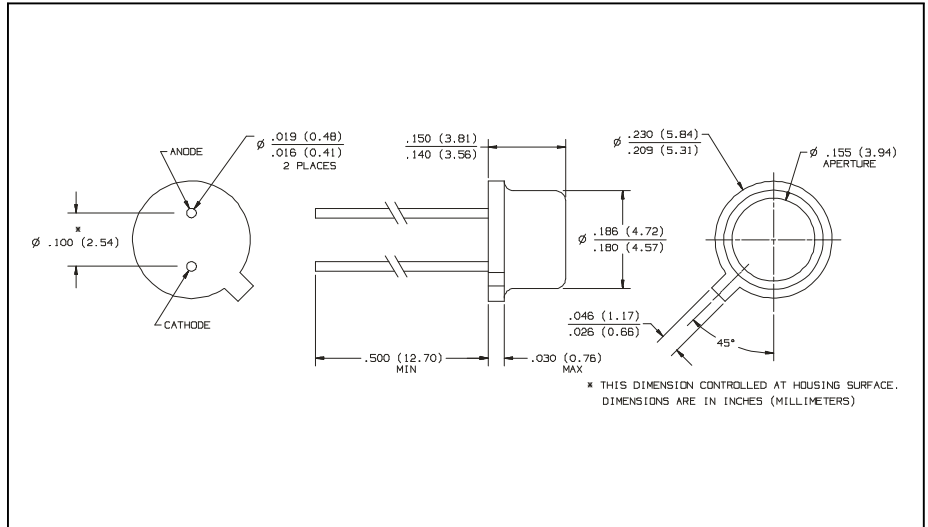


Hermetic Point Source Infrared Emitting Diode Type OP230WPS



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 μs pulse width, 0.1% duty cycle)	1.0 A
Storage and Operating Temperature Range	-55° C to +125° C
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron]	260° C ⁽¹⁾
Power Dissipation	200 mW ⁽²⁾

NOTES:

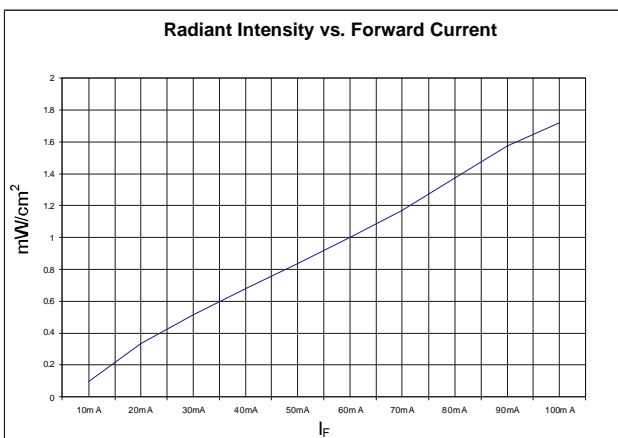
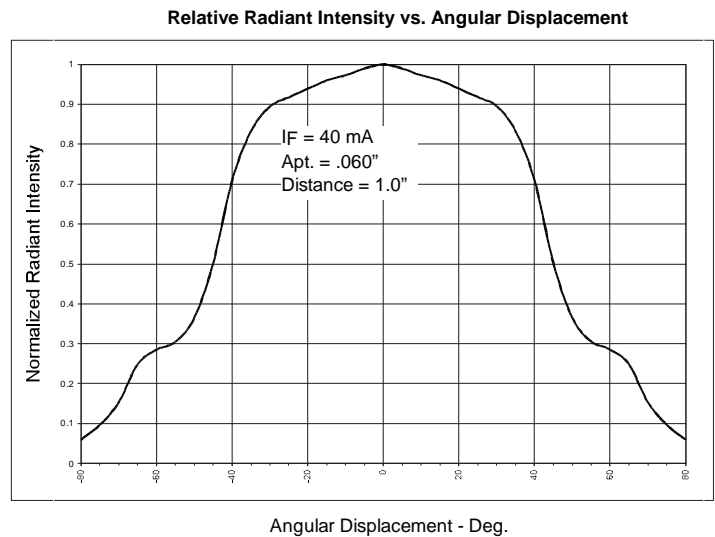
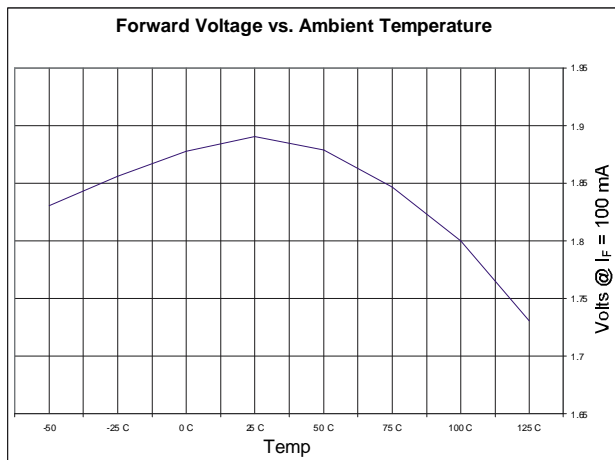
- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
- (2) Derate linearly 2.0mW/°C above 25°C.
- (3) $E_{e(\text{APT})}$ is a measurement of the average apertured radiant incidence upon a sensing area .250" (6.35 mm) in diameter, perpendicular to and centered 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			mW/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	μA	$V_R = 2\text{ V}$
λ_p	Wavelength Peak Emission		850		nm	$I_F = 100\text{ mA}$
B	Spectral Bandwidth Between Half Power Points		80		nm	$I_F = 100\text{ mA}$
θ_{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



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

Optek Technology, Inc. 1215 W. Crosby Road Carrollton, Texas 75006 (972)323-2200 Fax (972)323-2396