

Infrared Light Emitting Diode in Miniature SMD Package

OP200

- Flat Lens
- High Power
- 0805 Package Size
- 880nm Wavelength

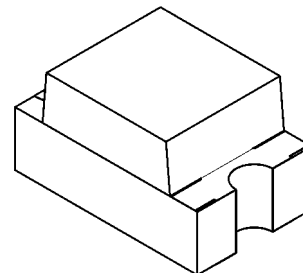
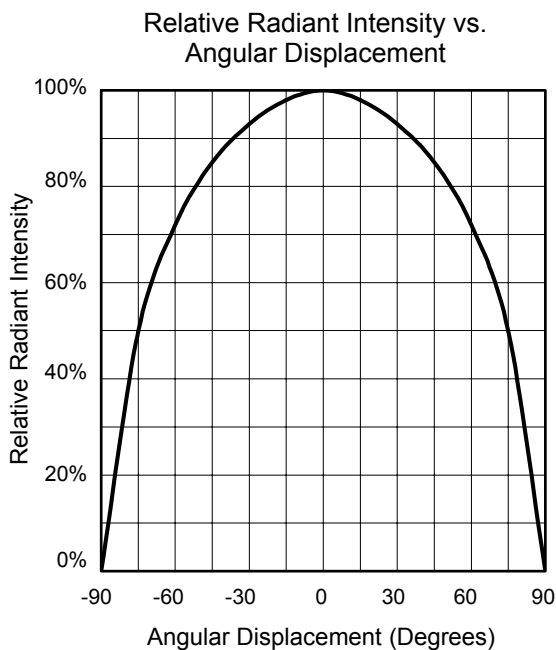


PRELIMINARY

The OP200 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 0805 size chip carrier that is compatible with most automated mounting equipment. The OP200 is mechanically and spectrally matched to the OP520 series phototransistors.

Applications

- Non-Contact Position Sensing
- Machine automation
- Datum detection
- Optical encoders



OP200



LEAD FREE

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

$T_A = 25^\circ\text{C}$ 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⁾ |

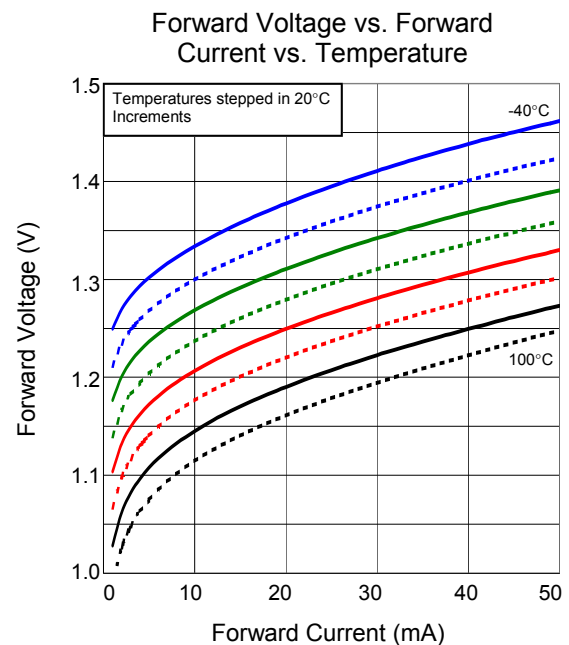
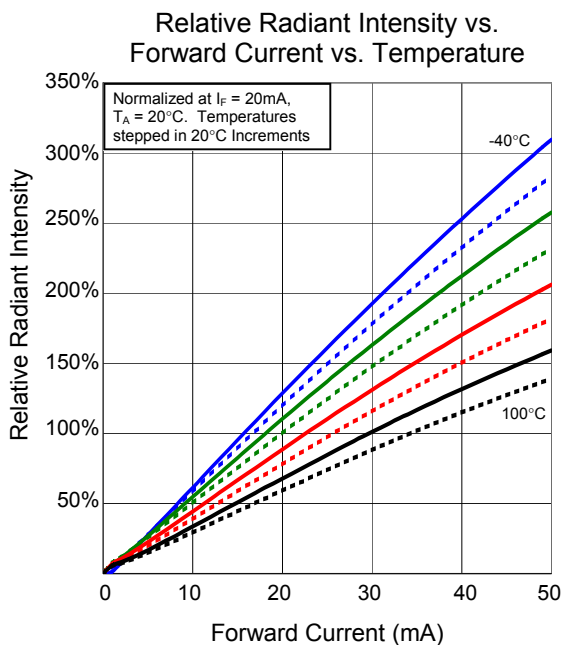
Notes:

- Solder time less than 5 seconds at temperature extreme.
- De-rate linearly at 2.17 mW/° C above 25° C.

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

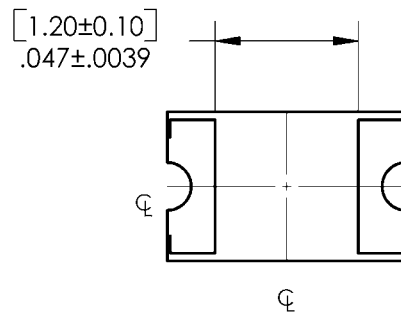
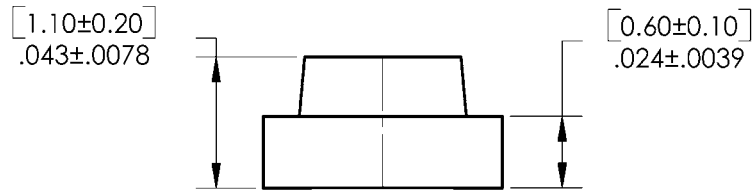
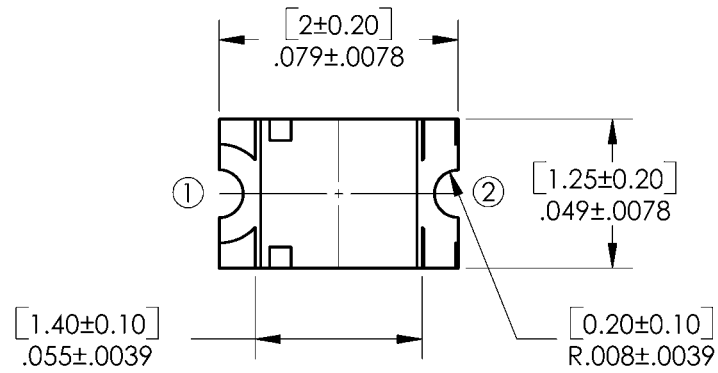
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | CONDITIONS |
|----------------------|-------------------------------------|-----|-----|-----|--------------------|---|
| $E_{e(\text{APT})}$ | Apertured Radiant Incidence | 0.2 | | | mW/cm ² | $I_F = 20\text{mA}^{(3)}$ |
| V_F | Forward Voltage | | | 1.5 | V | $I_F = 20\text{mA}$ |
| I_R | Reverse Current | | | 100 | μA | $V_R = 2.0\text{V}$ |
| λ_P | Peak Emission Wavelength | | 890 | | nm | $I_F = 10\text{mA}$ |
| Θ_{HP} | Emission Angle at Half Power Points | | 150 | | Deg. | $I_F = 20\text{mA}$ |
| t_r, t_f | Rise and Fall Time | | | 500 | ns | $I_{F(\text{PEAK})} = 100\text{mA}$, PW = 10μs, 10% D.C. |

- $E_{e(\text{APT})}$ 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. $E_{e(\text{APT})}$ is not necessarily uniform within the measured area.



SMD Infrared LED

OP200



| PIN | FUNCTION |
|-----|----------|
| 1 | Anode |
| 2 | Cathode |

DIMENSIONS ARE IN INCHES AND [MILLIMETERS].