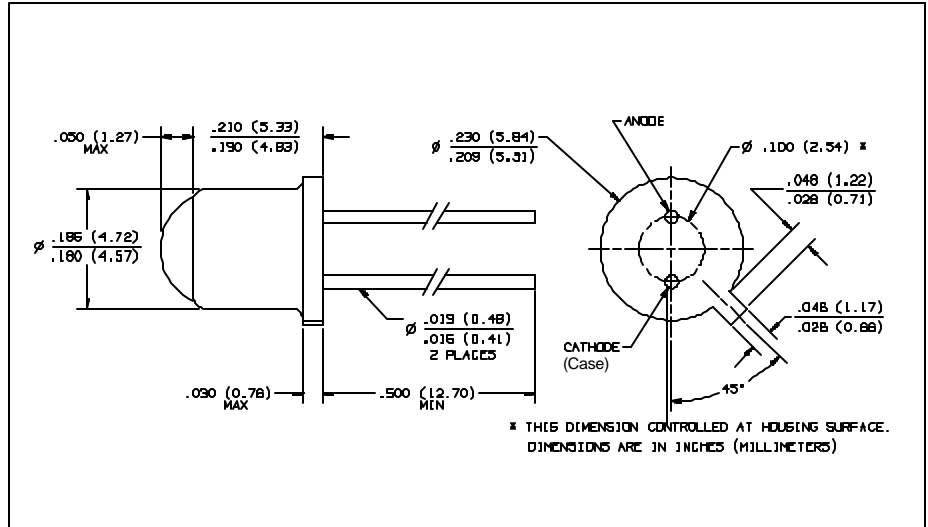


GaAlAs Hermetic Infrared Emitting Diode Type OP234



Features

- Very high speed
- Enhanced temperature range
- Mechanically and spectrally matched to the OP800 and OP830 series devices
- Significantly higher power output than GaAs at equivalent drive currents
- TO-46 hermetically sealed package
- Case is electrically connected to the cathode

Description

The OP234 device is an 850 nm gallium aluminum arsenide infrared emitting diode mounted in hermetically sealed package.

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)	10.0 A
Storage Temperature Range	-65°C to $+150^\circ\text{C}$
Operating Temperature Range	-65°C to $+125^\circ\text{C}$
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron]	260°C ⁽¹⁾
Power Dissipation	200 mW ⁽²⁾

Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 seconds max. when flow soldering.
- (2) Derate linearly 2.0 mW/ $^\circ\text{C}$ above 25°C .
- (3) $E_{e(\text{APT})}$ is a measurement of the average radiant intensity emitted by the IRED within a cone formed from the IRED chip to an aperture. The aperture of diameter 0.250" is located a distance of 1.429" from the flange (measurement plane) to the aperture plane (parallel to the measurement plane) along the optical and mechanical axis. The cone formed is a 30° cone. The radiant intensity is not necessarily uniform within the measured area.
- (4) Measurement made with 100 μs pulse measured at the trailing edge of the pulse with a duty cycle of 0.1% and an $I_F = 100\text{ mA}$.

Type OP234

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
$E_{e(\text{APT})}$	Apertured Radiant Incidence	5.0		--	mW/cm^2	$I_F = 100\text{ mA}^{(3)(4)}$
P_O	Power Output		17		mW	$I_F = 100\text{ mA}$
V_F	Forward Voltage			2.0	V	$I_F = 100\text{ mA}^{(4)}$
I_R	Reverse Current			100	μA	$V_R = 2.0\text{ V}$
λ_p	Wavelength at Peak Emission		850		nm	$I_F = 10\text{ mA}$
B	Spectral Bandwidth Half Power Points		50		nm	$I_F = 10\text{ mA}$
$\Delta\lambda_p/\Delta T$	Spectral Shift with Temperature		+0.30		$\text{nm}/^\circ\text{C}$	$I_F = \text{Constant}$
θ_{HP}	Emission Angle at Half Power Points		60		Deg.	$I_F = 100\text{ mA}$
t_r	Rise Time		15		ns	$I_{F(\text{PK})} = 100\text{ mA}$, $\text{PW} = 10\text{ }\mu\text{s}$, D.C. = 10%
t_f	Fall Time		10		ns	

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Op tek 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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