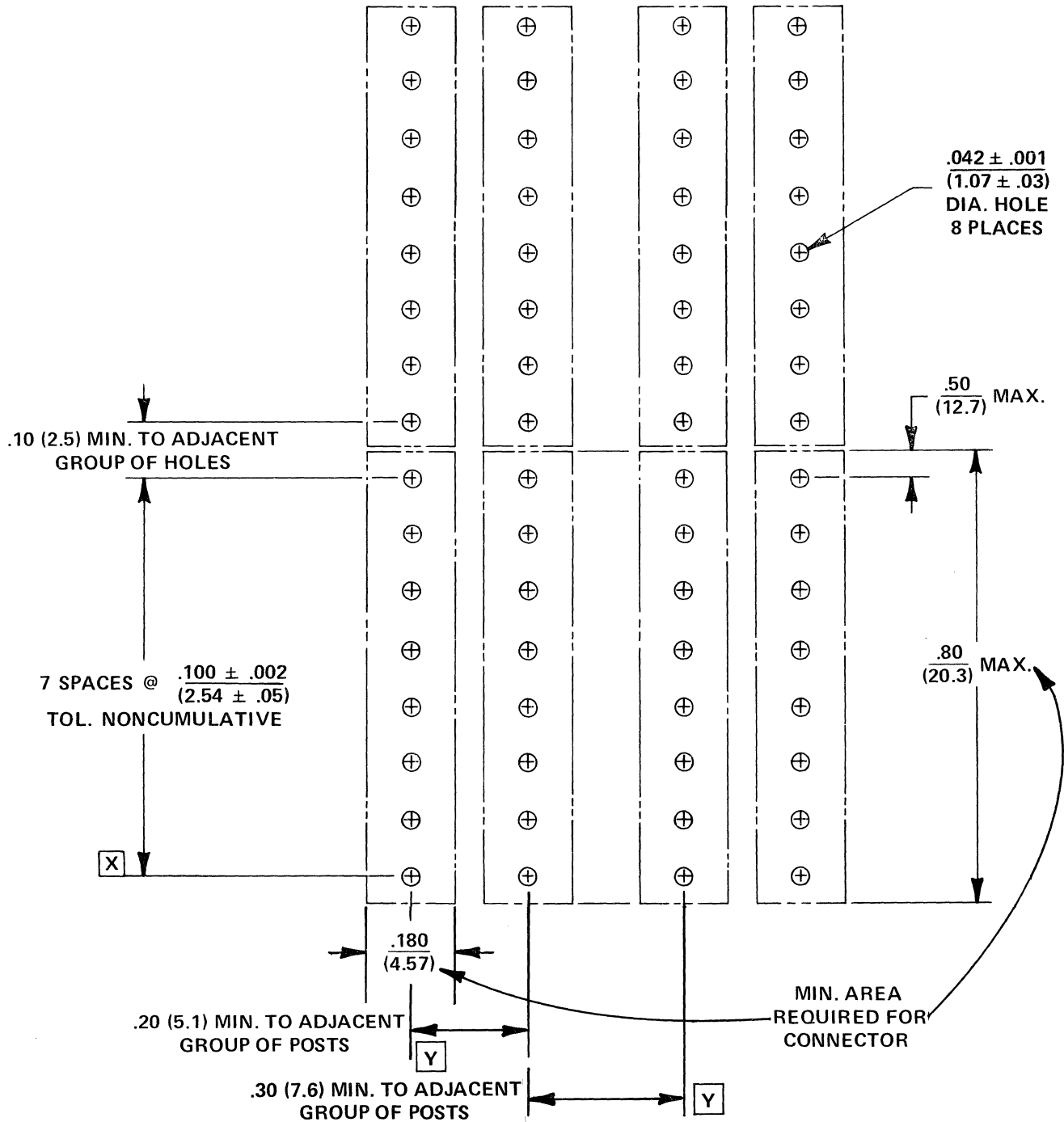
CURRENT RATING .5 A

INSULATION RESISTANCE $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING VOLTAGE 1000 V_{RMS}

ENVIRONMENTAL

TEMPERATURE RATING -67°F to +221°F (-55°C to +105°C)



USED ON

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JANUARY 2, 1979

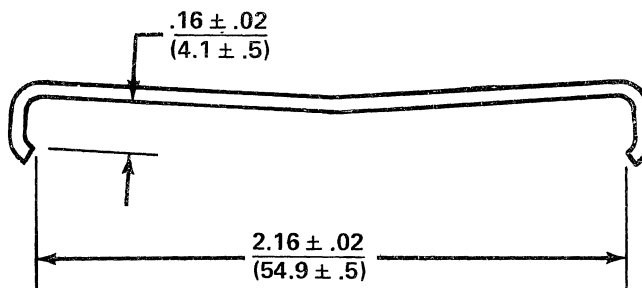
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ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.
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PCB HOLE PATTERN SPECIFICATION

TOLERANCE UNLESS NOTED				INCH (mm)	SCALE
	.0	.00	.000		
INCH	$\pm .1$	$\pm .01$	$\pm .005$	DR.	A
mm	$\pm .3$	$\pm .13$		APP.	

2059A



MATERIAL – NICKEL PLATED STEEL MUSIC WIRE
[.043 (1.09) DIA.]

USED ON 3M PART NO. 3441

JANUARY 18, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///
	±	±	±

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CH.

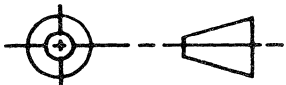
TITLE

STRAIN RELIEF SPECIFICATION

GULAR ± ° ' 1

INCH
(mm)

SCALE /



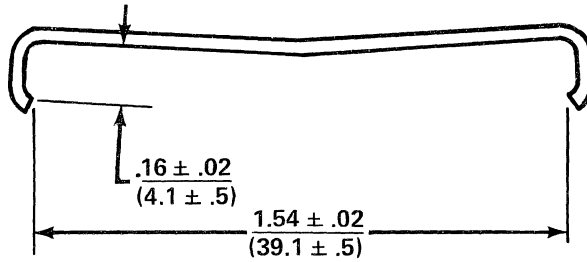
ISO-METHOD A

DR. *G.L. Olson*

APP. *BPA*

A

3000



MATERIAL – NICKEL PLATED STEEL MUSIC WIRE
 [.043 (1.09) DIA.]

USED ON

3M PART NO. 3450

JANUARY 18, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	
	±	±	±

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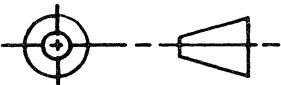
TITLE

STRAIN RELIEF SPECIFICATION

GULAR ± ° ' ,

INCH
 (mm)

SCALE /



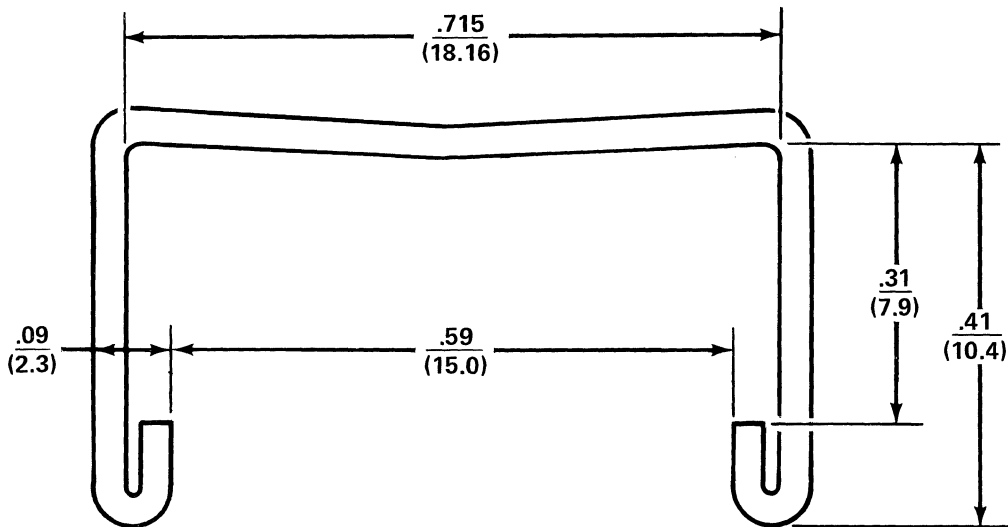
ISO-METHOD A

DR. *G. L. Olson*

APP. *BRH*

A

3001



MATERIAL – NICKEL PLATED STEEL MUSIC WIRE
 [.031 (.79) DIA.]

USED ON

3M PART NO. 3407

JANUARY 18, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
	±	±	±

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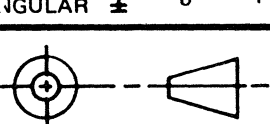
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

STRAIN RELIEF SPECIFICATION



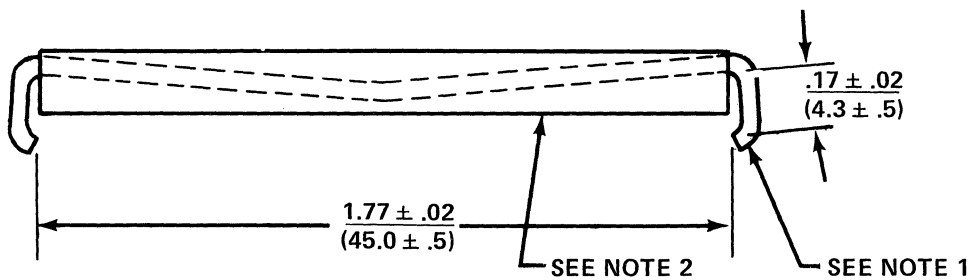
ISO-METHOD A

DR. *G.L. Olson*

APP. *[Signature]*

A

3002



NOTES:

- 1 MATERIAL – NICKEL PLATED STEEL MUSIC WIRE
[.043 (1.09) DIA.]
- 2 MATERIAL – GRAY EXTRUDED POLYVINYL
CHLORIDE

USED ON

3M PART NO. 3471

JANUARY 18, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	
	±	±	±

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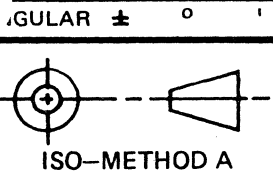
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

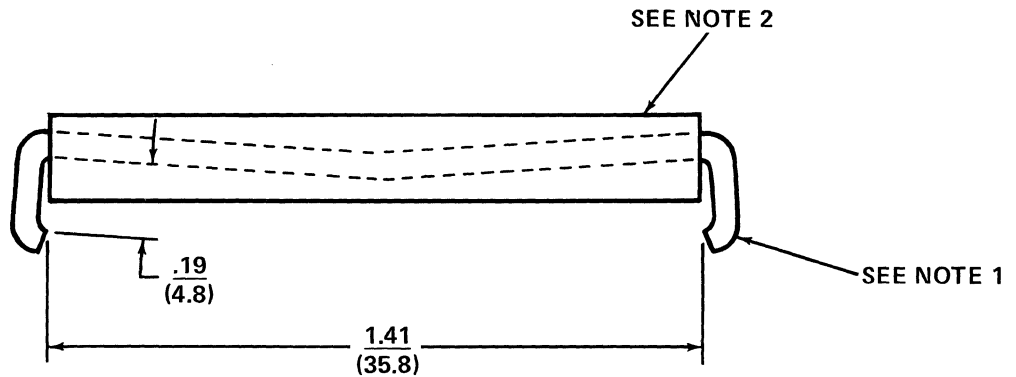
STRAIN RELIEF SPECIFICATION



DR. *G.L. Olson*
APP. *RKR*

A

3004



NOTES:

- 1 MATERIAL: NICKEL-PLATED STEEL MUSIC WIRE, 19 GA. [.043 (1.09) DIA.].
- 2 MATERIAL: GRAY EXTRUDED POLYVINYL CHLORIDE.

USED ON

3M PART NO. 3482-1000
3483-1000

FEBRUARY 8, 1977

2

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .02	± .005
mm	± .5	± .13	
	±	±	±

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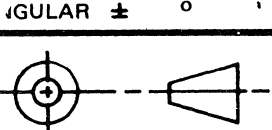
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

STRAIN RELIEF SPECIFICATION



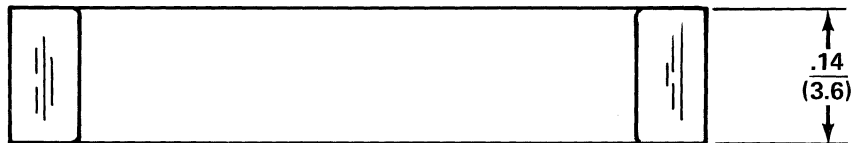
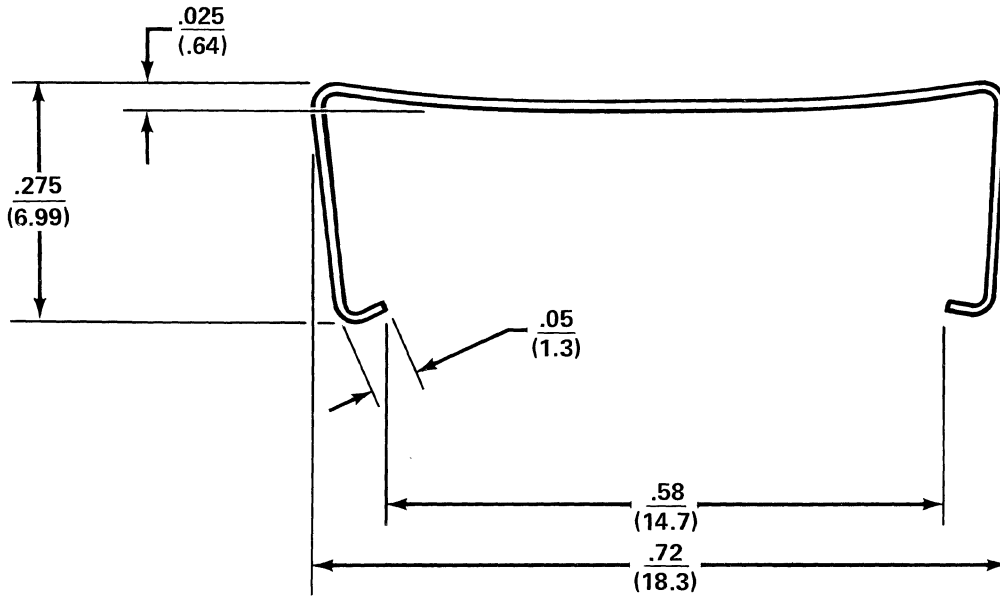
ISO-METHOD A

DR.

APP.

A

3005



NOTE: MATERIAL – GRAY EPOXY COATED STEEL
[.010 (.25) THK.]

USED ON

3M PART NO. 3406

JANUARY 18, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	
	±	±	±

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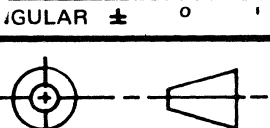
ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

STRAIN RELIEF SPECIFICATION



ISO-METHOD A

INCH
(mm)

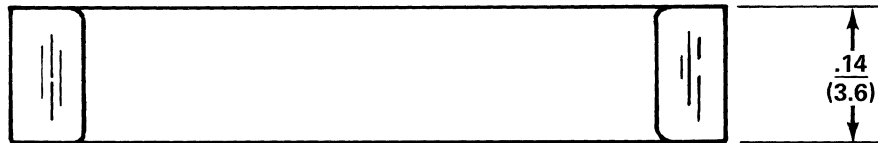
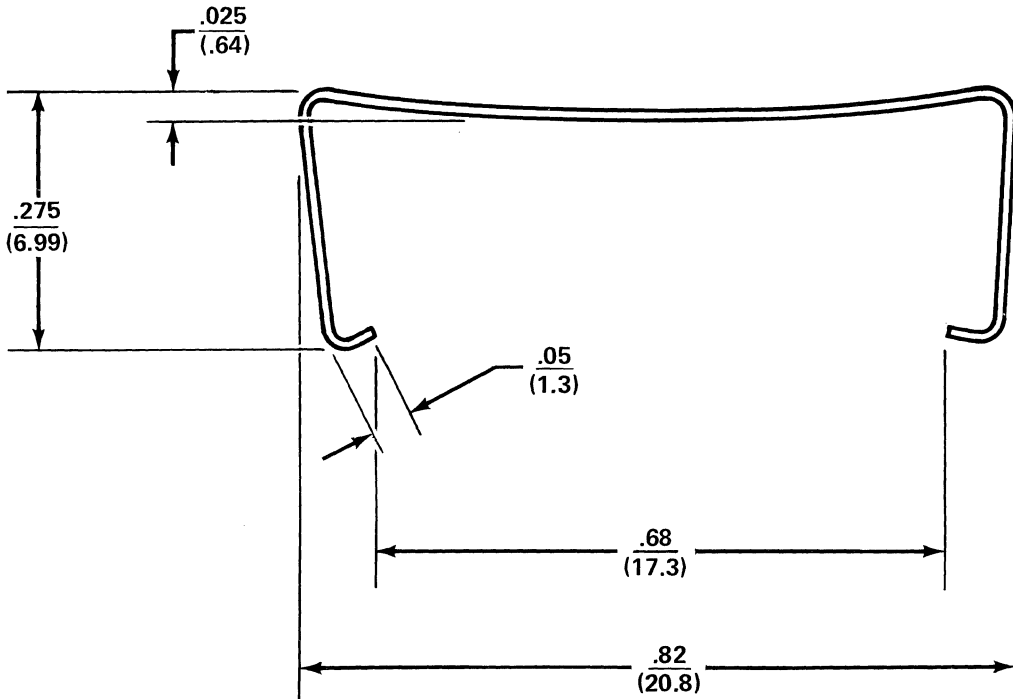
SCALE /

DR. *G.L. Olson*

APP. *AWD*

A

3006



NOTE: MATERIAL – RED EPOXY COATED STEEL
[.010 (.25) THK.]

USED ON

3M PART NO. 3327, 3416, 3498

JANUARY 18, 1977

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	$\pm .1$	$\pm .01$	$\pm .005$
mm	$\pm .3$	$\pm .13$	$\pm .05$
ANGULAR	\pm	0	1

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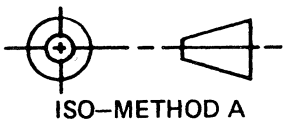
ISSUE DATE AND CHANGE RECORD

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TITLE

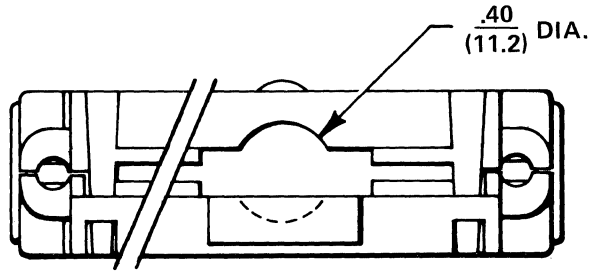
STRAIN RELIEF SPECIFICATION



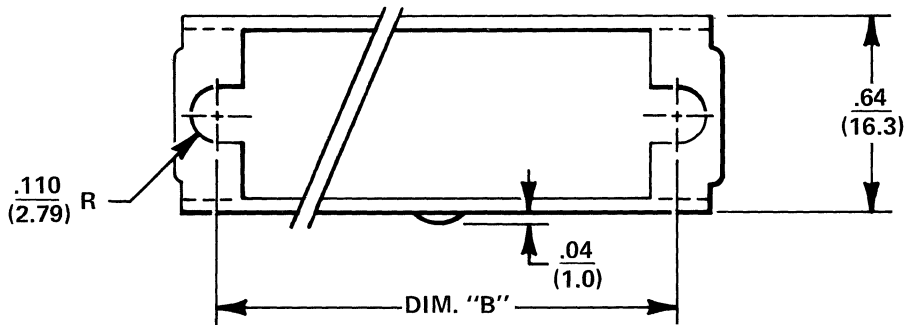
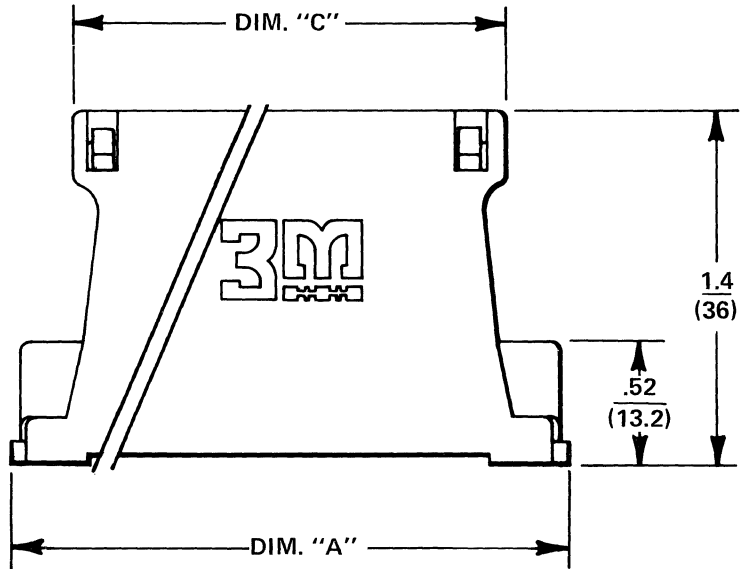
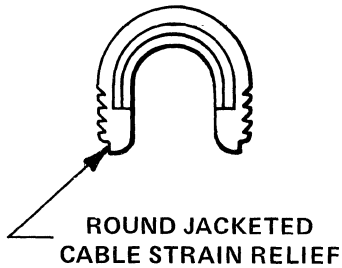
DR. *G.L. Olson*
APP. *ADD*

A

3007



3M PART NUMBER	USED ON	DIM. "A"	DIM. "B"	DIM. "C"
3485-1000	3482-1000 3483-1000	2.20 (55.9)	1.85 (47.0)	1.72 (43.7)
3485-4000	3502-1000 3503-1000	2.84 (72.1)	2.50 (63.5)	2.40 (61.0)



NOTE: MATERIAL: GRAY POLYPROPYLENE
(U.L. FLAMMABILITY RATING 94V-0)

USED ON

JANUARY 18, 1977

2

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	±.05
ANGULAR	±	°	'

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TITLE

JUNCTION SHELL SPECIFICATION

INCH
(mm)

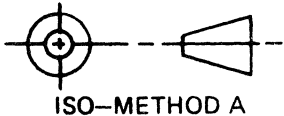
SCALE /

DR. *G.L. Olson*

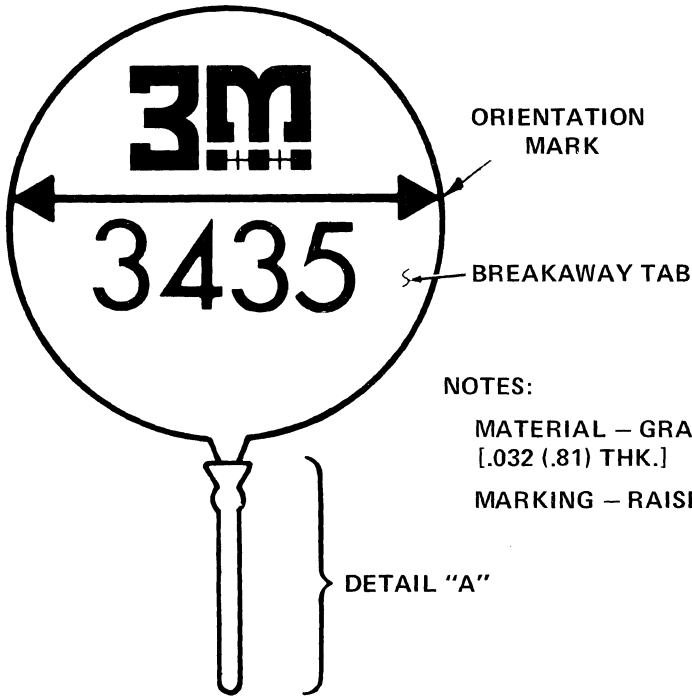
APP. *AAA*

A

3008



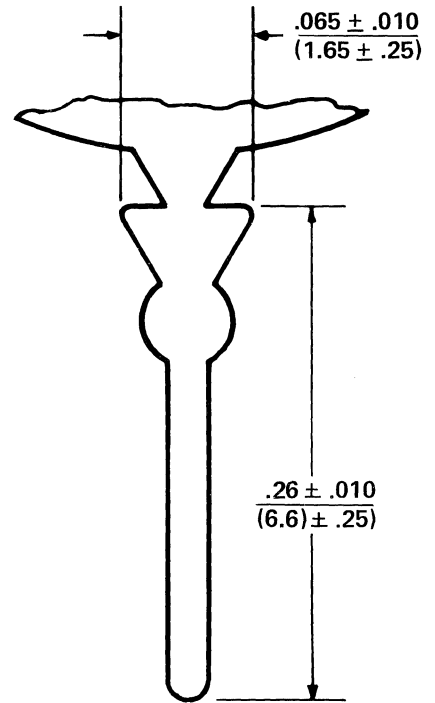
3M PART NO. 3435
 USED WITH 3M PART NOS: 3399, 3407, 3414,
 3417, 3421, 3424, 3425, 3471, 3327, 3473, 3385, 3452, 3334



NOTES:

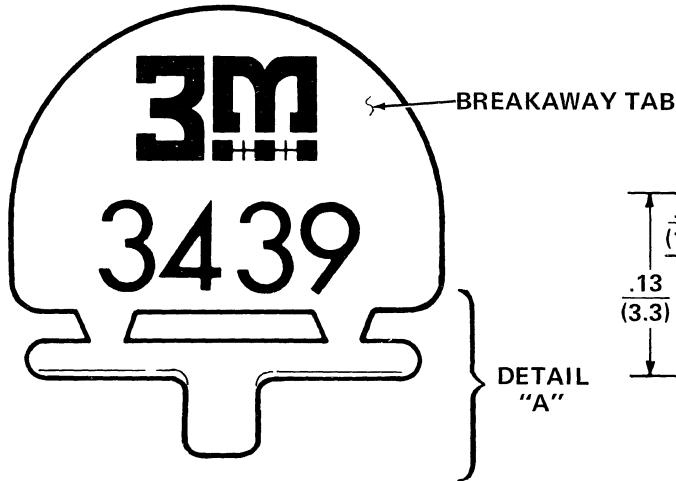
MATERIAL – GRAY POLYESTER
 [.032 (.81) THK.]

MARKING – RAISED FIGURES



DETAIL "A"

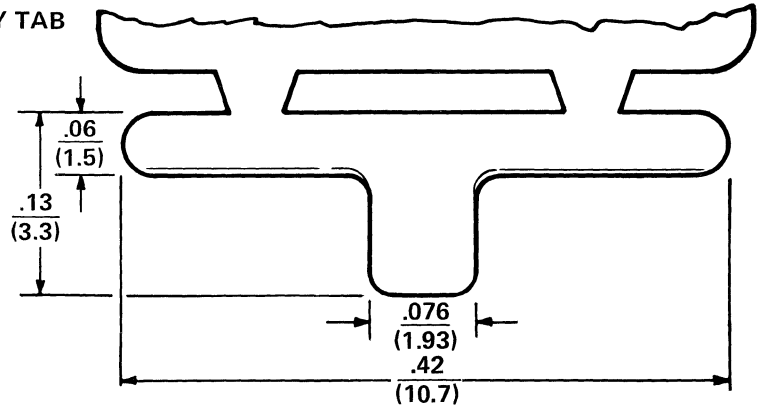
3M PART NO. 3439
 USED WITH 3M PART NOS: 3461, 3462,
 3463, 3464



NOTES:

MATERIAL – GRAY POLYESTER
 [.027 (.69) THK.]

MARKING – RAISED FIGURES



DETAIL "A"

USED ON

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Electronic
 Products
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OCTOBER 4, 1979

6

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

POLARIZING KEY SPECIFICATION

TOLERANCE UNLESS NOTED

INCH
 (mm)

SCALE

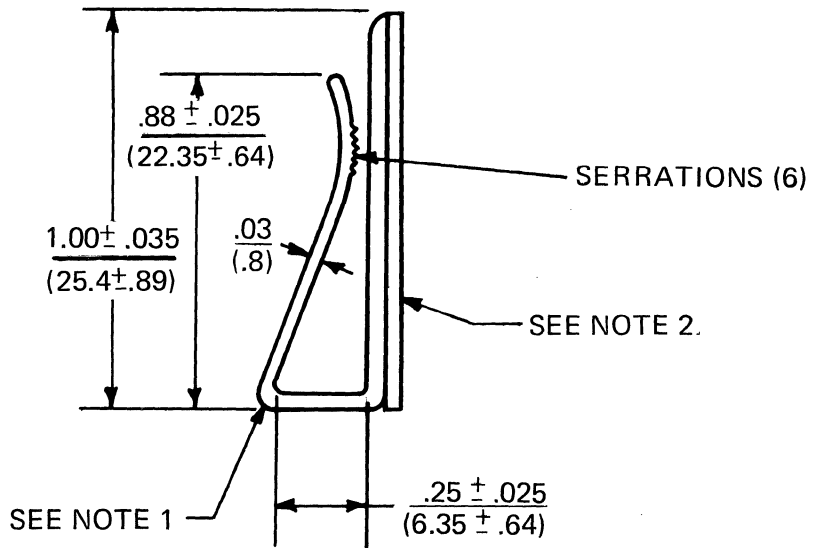
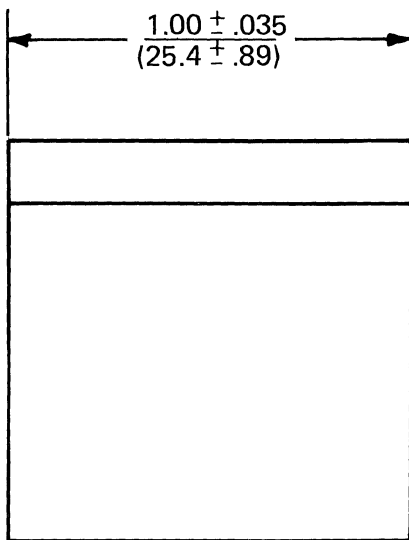
	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR. GARY L. OLSON

APP. JOHN C. KOSTECKI

A

3009



- NOTES: 1. MATERIAL – GRAY POLYVINYL CHLORIDE (.06 THK.)
2. MATERIAL – URETHANE FOAM TAPE (1/32" THK.)

USED ON

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///
ANGULAR	±	°	'

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ELECTRONIC PRODUCTS DIVISION

St. Paul
Minnesota

INCH
(mm)

SCALE /

DR. *G. L. Olson*

APP. *Q. A. A.*

A

JANUARY 18, 1977

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

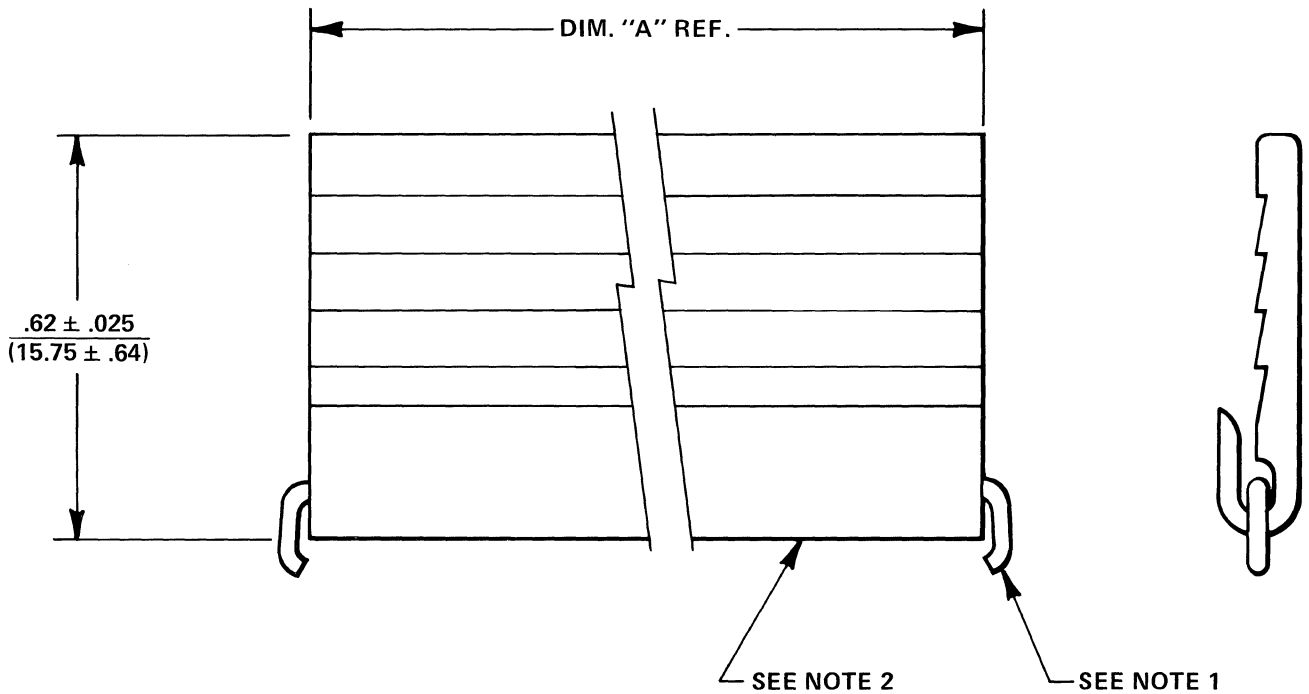
CH.

TITLE

CABLE RETAINER SPECIFICATION

3010

3M Part Number	Used On	DIM. "A"	3M Part Number	Used On	DIM. "A"
3448-9	3324	2.25 (57.2)	3448-27	3575	1.10 (27.9)
3448-10	3325	.75 (19.1)	3448-28	3501	1.40 (35.6)
3448-11	3326	1.25 (31.8)	3448-29	3310	1.80 (45.7)
3448-12	3328	1.53 (39.4)	3448-30	3318	2.10 (53.3)
3448-13	3329	1.95 (49.5)			
3448-14	3331	2.75 (69.9)			
3448-16	3332	3.26 (82.8)			
3448-17	3307	2.57 (65.3)			



NOTES:

- 1 MATERIAL: NICKEL PLATED STEEL MUSIC WIRE
[.043 (1.09) DIA.]
- 2 MATERIAL: GRAY EXTRUDED POLYVINYL CHLORIDE

USED ON

SEPTEMBER 10, 1979

4

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Products
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ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

STRAIN RELIEF SPECIFICATION

3M PART NOS. 3448-9, 3448-10, 3448-11; 3448-12, 3448-13, 3448-14, 3448-16, 3448-17, 3448-27, 3448-28, 3448-29, 3448-30

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

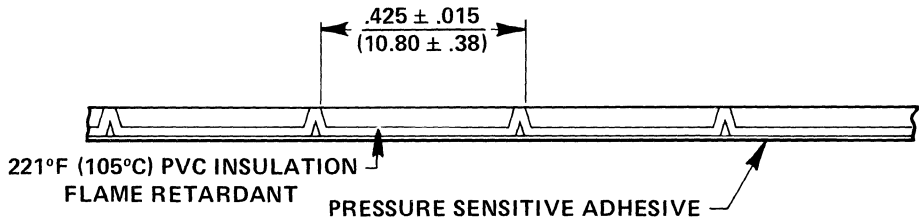
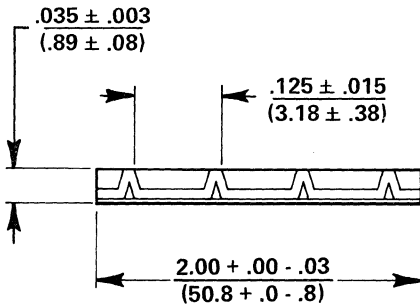
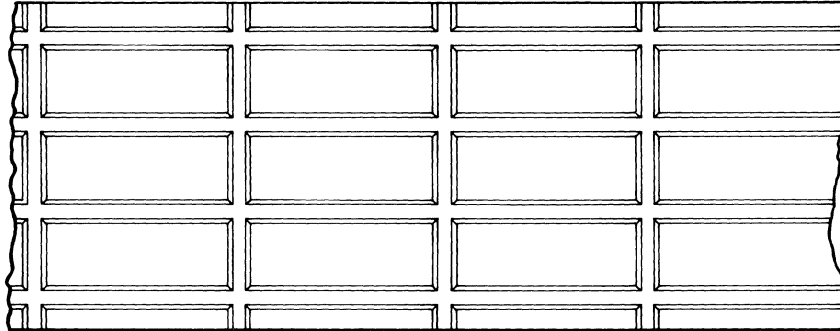
	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR. *GARY H. OLSON*

APP. *JOHN C. KOSTECKI*

A

3011



USED ON

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Electronic Products Division



JULY 10, 1979

3

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

DIELECTRIC CABLE SPACER
SPECIFICATION
3M PART NO. 3352-0200

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///

DR.

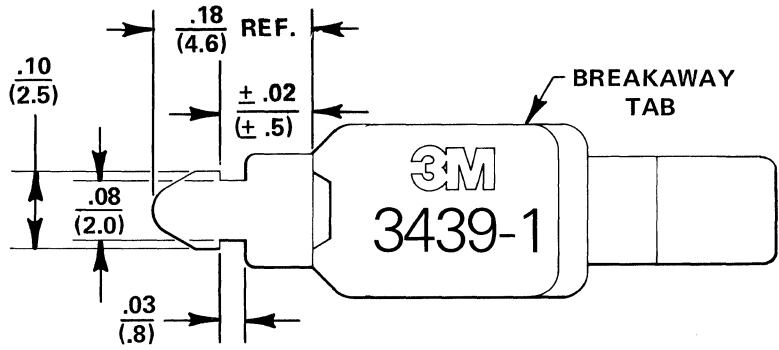
APP.

SAS
R&M

A

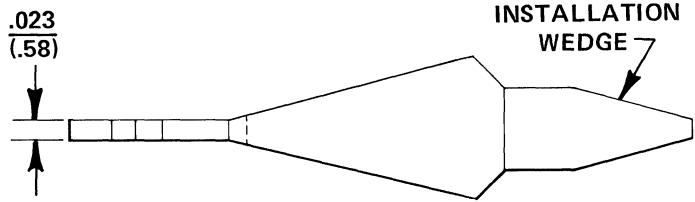
3012

3M PART NO. 3439-1

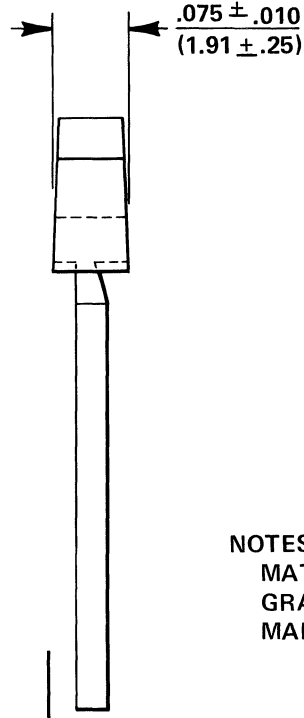
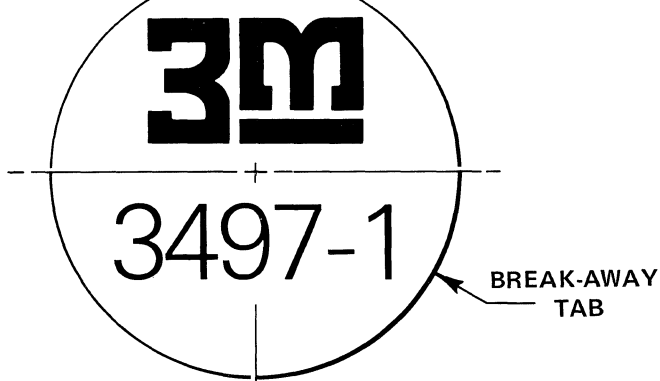
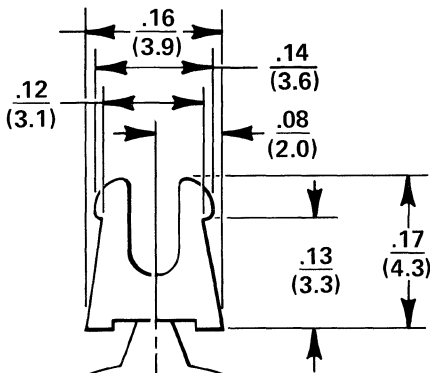


NOTES:

- MATERIAL – GLASS-FILLED GRAY POLYESTER
- MARKING – RAISED FIGURES



USED ON 3M PART NO. 3415



3M PART NO. 3497-1

NOTES:

- MATERIAL – GLASS-FILLED GRAY POLYESTER
- MARKING – RAISED FIGURES

USED ON 3M PART NO. 3307

SEPTEMBER 10, 1979

3

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Electronic Products Division



ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

POLARIZING KEY SPECIFICATION
3M PART NO. 3439-1 AND 3497-1

TOLERANCE UNLESS NOTED

INCH (mm)

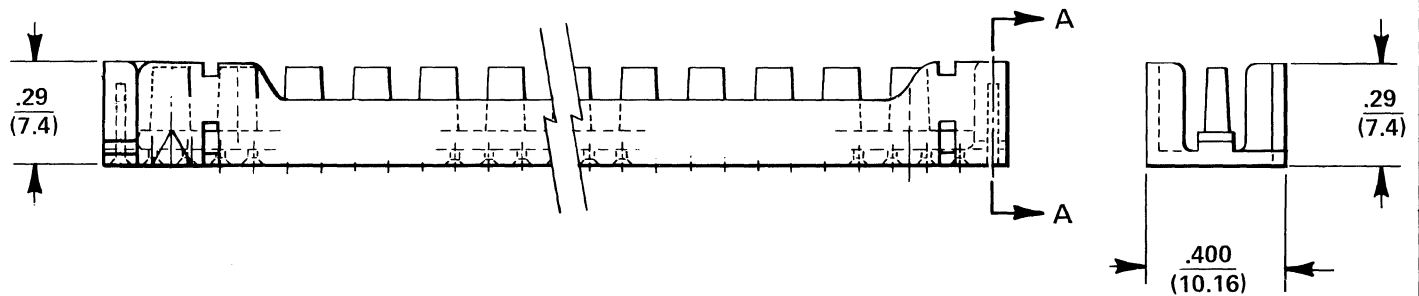
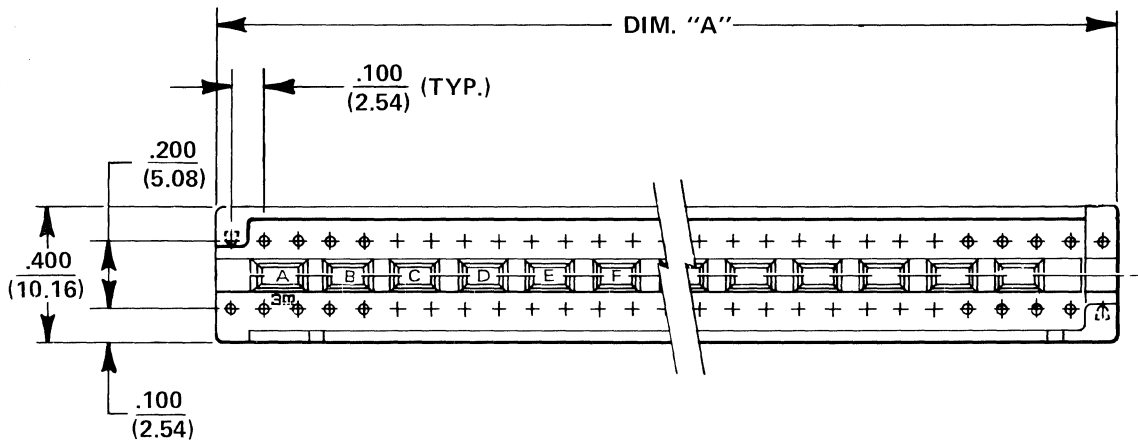
SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///

DR *Gary H. Olson*

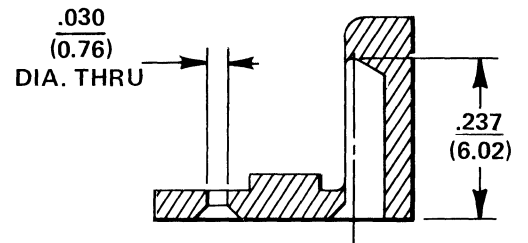
A

3015



MATERIAL: GLASS REINFORCED GRAY POLYESTER
 U.L. FLAMMABILITY RATING 94V-0.

Number Quantity	3M Part Number	DIM. "A"
20	3670	1.18 (29.9)
26	3556	1.48 (37.6)
34	3321	1.88 (47.7)
40	3396	2.18 (55.4)
50	3404	2.68 (68.1)



SECT. A-A

USED ON

SEPTEMBER 10, 1979

3

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Electronic Products Division

3M

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

KEYING HEADER SPECIFICATION

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

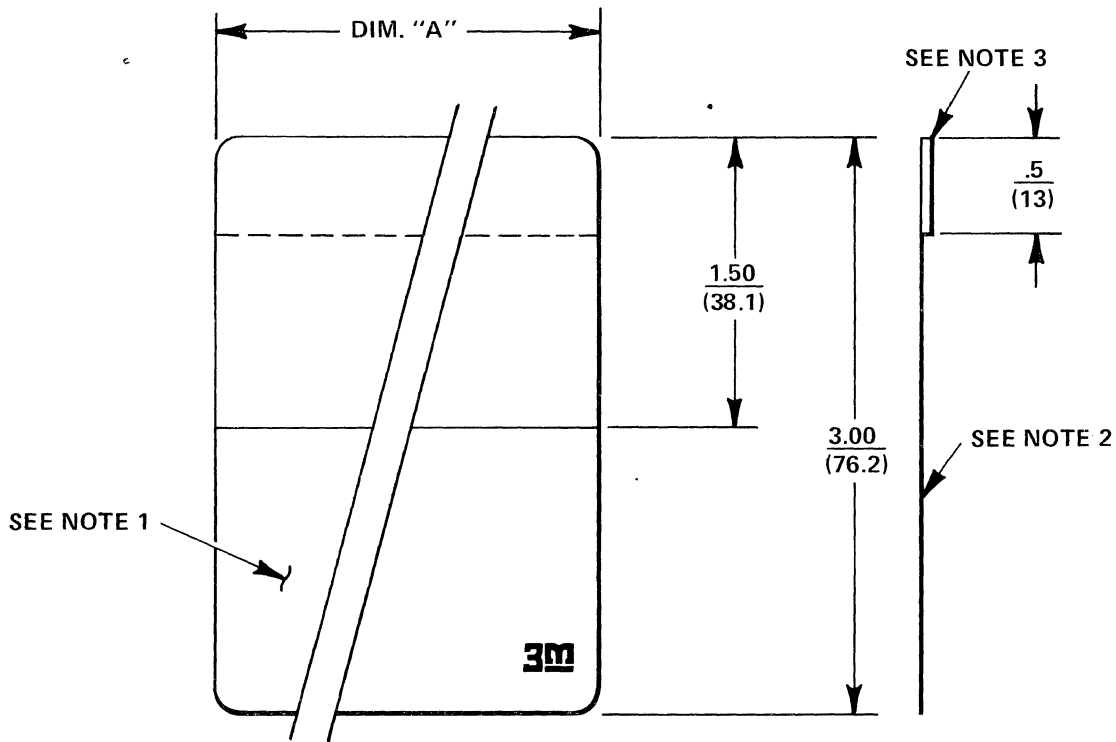
	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

DR. *GARY L. OLSON*

APP. *JOHN C. KOSTECKI*

A

3016



3M Part Number	Used On	DIM. "A" ± .020 (.51)
3490-1	3473, 3407, 3327, 3406, 3416, 3385, 3452	.50 (12.7)
3490-2	3399, 3421, 3460	1.00 (25.4)
3490-3	3471, 3414, 3450	1.50 (38.1)
3490-4	3417, 3441, 3488, 3489	2.00 (50.8)
3490-5	3425, 3334, 3331	2.50 (63.5)
3490-6	3332, 3322	3.25 (82.6)

NOTES:

- 1 ALL INKING TO BE ON MATTE SURFACE OF MATERIAL.
- 2 MATERIAL: .003 (.08) THICK PLASTIC FILM, MATTE FINISH ONE SIDE.
FLAMMABILITY: UL 94VTF-0
- 3 MATERIAL: DOUBLE COATED TAPE.

USED ON

OCTOBER 4, 1979

4

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Electronic
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3M

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

PULL TAB SPECIFICATION
3M PART NO. 3490

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	///

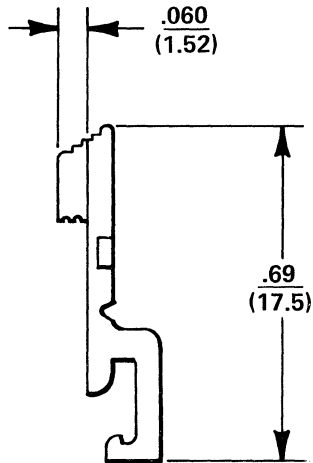
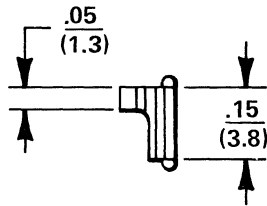
DR. Gary h. Olson

APP. 3/24

A

3018

3M PART NO. 3505-1



NOTES: MATERIAL - GRAY NYLON

USED ON 3M PART NO. 3466

JANUARY 18, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	$\pm .1$	$\pm .01$	$\pm .005$
mm	$\pm .3$	$\pm .13$	
ANGULAR	\pm	\circ	'

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ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

HEADER CLIP SPECIFICATION

INCH
(mm)

SCALE /

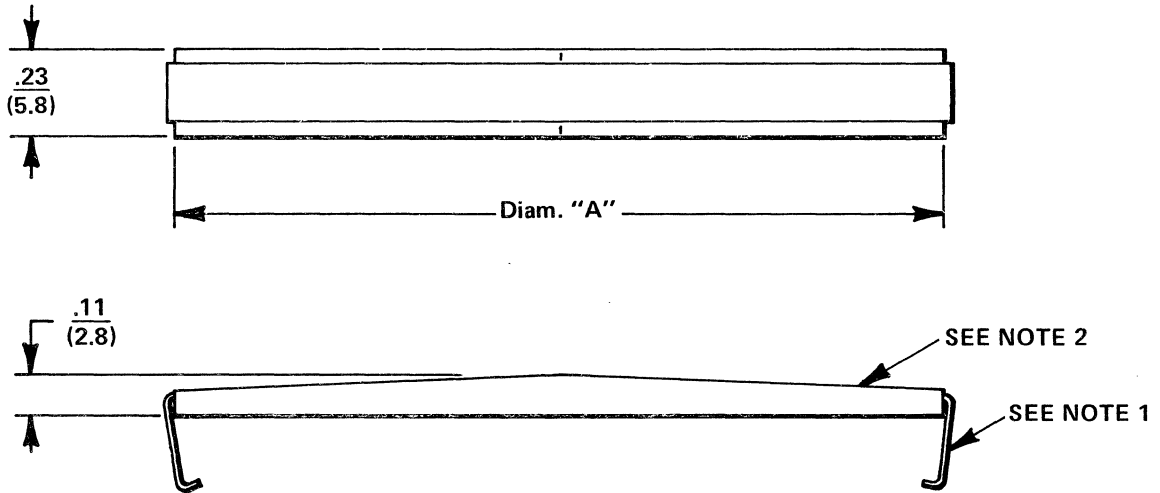
DR. *G.L. Olson*

APP. *[Signature]*

A

3019

	DIM A
3448-18	$\frac{2.00}{(50.8)}$
3448-25	$\frac{1.21}{(1.02)}$



NOTES: 1. STAINLESS STEEL .015 THK.
2. GRAY GLASS FILLED POLYESTER

USED ON

OCTOBER 27, 1978

2

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ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

STRAIN RELIEF
SPECIFICATION
3M PART NO. 3448

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

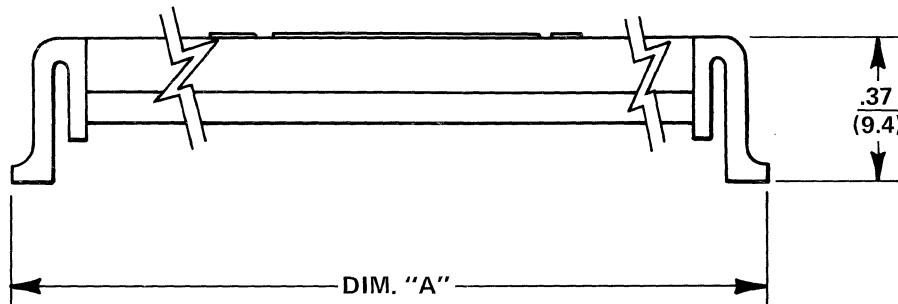
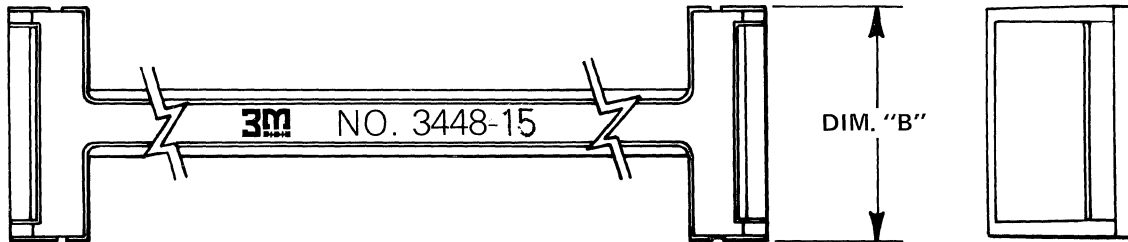
	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

DR. *B.L. Olson*

A

3021

APP.



NOTES
MATERIAL: GRAY POLYCARBONATE

3M Part Number	DIM. "A"	DIM. "B"	USED ON
3448-15	$\frac{2.59}{(65.8)}$	$\frac{.60}{(15.2)}$	3M Part Number 3488-1001, 3488-1002, 3489-1001
3448-20	$\frac{2.97}{(75.5)}$	$\frac{.54}{(13.7)}$	3M Part Number 3415-0002

USED ON 3488-1001, 3488-1002, 3489-1001

MAY 15, 1979

3

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	$\pm .1$	$\pm .01$	$\pm .005$
mm	$\pm .3$	$\pm .13$	$\pm .05$
ANGULAR	\pm	\pm	\pm

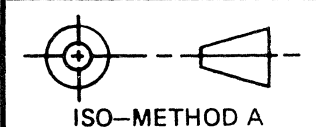
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Electronic Products Division



ISSUE ISSUE DATE AND CHANGE RECORD REV. CH.

TITLE
STRAIN RELIEF SPECIFICATION
3M PART NOS. 3448-15, 3448-20



INCH (mm)

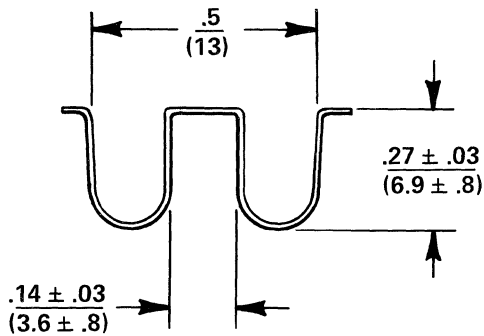
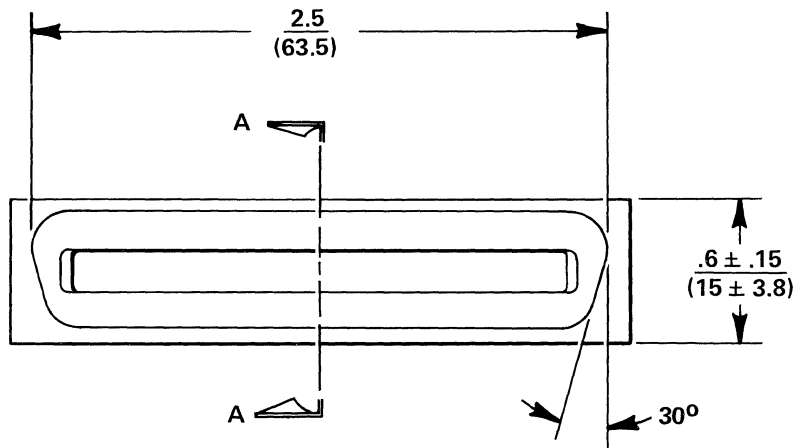
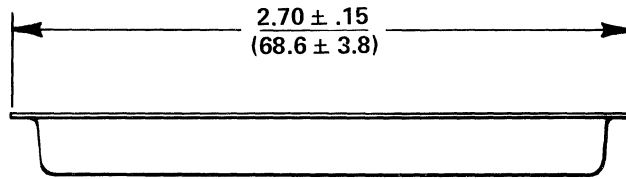
SCALE /

DR. *G.L. Olson*
APP. *348*

A

3022

3M PART NO. 3412



SECT. AA

MATERIAL: CLEAR VINYL

USED ON

3M PART NO. 3488, 3489

FEBRUARY 8, 1977

1

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	
ANGULAR	±	0	'

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ELECTRONIC PRODUCTS

St. Paul
Minnesota

ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

TITLE

DUST COVER
SPECIFICATION

INCH
(mm)

SCALE /

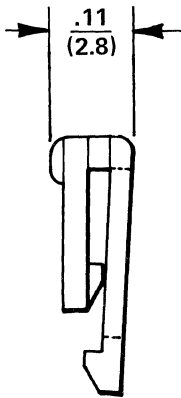
DR. *G. L. Olson*

APP. *GOB*

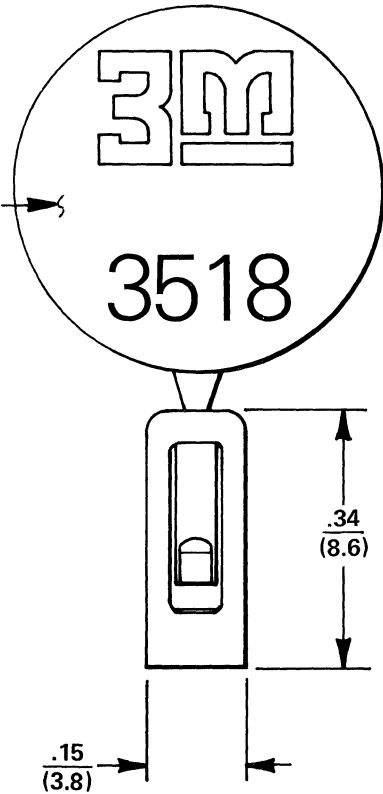
A

3023

3M PART NO. 3518



BREAKAWAY TAB



MATERIAL: GRAY NYLON

USED ON

3M PART NO. 3372,3408,3428,3429,
3431,3432,3433,3446,3322,3324,3325,
3326,3328,3329,3331

OCTOBER 4, 1979

2

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ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

HEADER KEY
SPECIFICATION
3M PART NO. 3518

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

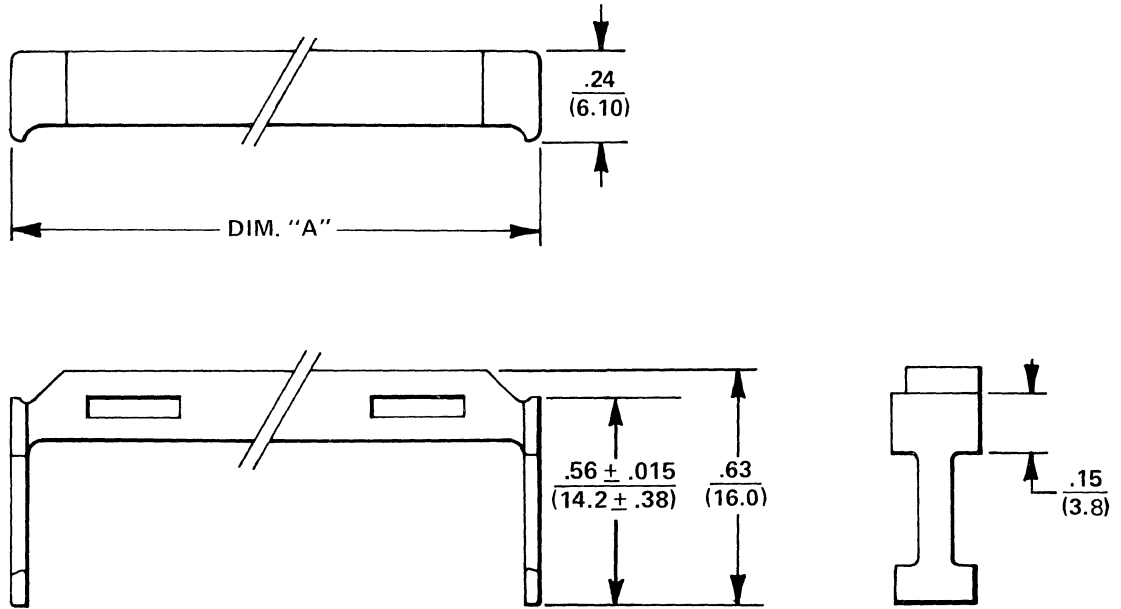
	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///

DR. *GARY L. OLSON*

APP. *B.P.D.*

A

3024



3M Part Number	Used On	DIM. "A"
3448-3010	3473	.68 (17.3)
3448-3014	3385	.88 (22.4)
3448-3016	3452	.98 (24.9)
3448-3020	3421	1.18 (30.0)
3448-3026	3399	1.48 (37.6)
3448-3034	3414	1.88 (47.8)
3448-3040	3417	2.18 (55.4)
3448-3050	3425	2.68 (68.1)
3448-3060	3334	3.18 (80.8)

NOTES:
1 MATERIAL: GRAY POLYESTER. FLAMMABILITY RATING, UL 94 VO

USED ON

DECEMBER 18, 1978

3

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ISSUE

ISSUE DATE AND CHANGE RECORD

REV.

CH.

STRAIN RELIEF SPECIFICATION

TOLERANCE UNLESS NOTED

INCH (mm)

SCALE

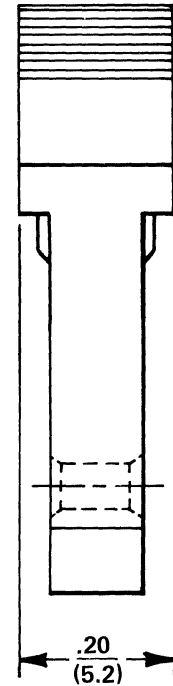
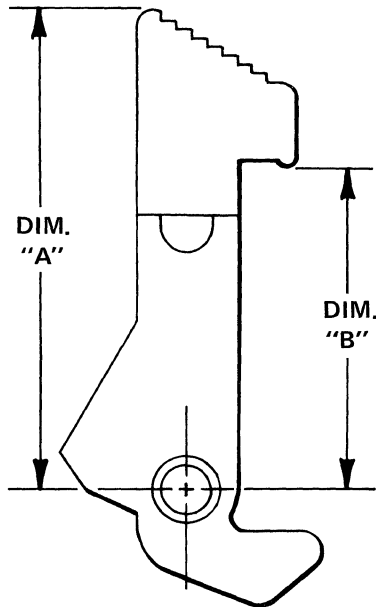
	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

DR.

APP.

A

3025



NOTES:

- 1 MATERIAL: GRAY THERMOPLASTIC, U.L. FLAMMABILITY RATING 94V-0
- 2 MOUNTING PIN: STAINLESS STEEL 1/16" DIA. X 1/4" LONG

Retains Sockets	3M Part Number	DIM. "A"	DIM. "B"
Without Strain Relief	3505-2	.62 (15.7)	.37 (9.4)
With Strain Relief	3505-3	.72 (18.3)	.52 (13.2)

USED ON

3M PART NUMBER
3372, 3408, 3428, 3429,
3431, 3432, 3433, 3446

AUGUST 4, 1977

2

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	±.05
ANGULAR	±	°	'

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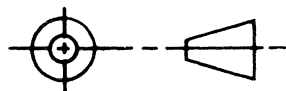
CH.

TITLE

RETAINER CLIP SPECIFICATION

INCH (mm)

SCALE /

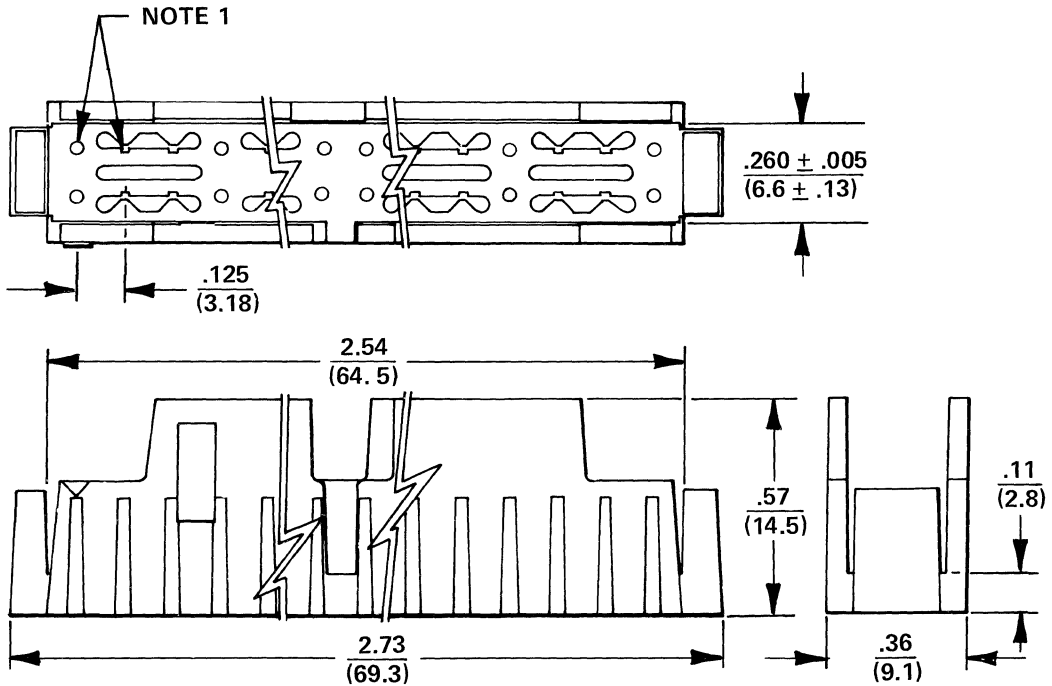


DR. *G. L. Olson*

APP.

A

3026



MATERIAL: GRAY POLYCARBONATE
U.L. FLAMMABILITY RATING 94 V-1

NOTE:

1. ACCEPTS $.025 \pm .001$
(0.64 ± 0.03) SQUARE POST

USED ON : 3M PART NO. 3525

APRIL 1, 1979

1

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KEYING HEADER
SPECIFICATION
3M PART NO. 3526-0000

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

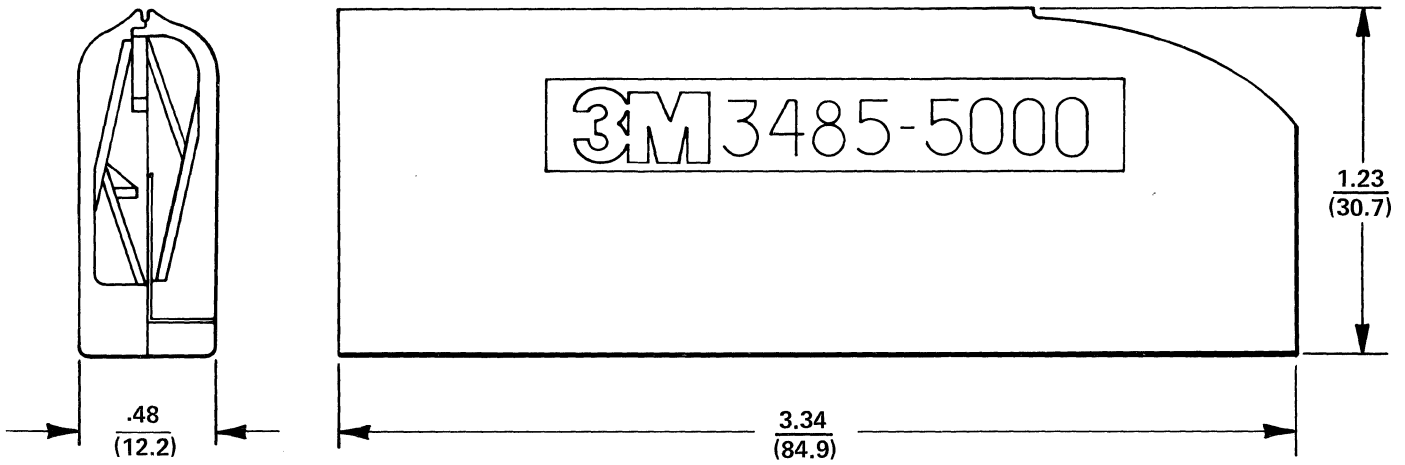
DR.

APP.

Gary L. Johnson
John C. Kostecki

A

3027



- NOTE: 1. MATERIAL—GRAY POLYPROPYLENE
FLAMMABILITY RATING UL 94V-0
2. TOTAL ASSEMBLED HEIGHT WITH
3M PART NO. 3525-1000 IS 1.54 (60.24)

USED ON: 3525-1000

APRIL 1, 1979

1

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JUNCTION SHELL
SPECIFICATION
3M PART NO. 3485-5000

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

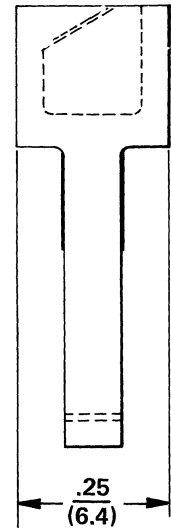
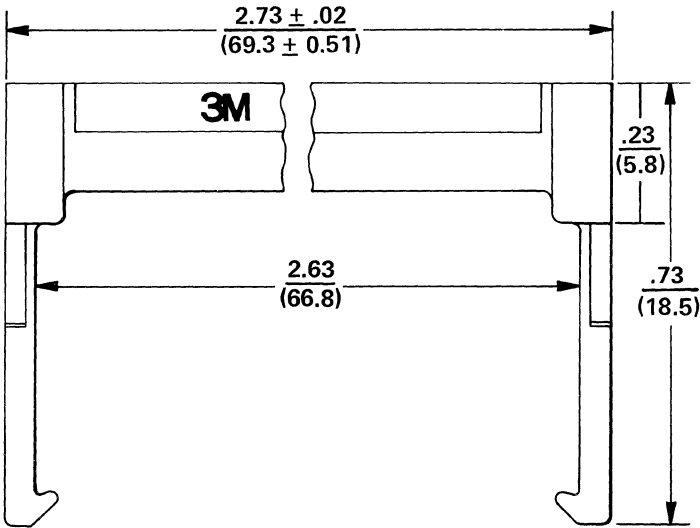
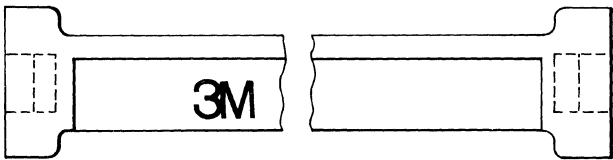
DR. *Garth O'Leary*

APP. *John C. Kostecki*

A

3028

3M PART NO. 3448-22



MATERIAL: GRAY GLASS REINFORCED POLYESTER
U.L. FLAMMABILITY RATING 94V-0

USED ON 3M PART NO. 3525-0000

APRIL 1, 1979

1

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STRAIN RELIEF
SPECIFICATION
3M PART NO. 3448-22

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	///

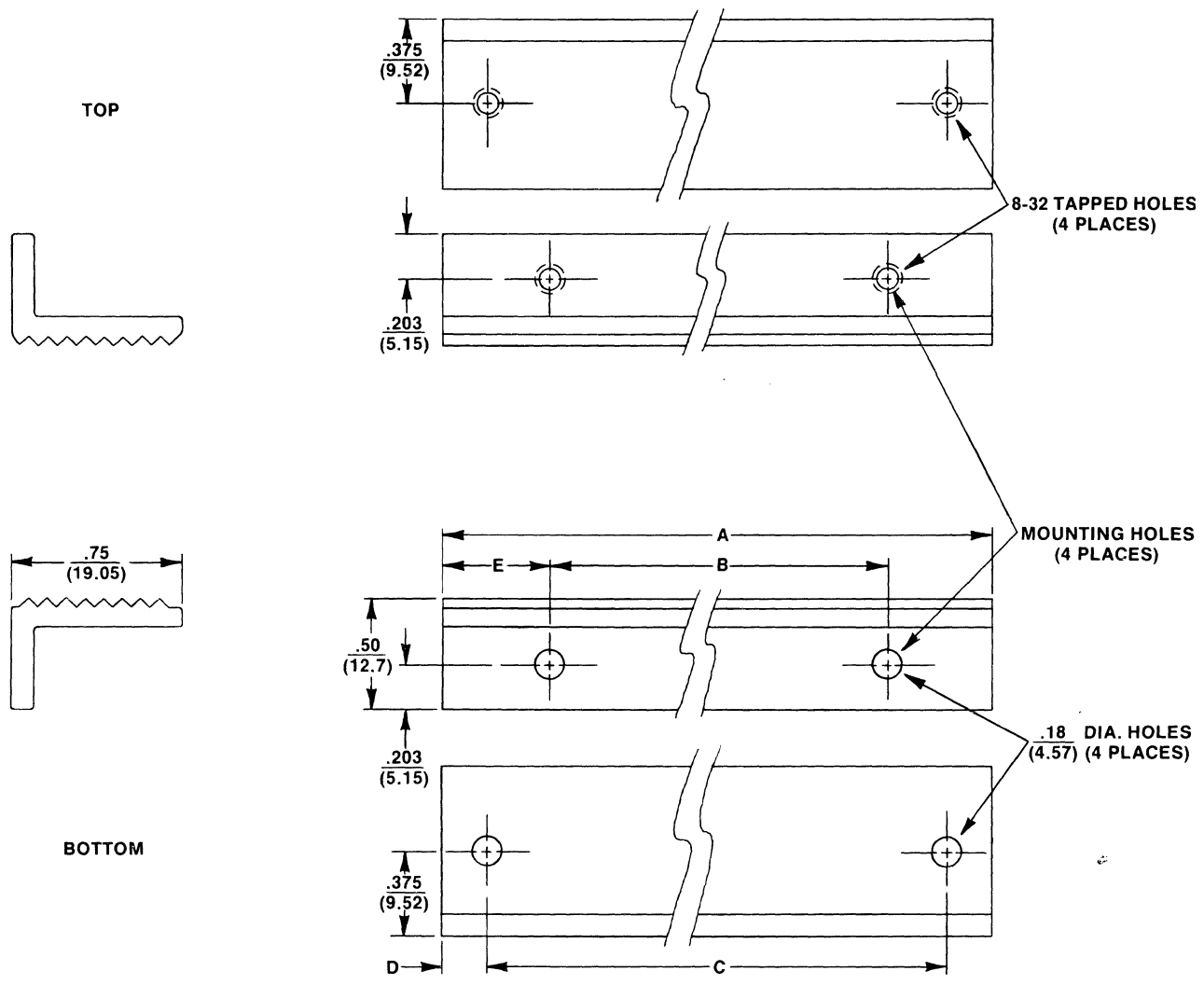
DR.

APP.

Garth O. Olson
John C. Kostecki

A

3029



	DIM A	DIM B	DIM C	DIM D	DIM E
3504-1	2.44 (61.9)	1.50 (38.1)	2.04 (51.8)	.20 (5.0)	.475 (12.0)
3504-2	3.50 (88.9)	2.50 (63.5)	3.10 (78.7)	.20 (5.0)	.500 (12.7)
3504-3	4.25 (107.9)	3.25 (82.5)	3.87 (98.2)	.19 (4.8)	.500 (12.7)

- NOTES:**
1. Mat'l: Aluminum
 2. Plating Per MIL-C-5541-B Class 3 Clear.

USED ON

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	Sept. 17, 1979	1	
ISSUE	ISSUE DATE AND CHANGE RECORD	REV.	CH.

CLAMP SPECIFICATION
3M PART NO. 3504

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	± .1	± .01	± .005
mm	± .3	± .13	

INCH (mm)

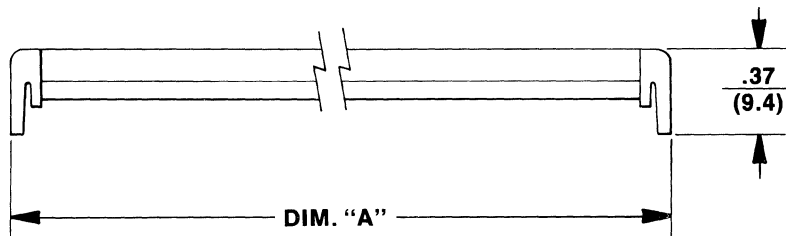
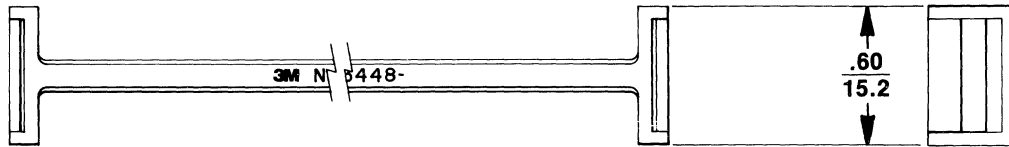
SCALE \times

DR. *SAS*

APP. *[Signature]*

A

3031



3M PART NUMBER	DIM. "A"
3448-32	$\frac{1.33}{(33.78)}$
3448-24	$\frac{1.76}{(44.70)}$
3448-23	$\frac{2.27}{(57.66)}$
3448-26	$\frac{2.86}{(72.6)}$

NOTES

MATERIAL: GRAY POLYCARBONATE

USED ON

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MAY 15, 1979

3

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STRAIN RELIEF SPECIFICATION

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
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INCH	±.1	±.01	±.005
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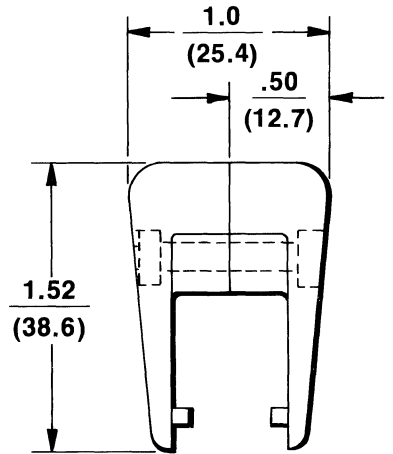
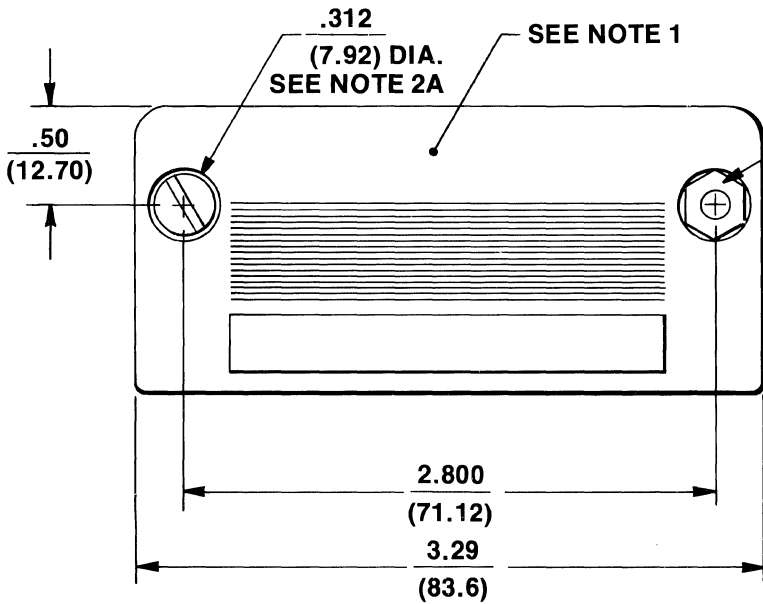
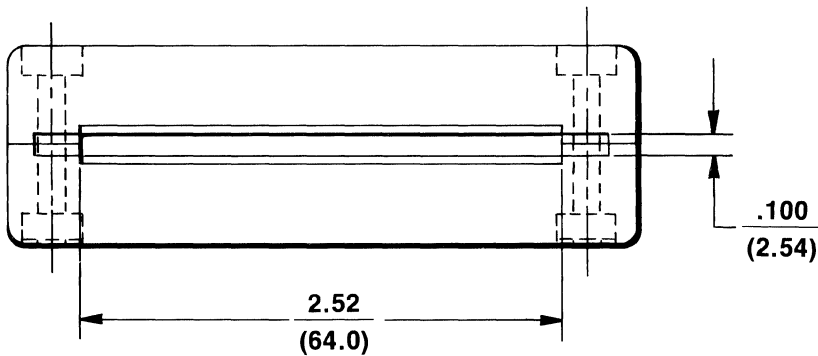
mm	±.3	±.13	
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DR. *GARY L. OLSON*

APP. *A.D. DRISCOLL*

A

3032



NOTES:

1. SHELL—GLASS FILLED POLYESTHER, UL FLAMMABILITY RATING 94V-0
2. HARDWARE—ZINC PLATED STEEL
 - A. #6-32 x 1³/₁₆" PAN HEAD MACHINE SCREW
 - B. #6-32 HEX NUT

USED ON

March 14, 1980

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**JUNCTION SHELL
SPECIFICATION
3485-2500**

TOLERANCE UNLESS NOTED

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

INCH
(mm)

SCALE

DR.

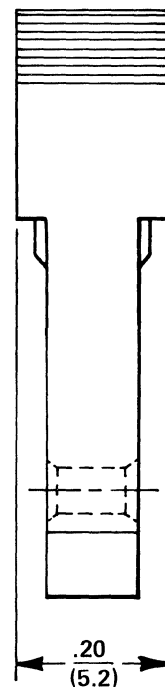
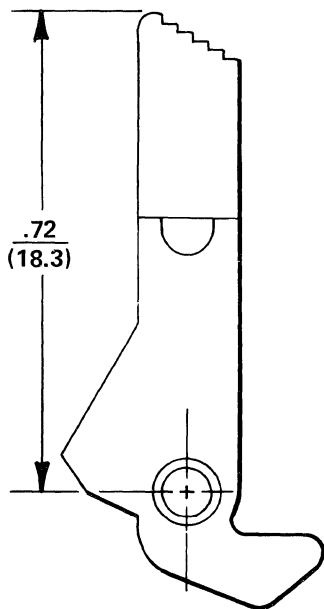
Gary Olson

APP.

P. Dan Swicoll

A

3033



NOTES:

- 1 MATERIAL: ZINC CHROMATE PLATING
- 2 MOUNTING PIN: STAINLESS STEEL
1/16" DIA. X 1/4" LONG

USED ON 3M PART NUMBER
3314, 3372, 3408, 3428, 3429,
3431, 3432, 3433, 3446

NOV. 9, 1979

1

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**EJECTOR
SPECIFICATION
3M PART NO. 3505-4**

TOLERANCE UNLESS NOTED

INCH
(mm)

SCALE

	.0	.00	.000
INCH	±.1	±.01	±.005
mm	±.3	±.13	

DR.

A

APP.

3034