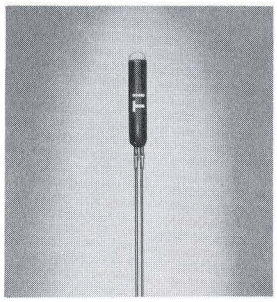
TYPE 1N2175

N-P-N DIFFUSED SILICON PHOTO-DUO-DIODE

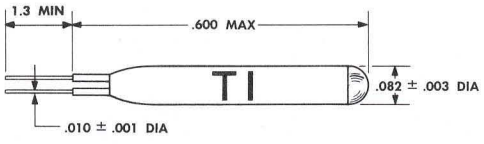
50 VOLTS 250 MILLIWATTS
Designed for operation to 125°C



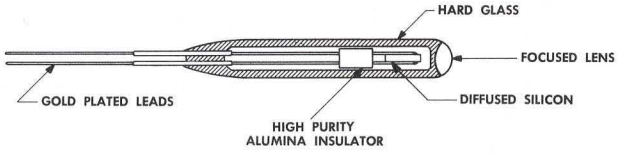
ACTUAL SIZE

mechanical data

Hard glass, hermetically sealed case. Unit weight 0.1 grams.



ALL DIMENSIONS IN INCHES



ratings

conditions	min.	typical	max.	unit
Bias Voltage @25°C			±50	vdc
Power Dissipation @25°C			250	mw
Operating Temperature	−65		+125	°C
Storage Temperature	−65		+125	°C
Altitude			70,000	ft

specifications

‡Dark Current @25°C @±50 vdc		0.01	0.5	μadc
Dark Current @100°C @±50 vdc		20	100	μadc
†Light Current @25°C @± 10 vdc	100	200		μadc
*Typical Photocurrent Rise Time		2		μsec
Typical Photocurrent Decay Time		20		μsec
Typical Sensitivity Radiation System (@10vdc)		22.3		μa/mw/cm².
Typical Sensitivity Illumination System (@10vdc)		0.6		μa/ft-candle

NOTES:

‡ Dark current is leakage current across diode with no incident irradiation in the wavelength range from .4 to 1.1 microns.

† Light current is measured in terms of radiation. Radiation=9 mw/cm² in a frequency band width of .7 to 1.0 micron.

* Rise time is the time required for the photocurrent ** to rise from 10% to 90% of its final value after instantaneous application of excitation. Fall time is the time for the photocurrent to decay from 90% to 10% of its initial value after instantaneous removal of excitation.

**Photocurrent is the difference between Light Current and Dark Current.

APPLICATION NOTES:

The 1N2175 is a subminiature symmetrically diffused silicon unit. As the junction is symmetrical, either of the two terminals can be made positive or negative. Because of this unique quality an AC or DC bias voltage may be used. Due to the unit's very small size, it can be readily adopted for use in high speed reading of punched cards and tapes. Its high sensitivity makes it particularly applicable for use in detection systems, sound pickup, sensitive relays production line screening and other devices requiring light sensitivity.

SEMICONDUCTOR-COMPONENTS DIVISION

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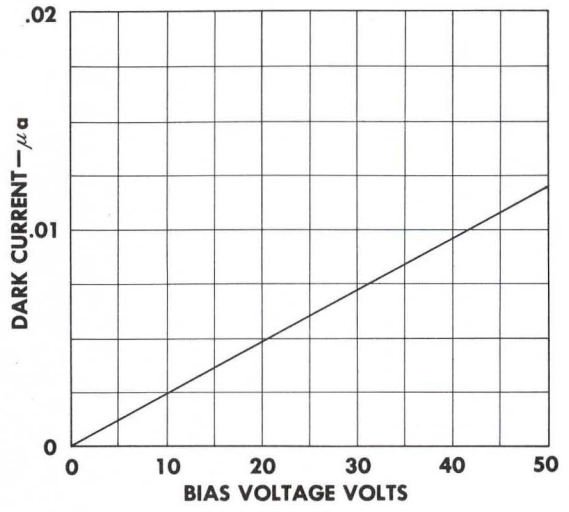
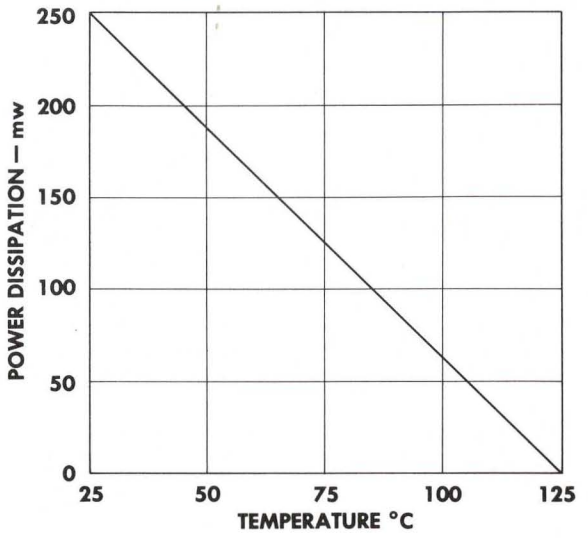
DALLAS, TEXAS

TYPICAL CHARACTERISTICS

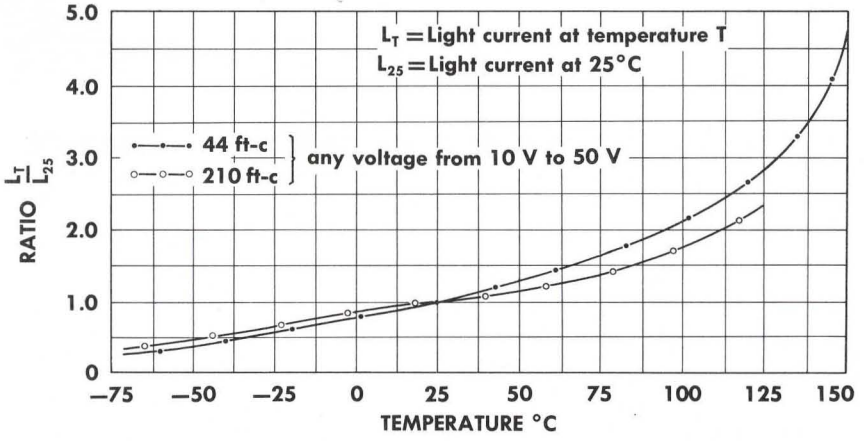
DARK CURRENT CHARACTERISTICS VS. VOLTAGE AT 25°C



DERATING CURVE



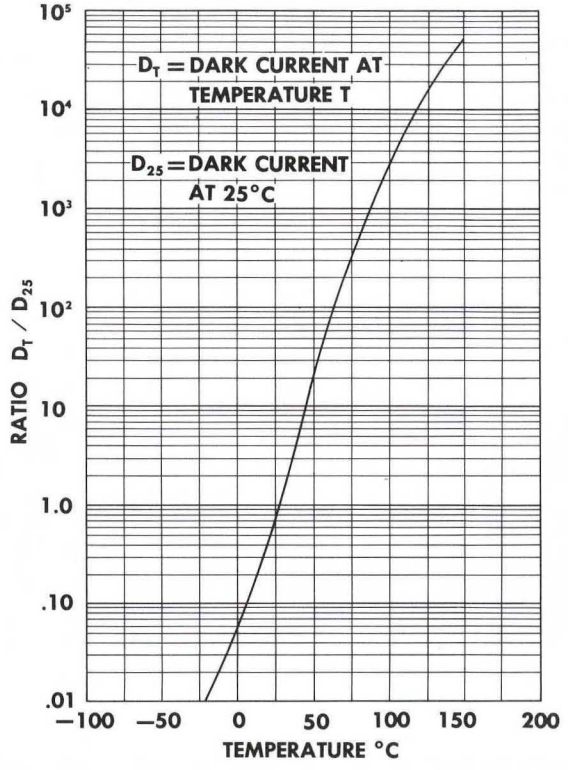
LIGHT CURRENT CHARACTERISTICS VS. TEMPERATURE



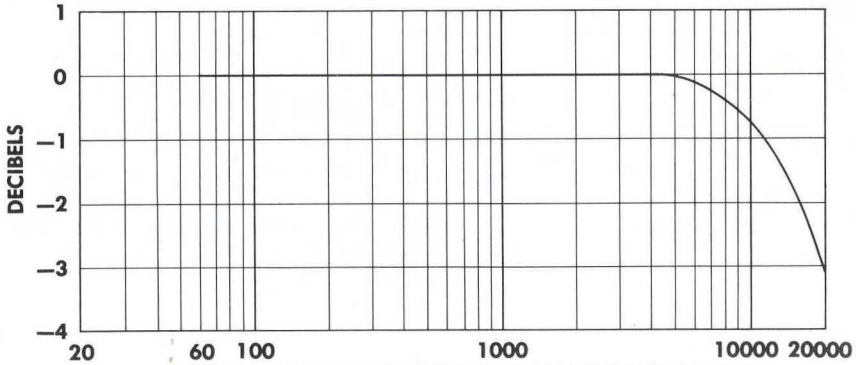
TYPE 1N2175

TYPICAL CHARACTERISTICS

TYPICAL DARK CURRENT CHARACTERISTIC VS. TEMPERATURE FOR ANY CONSTANT VOLTAGE BETWEEN 10 AND 50 V



FREQUENCY RESPONSE AT BIAS VOLTAGE OF 10 V AND 25°C



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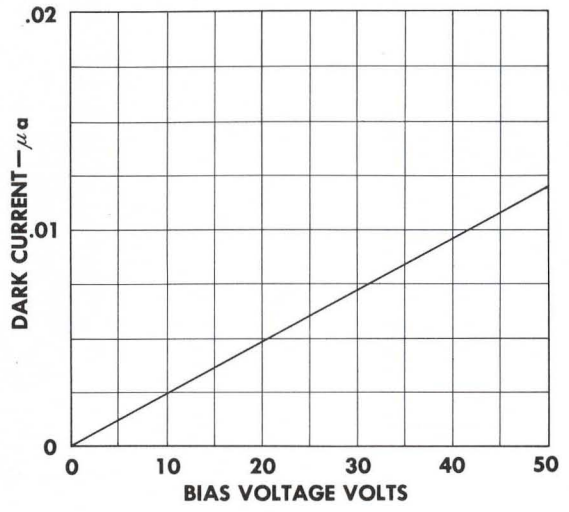
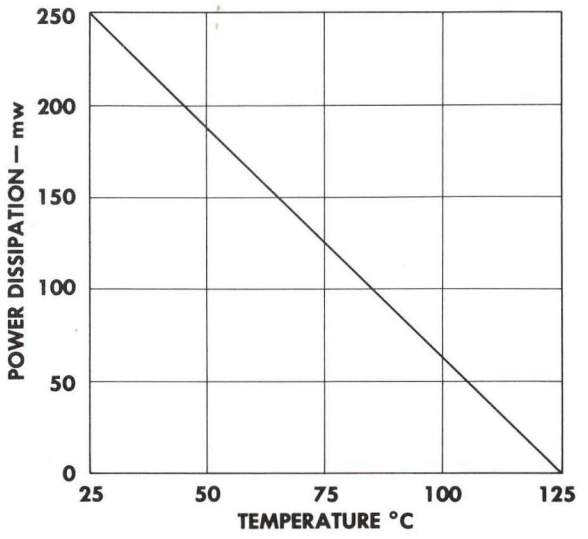
TYPICAL CHARACTERISTICS

DARK CURRENT CHARACTERISTICS VS. VOLTAGE AT 25°C



DERATING CURVE



LIGHT CURRENT CHARACTERISTICS VS. TEMPERATURE