Infrared Light Emitting Diode in Miniature SMD Package



OP250

- Flat Lens
- High Power
- 1206 Package Size
- 880nm Wavelength

The OP250 is a GaAlAs infrared LEDs mounted in a miniature SMT package. The device incorporates a flat molded lens which enables a wide beam angle and provides an even emission pattern. This device is packaged in a 1206 size chip carrier that is compatible with most automated mounting equipment. The OP250 is mechanically and spectrally matched to the OP520 series phototransistors.

Applications

- Non-Contact Position Sensing
- Machine automation

Datum detection

- Optical encoders









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



Absolute Maximum Ratings $T_A = 25^{\circ}$ C unless otherwise noted

Storage Temperature Range	-40° C to +85° C
Operating Temperature Range	-25° C to +85° C
Lead Soldering Temperature	260° C ⁽¹⁾
Reverse Voltage	30 V
Continuous Forward Current	50 mA
Power Dissipation	130 mW ⁽²⁾

Notes:

Solder time less than 5 seconds at temperature extreme. 1.

De-rate linearly at 2.17 mW/° C above 25° C. 2.

Electrical Characteristics (T_A = 25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	ΤΥΡ	MAX	UNITS	CONDITIONS
E _{e(APT)}	Apertured Radiant Incidence	0.2			mW/cm ²	I _F = 20mA ⁽³⁾
V _F	Forward Voltage			1.5	V	I _F = 20mA
I _R	Reverse Current			100	μA	V _R = 2.0V
λ_{P}	Peak Emission Wavelength		890		nm	I _F = 10mA
Θ _{ΗΡ}	Emission Angle at Half Power Points		100		Deg.	I _F = 20mA
t _r , t _f	Rise and Fall Time			500	ns	I _{F(PEAK)} = 100mA, PW = 10μs, 10% D.C.

3. E_{e(APT)} is a measurement of the apertured radiant incidence upon a sensing area 0.081" (2.06mm) in diameter, perpendicular to and centered on the mechanical axis of the lens, and 0.590" (14.99mm) from the measurement surface. E_{e(APT)} is not necessarily uniform within the measured area.



Relative Radiant Intensity vs.

Forward Voltage vs. Forward Current vs. Temperature



SMD Infrared LED OP250





DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

RECOMMENDED SOLDER PADS

