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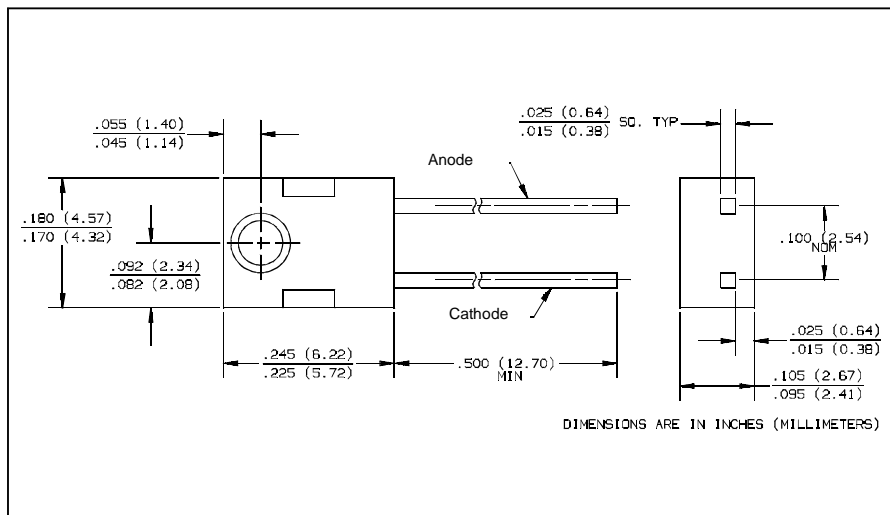
[TT Electronics/Optek Technology](#)
[OP245PS](#)

For any questions, you can email us directly:

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Product Bulletin OP245PS
November 2000

Plastic Point Source Infrared Emitting Diode Type OP245PS



Features

- Point source irradiance pattern
- Wavelength matched to silicon's peak response
- Fast switching speed
- Side-looking package for space limited applications

Description

The OP245PS is an 850 nm, infrared emitting diode molded in IR transmissive amber-tinted epoxy packages. The side-looking package is for use in PC board mounted slotted switches or as easily mounted interrupt detectors.

The stable V_F vs. Temperature characteristic make them ideal for applications where voltage is limited (such as battery operation).

The low t_r/t_f make them ideal for high speed operations.

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Reverse Voltage	2.0 V
Continuous Forward Current	50 mA
Peak Forward Current (2 μs pulse width, 0.1% duty cycle)	1.0 A
Storage and Operating Temperature Range	-40°C to $+100^\circ\text{C}$
Lead Soldering Temperature [1/16 inch (1.6mm) from case for 5 sec. with soldering iron]	260°C ⁽¹⁾
Power Dissipation	100 mW ⁽²⁾

NOTES:

- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering. A maximum of 20 grams force may be applied to the leads when soldering.
- (2) Derate linearly 1.33 mW/ $^\circ\text{C}$ above 25°C .
- (3) $E_{e(\text{APT})}$ is a measurement of the average apertured radiant incidence upon a sensing area $0.180''$ (4.57 mm) in diameter, perpendicular to and centered on the mechanical axis of the lens, and $0.653''$ (16.6 mm) from the measurement surface. $E_{e(\text{APT})}$ is not necessarily uniform within the measured area.

Type OP245PS

Electrical Characteristics ($T_A = 25^\circ \text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
$E_{e(\text{APT})}$	Apertured Irradiance	.10		.90	mW/cm ²	$I_F = 20 \text{ mA}^{(3)}$
V_F	Forward Voltage			1.80	V	$I_F = 20 \text{ mA}$
I_R	Reverse Current			20	μA	$V_R = 2 \text{ V}$
λ_p	Wavelength at Peak Emission		850		nm	$I_F = 20 \text{ mA}$
B	Spectral Bandwidth Between Half Power Points		50		nm	$I_F = 20 \text{ mA}$
θ_{HP}	Emission Angle at Half Power		$\pm 18^\circ$		Deg.	$I_F = 20 \text{ mA}$
t_r	Rise Time		10		ns	$I_{F(\text{PK})} = 20 \text{ mA}$
t_f	Fall Time		10		ns	PW = 10 μs , D.C. = 10%

INFRARED
EMITTING
DIODES

Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible.

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