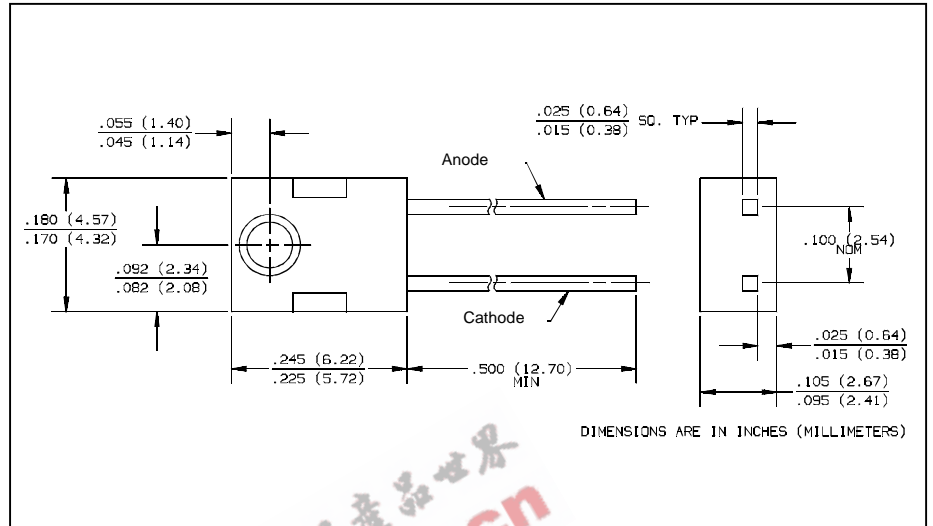


# Plastic Point Source Infrared Emitting Diode Type OP245PS



## 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 $\mu\text{s}$ pulse width, 0.1% duty cycle)	1.0 A
Storage and Operating Temperature Range	$-40^\circ\text{C}$ to $+100^\circ\text{C}$
Lead Soldering Temperature [1/16 inch (1.6mm) from case for 5 sec. with soldering iron]	$260^\circ\text{C}$ <sup>(1)</sup>
Power Dissipation	100 mW <sup>(2)</sup>

### 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  $25^\circ\text{C}$ .
- (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	$\text{mW}/\text{cm}^2$	$I_F = 20\text{ mA}^{(3)}$
$V_F$	Forward Voltage			1.80	V	$I_F = 20\text{ mA}$
$I_R$	Reverse Current			20	$\mu\text{A}$	$V_R = 2\text{ V}$
$\lambda_p$	Wavelength at Peak Emission		850		nm	$I_F = 20\text{ mA}$
B	Spectral Bandwidth Between Half Power Points		50		nm	$I_F = 20\text{ mA}$
$\theta_{\text{HP}}$	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	$\text{PW} = 10\ \mu\text{s}, \text{D.C.} = 10\%$

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