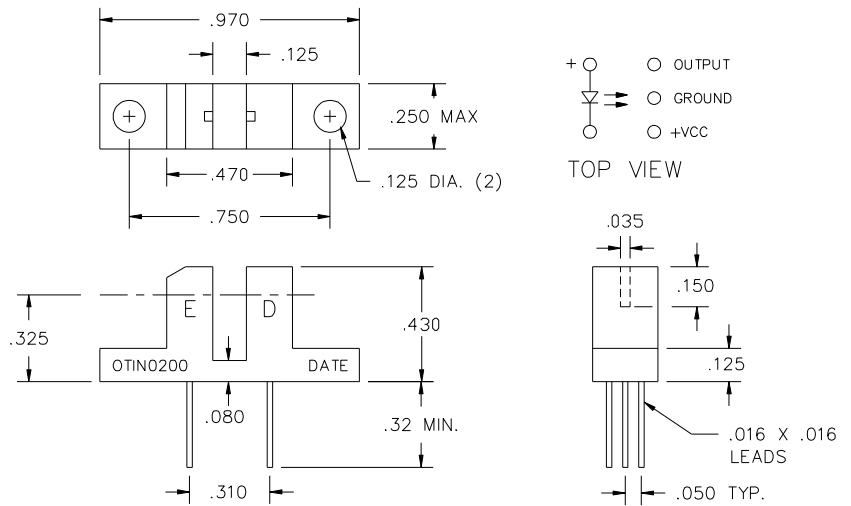


FEATURES:

- **0.035" aperture**
- **Photo IC sensor**
- **Low cost**



PRODUCT DESCRIPTION

Opto Technology's OTIN-0200 Interrupter combines an infrared emitting diode with a photo IC sensor in a molded plastic housing. The photo IC sensor consists of a photodiode with low-level amplifier, Schmitt trigger, voltage regulator and an open collector driver output. The housing features a 0.125" interrupter gap with a 0.035" aperture slot over both the sensor and emitter. The OTIN-0200 output with external pull up resistor switches "on" when the device is interrupted with an opaque material.

ABSOLUTE MAXIMUM RATINGS

General

Storage Temperature Range ----- -55°C to +100°C
 Operating Temperature Range ----- -40°C to +85°C
 Lead Soldering Temperature (1/16" from case
 for 5 sec. with soldering iron) ----- 260°C⁽¹⁾

Input Diode

Reverse Voltage ----- 5 V
 Continuous Forward Current ----- 50 mA
 Power Dissipation ----- 100 mW⁽²⁾

Photo IC Sensor

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

Notes:

- (1) RMA flux recommended. Duration can be extended to 10 sec. max. when flow 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 specified.



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Infrared Emitting Diode⁽⁴⁾

Parameter	Symbol	Min	Typ	Max	Units
Forward Voltage ($I_F = 20 \text{ mA}$)	V_F			1.5	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

Photo IC⁽⁴⁾

Parameter	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 $I_C = 15\text{mA}$	$V_{CE(SAT)}$		0.3	0.5	V
Collector Emitter Saturation Voltage $I_C = 25\text{mA}$	$V_{CE(SAT)}$		0.5	0.8	V
Low Level Output Current	I_C			50	mA
Hysteresis			12		%

Coupled Electrical Characteristics: (25°C)

Parameter	Symbol	Min	Typ	Max	Units
LED Forward Current (turn on)	I_F			7	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

