



OPTO TECHNOLOGY

P-41-73

PHOTO IC SWITCH

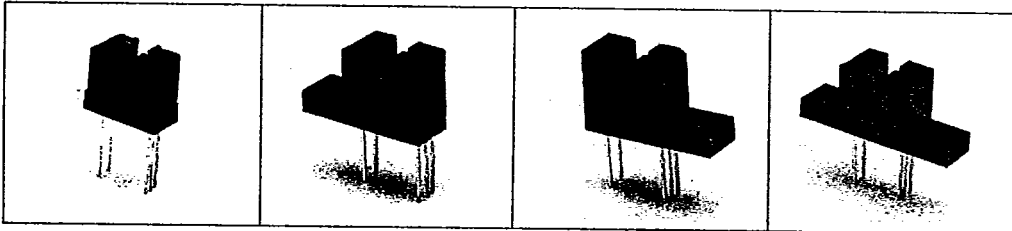
TYPE OTS 850 SERIES

Features

- .125 wide gap
- Choice of mounting configurations
- Visible or infrared emitter
- Photo IC output

Description

Opto Technology's OTS 850 series is intended to provide custom design capability in a standard part. This series includes photo IC with Schmitt trigger open collector output and the following options; visible or infrared emitter, transmissive polysulfone or slotted polycarbonate window, different aperture sizes for led and sensor, and different mounting configurations. All housings have a .125 wide slot between the emitter and detector. Special screening for these devices is also available. Consult the factory.



Absolute Maximum Ratings⁽⁴⁾

INFRARED EMITTER 940nm			
Power Dissipation ⁽¹⁾	P_E	100	mW
Forward Current (Continuous)	I_F	50	mA
Reverse Voltage	V_R	6	V

VISIBLE EMITTER 660nm			
Power Dissipation ⁽²⁾	P_E	100	mW
Forward Current (Continuous)	I_F	40	mA
Reverse Voltage	V_R	5	V

Photo IC Sensor

Supply Voltage	16 V
Low Level Output Current	30 mA
Output Voltage	16 V
Power Dissipation	200 mW ⁽³⁾

Total Device

Storage Temperature Range	-40°C to +100°C
Operating Temperature Range	-25°C to +85°C
Lead Soldering Temperature (5 sec. max.)	260°C ⁽⁵⁾

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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 $I_F = 20 \text{ mA}$			940		nM

VISIBLE EMITTING DIODE	SYMBOL	MIN.	TYP.	MAX.	UNITS
Forward Voltage $I_F = 20 \text{ mA}$	V_F		1.8	2.2	V
Reverse Current $V_R = 5 \text{ V}$	I_R			1.0	μA
Wavelength at Peak Emission $I_F = 20 \text{ mA}$			660		nM

PHOTO I.C.	SYMBOL	MIN.	TYP.	MAX.	UNITS
Supply Voltage	V_{CC}	4.5	5.0	16	V
Supply Current	I_{CC}		2	7	mA
Low Level Output Voltage $I_{OL} = 16 \text{ mA}, V_{CC} = 5 \text{ V}, I_F = 0$	V_{OL}			.4	V
High Level Output Voltage $V_{CC} = 5 \text{ V}, R_L = 10 \text{ k}\Omega, I_F = 10 \text{ mA}$	V_{OH}	4			V

PHOTO IC
SWITCHES

Coupled Electrical Characteristics: (25°C)

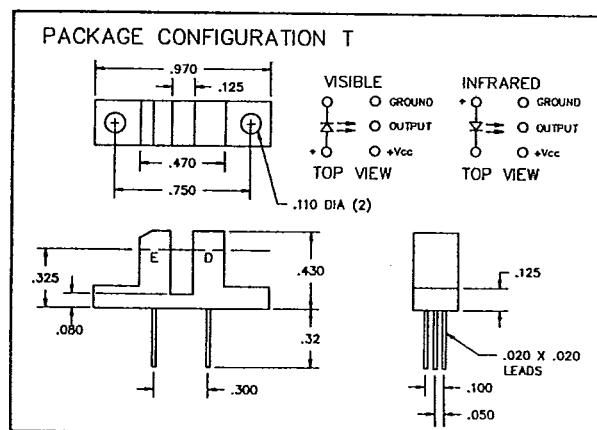
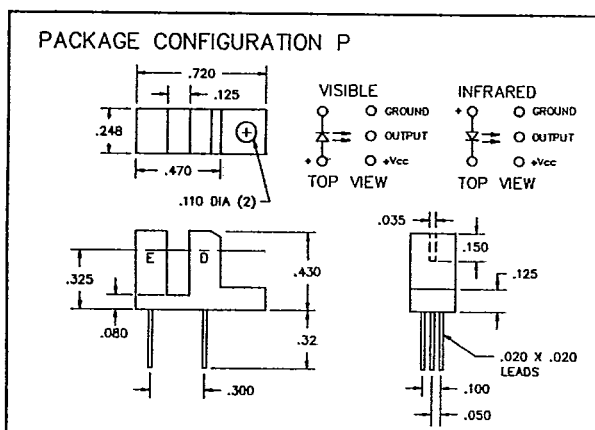
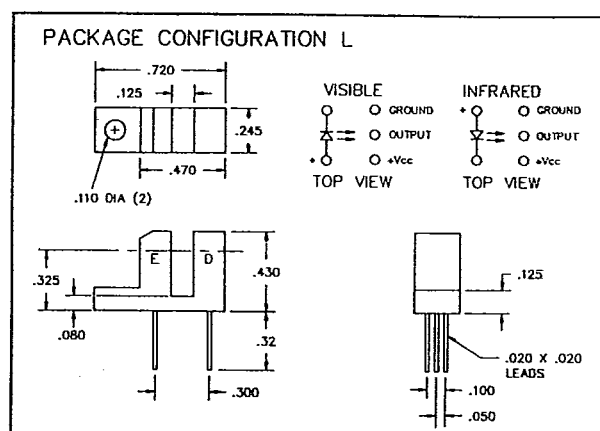
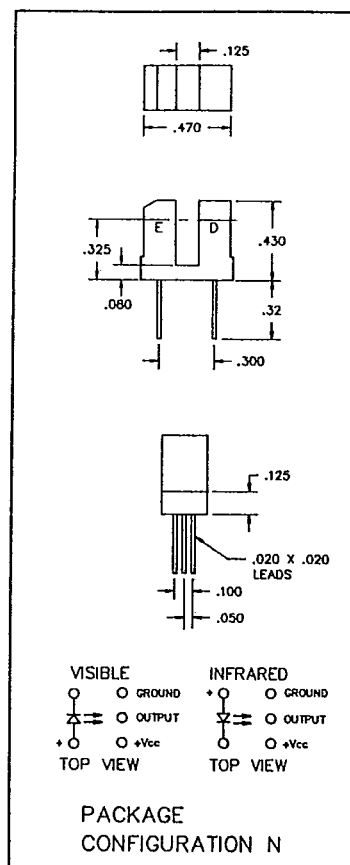
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS
LED L-H Threshold Current $V_{CC} = 5 \text{ V}$	I_{FLH}		3	10	mA
Hysteresis	I_{FHL}/I_{FLH}		.75		
Propagation Delay Low to High	t_{PLH}		2		μs
$V_{CC} = 5 \text{ V}, I_F = 10 \text{ mA}, R_1 = 280 \Omega$ High to Low	t_{PHL}		1		μs

Notes:

- (1) Derate 1.33 mW/°C above 25°C ambient.
- (2) Derate 1.50 mW/°C above 25°C ambient.
- (3) Derate 2.7 mW/°C above 25°C ambient.
- (4) $T_a = 25^\circ\text{C}$ unless otherwise noted.
- (5) RMA flux is recommended. Duration can be extended to 10 sec. max. when wave soldering.
- (6) Methanol or isopropyl alcohols are recommended as cleaning agents.

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

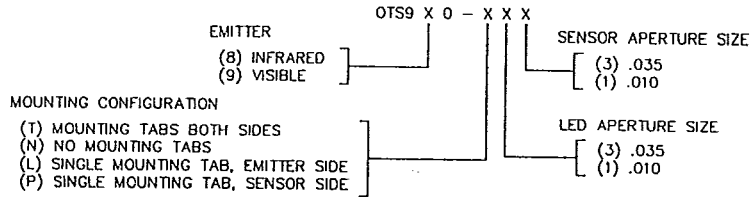
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ORDERING INFORMATION



ORDERING EXAMPLE

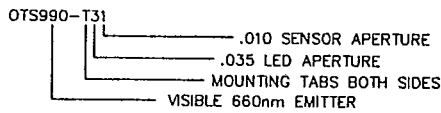
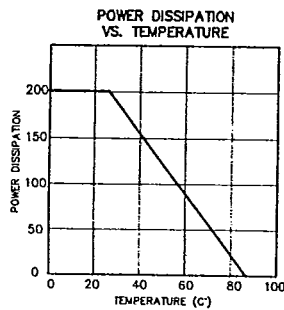
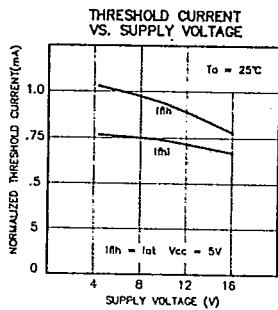
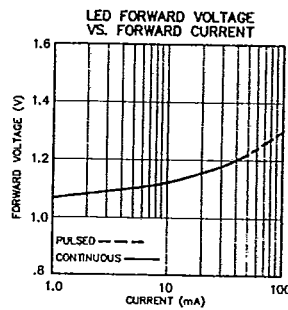
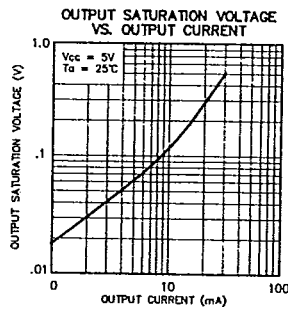
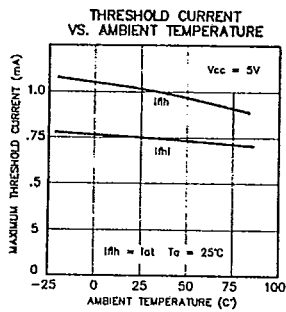


PHOTO IC
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TYPICAL PERFORMANCE CURVES



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