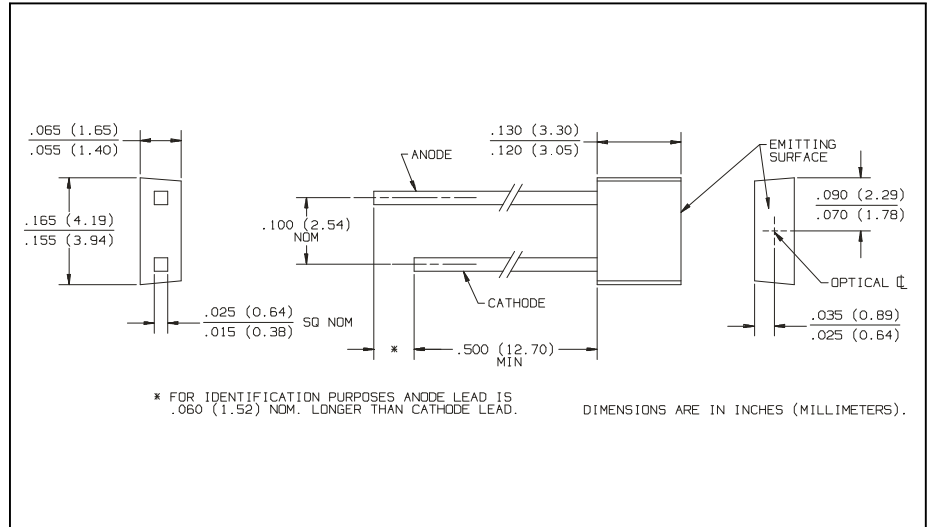
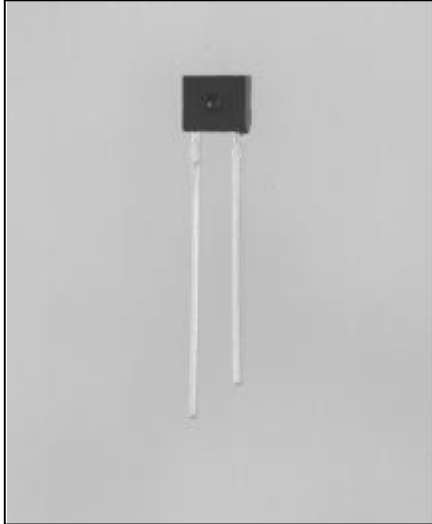


Plastic Point Source Infrared Emitting Diode Type OP268FPS



Features

- Point source irradiance pattern
- Flat lensed for wide radiation angle
- Easily stackable on 0.100" (2.54 mm) hole centers

Description

The OP268FPS contains an 850 nm gallium aluminum arsenide infrared emitting diode molded in an "end-looking" miniature black package. This device has a wide radiation angle due to its flat emitting surface. The point source GaAlAs IRED emits photons from a 0.004" diameter area centered with the optical centerline. Small size and 0.100" (2.54 mm) lead spacing allow considerable design flexibility.

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 operation.

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 (1.6 mm) 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. Maximum 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 energy incident upon a sensing area 0.081" (2.06 mm) in diameter, perpendicular to and centered on the mechanical axis of the "emitting surface" and 0.400" (10.16 mm) from the measurement surface. $E_{e(\text{APT})}$ is not necessarily uniform within the measured area.

Type OP268FPS

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		$\pm 50^\circ$		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	$\text{PW} = 10 \mu\text{s}$, 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.

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