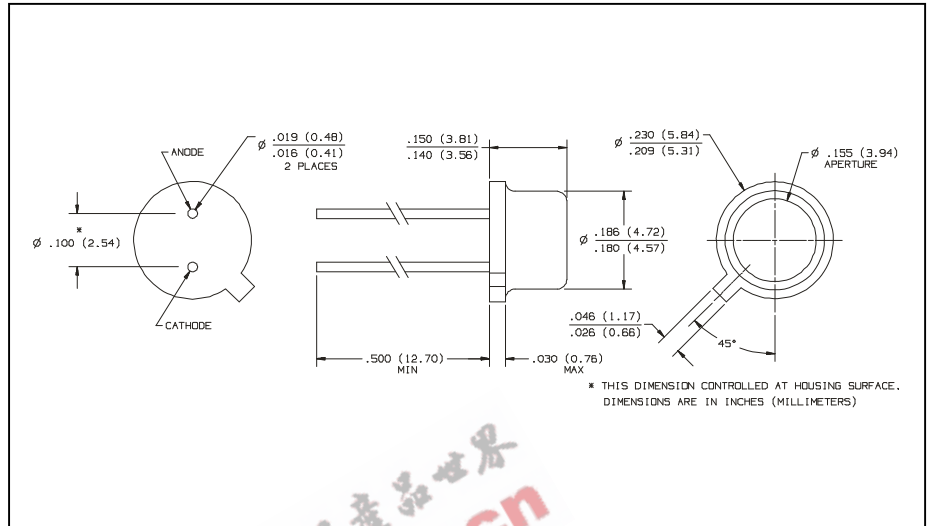


# Hermetic Point Source Infrared Emitting Diode Type OP230WPS



## Features

- Point source irradiance pattern
- Wavelength matched to silicon's peak response
- Fast switching speed
- TO-46 package style with flat window

## Description

The OP230WPS is an 850 nm, top surface emitting, IRED. The .004" emitting area centered under a nondistorting flat lens can be used in many applications where external lensing is desired.

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	100 mA
Peak Forward Current (2 $\mu\text{s}$ pulse width, 0.1% duty cycle)	1.0 A
Storage and Operating Temperature Range	$-55^\circ\text{C}$ to $+125^\circ\text{C}$
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron]	$260^\circ\text{C}^{(1)}$
Power Dissipation	200 mW <sup>(2)</sup>

## NOTES:

- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
- (2) Derate linearly 2.0mW/ $^\circ\text{C}$  above  $25^\circ\text{C}$ .
- (3)  $E_{e(\text{APT})}$  is a measurement of the average apertured radiant incidence upon a sensing area .250" (6.35 mm) in diameter, perpendicular to and centered on the mechanical axis of the lens, and .466" (11.84 mm) from the measurement surface.  $E_{e(\text{APT})}$  is not necessarily uniform within the measured area.

# Type OP230WPS

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	.5			$\text{mW}/\text{cm}^2$	$I_F = 100\text{ mA}$
$V_F$	Forward Voltage			2.20	V	$I_F = 100\text{ mA}$
$I_R$	Reverse Current			1.0	$\mu\text{A}$	$V_R = 2\text{ V}$
$\lambda_p$	Wavelength Peak Emission		850		nm	$I_F = 100\text{ mA}$
B	Spectral Bandwidth Between Half Power Points		80		nm	$I_F = 100\text{ mA}$
$\theta_{\text{HP}}$	Emission Angle at Half Power Points		$\pm 45^\circ$		Deg.	$I_F = 100\text{ mA}$
$t_r$	Rise Time		10		ns	$I_F(\text{PK}) = 100\text{ mA}$
$t_f$	Fall Time		10		ns	$\text{PW} = 10\ \mu\text{s}$ , D.C. = 10%

## Typical Performance Curves

