



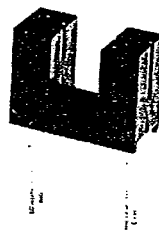
OPTO TECHNOLOGY

OPTICAL SWITCH

TYPE OTS 276

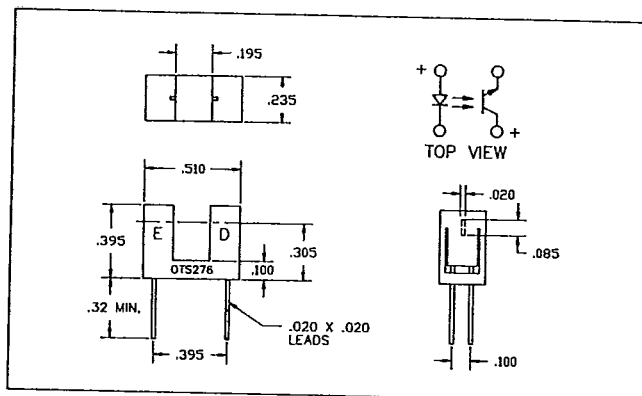
Features

- .020 aperture over sensor
- .20 gap
- Phototransistor



Description

A .200 spacing between the emitter and detector is available with Opto Technology's OTS 276 interrupters. These units combine a gallium arsenide infrared emitting diode and an NPN silicon phototransistor mounted in a molded plastic housing. A .020 aperture is located over sensor for better resolution and coupling efficiency. Special screening for this device is available upon request.



Absolute Maximum Ratings⁽⁵⁾

Storage Temperature Range	-30°C to +85°C
Operating Temperature Range	-30°C to +85°C
Lead Soldering Temperature (1/16 inch [1.6 mm] from case for 5 sec. with soldering iron)	240°C ⁽¹⁾

Input Diode

Reverse Voltage	5 V
Continuous Forward Current	60 mA
Peak Forward Current (1 μs pulse width, 300 pps)	2 A
Power Dissipation	100 mW ⁽²⁾

Output Phototransistor

Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5 V
Power Dissipation	100 mW ⁽²⁾

Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 sec. max. when wave soldering.
- (2) Derate 1.66 mW/°C above 25°C ambient.
- (3) Methanol or isopropyl alcohols are recommended as cleaning agents.
- (4) Stray irradiation can alter values of characteristics. Adequate shielding should be provided.
- (5) T_A = 25°C unless otherwise noted.

Electrical Characteristics: (25°C)

INFRARED EMITTING DIODE	SYMBOL	MIN.	TYP.	MAX.	UNITS
Forward Voltage $I_F = 60 \text{ mA}$	V_F			1.7	V
Reverse Current $V_R = 5 \text{ V}$	I_R			10	μA
Wavelength at Peak Emission $I_F = 20 \text{ mA}$	λ_P		940		nM

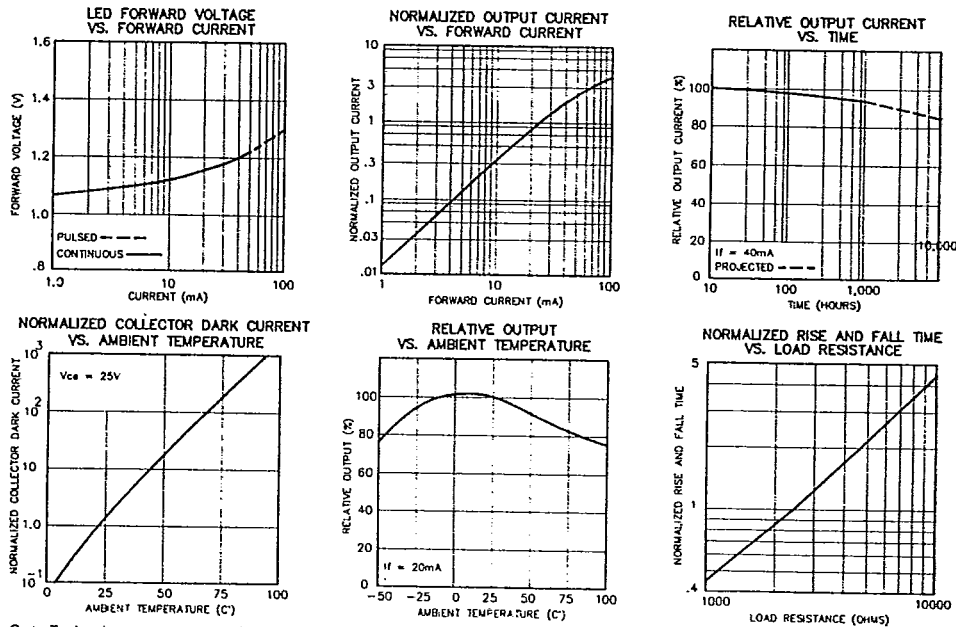
PHOTOTRANSISTOR	SYMBOL	MIN.	TYP.	MAX.	UNITS
Collector-Emitter Breakdown Voltage $I_C = 1 \text{ mA}$	$V_{(BR)CEO}$	30			V
Emitter-Collector Breakdown Voltage $I_E = 100 \mu\text{A}$	$V_{(BR)ECO}$	5			V
Collector Dark Current $V_{CE} = 25 \text{ V}$	I_{CEO}			100	nA

Coupled Electrical Characteristics: (25°C)

	SYMBOL	MIN.	TYP.	MAX.	UNITS
Light Current* $I_F = 20 \text{ mA}$, $V_{CE} = 5 \text{ V}^{(4)}$	$I_{C(ON)}$	250			μA
Saturation Voltage $I_F = 20 \text{ mA}$, $I_C = .1 \text{ mA}$	$V_{CE(SAT)}$			.4	V
Rise Time $V_{CC} = 5 \text{ V}$, $I_F = 30 \text{ mA}$, $R_L = 100 \Omega$	t_{on}		5		μS
Fall Time $V_{CC} = 5 \text{ V}$, $I_F = 30 \text{ mA}$, $R_L = 100 \Omega$	t_{off}		5		μS

*Special screenings available upon request.

TYPICAL PERFORMANCE CURVES



Opto Technology reserves the right to make changes at any time to improve product design and reliability.