



OPTO TECHNOLOGY

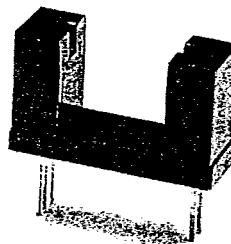
T-41-73

PHOTO IC SWITCH

TYPE OTS 274/OTS 284

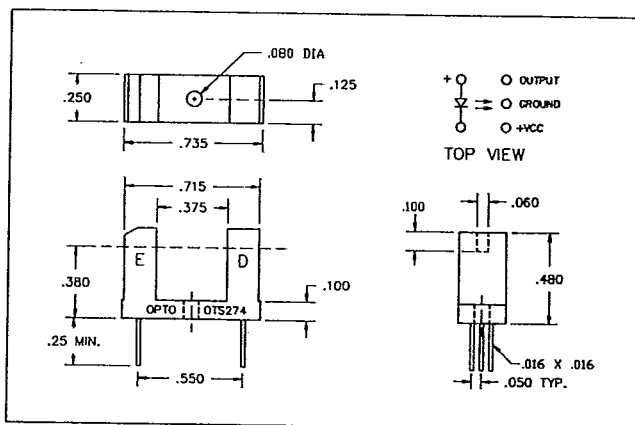
Features

- Wide gap (.375)
- Low profile
- Photo IC



Description

Opto Technology's OTS 274/OTS 284 features a GaAs infrared emitting diode coupled with a photo IC sensor in a molded plastic housing. The sensor consists of a photodiode, low level amplifier, Schmitt trigger, regulator and an open collector output. The OTS 274 open collector output switches "on" when interrupted with an opaque material and the OTS 284 output switches "off" when interrupted.



Absolute Maximum Ratings⁽⁴⁾

Storage Temperature Range	-55°C to +110°C
Operating Temperature Range	-40°C to +85°C
Lead Soldering Temperature (1/16 inch [1.6 mm] from case for 5 sec. with soldering iron)	260°C ⁽¹⁾

Input Diode

Reverse Voltage	6 V
Continuous Forward Current	60 mA
Peak Forward Current (1 μs pulse width, 300 pps)	3 A
Power Dissipation	100 mW ⁽²⁾

Photo IC Sensor

Supply Voltage	15 V
Output Voltage	15 V
Output Current	25 mA

Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 sec. max. when wave soldering.
- (2) Derate 1.33 mW/°C above 25°C ambient.
- (3) Methanol or isopropyl alcohols are recommended as cleaning agents.
- (4) T_A = 25°C unless otherwise noted.

TYPE OTS 274/OTS 284

T-41-73

Electrical Characteristics: (25°C)

INFRARED EMITTING DIODE	SYMBOL	MIN.	TYP.	MAX.	UNITS
Forward Voltage $I_F = 20 \text{ mA}$	V_F			1.7	V
Reverse Current $V_R = 5 \text{ V}$	I_R			100	nA
Wavelength at Peak Emission $I_F = 20 \text{ mA}$	λ_P		940		nM

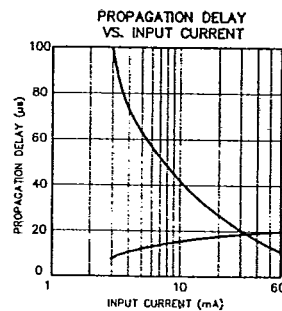
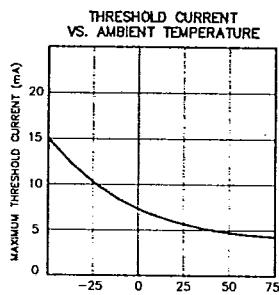
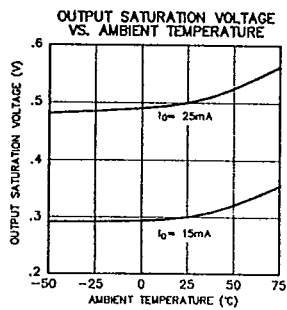
PHOTO I.C.	SYMBOL	MIN.	TYP.	MAX.	UNITS
Supply Voltage	V_{CC}	4.0	5.0	15.0	V
Supply Current	I_{CC}		4.0	10.0	mA
Collector Emitter Saturation Voltage ($I_C = 15 \text{ mA}$)	$V_{CE(SAT)}$		.3	.5	V
($I_C = 25 \text{ mA}$)			.5	.8	V
Low Level Output Current	I_C			50	mA
Hysteresis			12		%

PHOTO IC
SWITCHES

Coupled Electrical Characteristics @ $T_A = 25^\circ\text{C}$

	SYMBOL	MIN.	TYP.	MAX.	UNITS
LED Forward Current (turn on)	I_F			10	mA
LED Forward Voltage ($I_F = 60 \text{ mA}$)	V_F			1.7	V
Rise Time	t_{on}		200	500	ns
Fall Time	t_{off}		200	500	ns
Propagation Delay ($I_F = 20 \text{ mA}$)	t_P		20		μs

TYPICAL PERFORMANCE CURVES



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