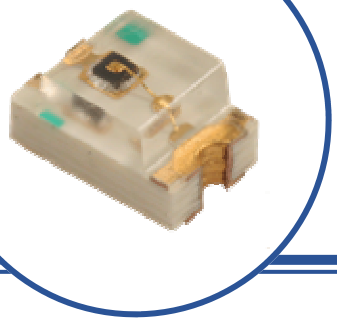
# Infrared Light Emitting Diode in Miniature SMD Package

TT electronics
OPTEK Technology

## OP200

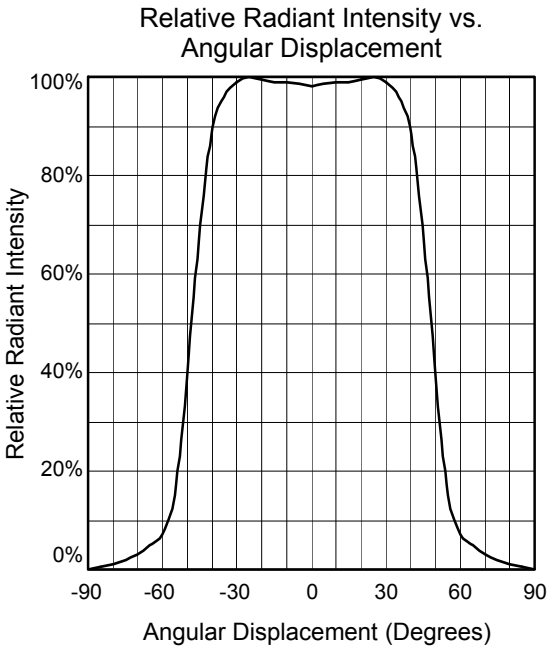
- Flat Lens
- High Power
- 0805 Package Size
- 880nm Wavelength

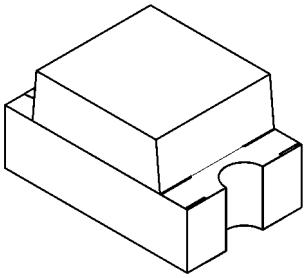


The OP200 is a GaAlAs infrared LEDs mounted in a miniature SMT package. The device incorporates a flat molded lens which enables a wide beam angle and provides an even emission pattern. This device is packaged in a 0805 size chip carrier that is compatible with most automated mounting equipment. The OP200 is mechanically and spectrally matched to the OP520 series phototransistors.

### Applications

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



**OP200**

Pb

**RoHS**

Optek 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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## Absolute Maximum Ratings

$T_A$ = 25° 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) |

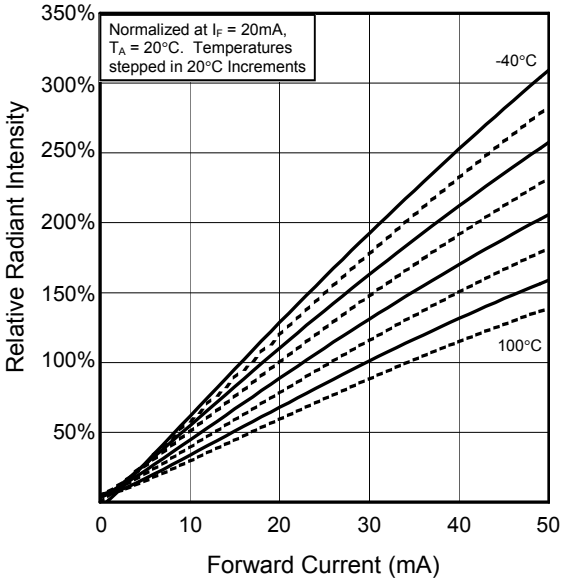
Notes:
1. Solder time less than 5 seconds at temperature extreme.
2. De-rate linearly at 2.17 mW/° C above 25° C.

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

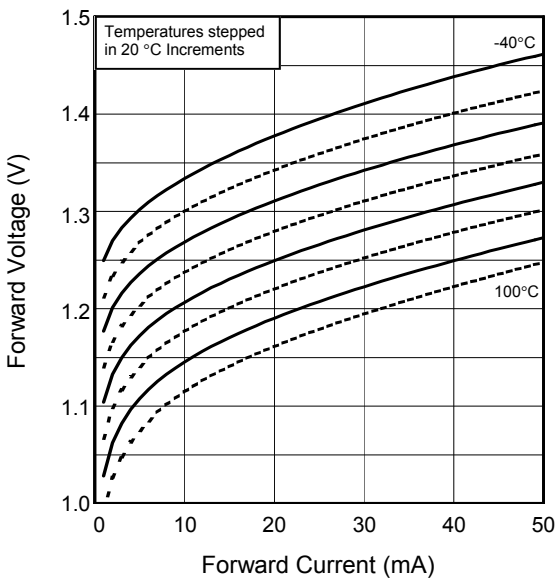
| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | CONDITIONS |
|---|---|---|---|---|---|---|
| $E_{e(APT)}$ | Apertured Radiant Incidence | 0.2 | | | mW/cm$^2$ | $I_F$ = 20mA(3) |
| $V_F$ | Forward Voltage | | | 1.5 | V | $I_F$ = 20mA |
| $I_R$ | Reverse Current | | | 100 | µA | $V_R$ = 2.0V |
| $\lambda_P$ | Peak Emission Wavelength | | 890 | | nm | $I_F$ = 10mA |
| $\Theta_{HP}$ | 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. |

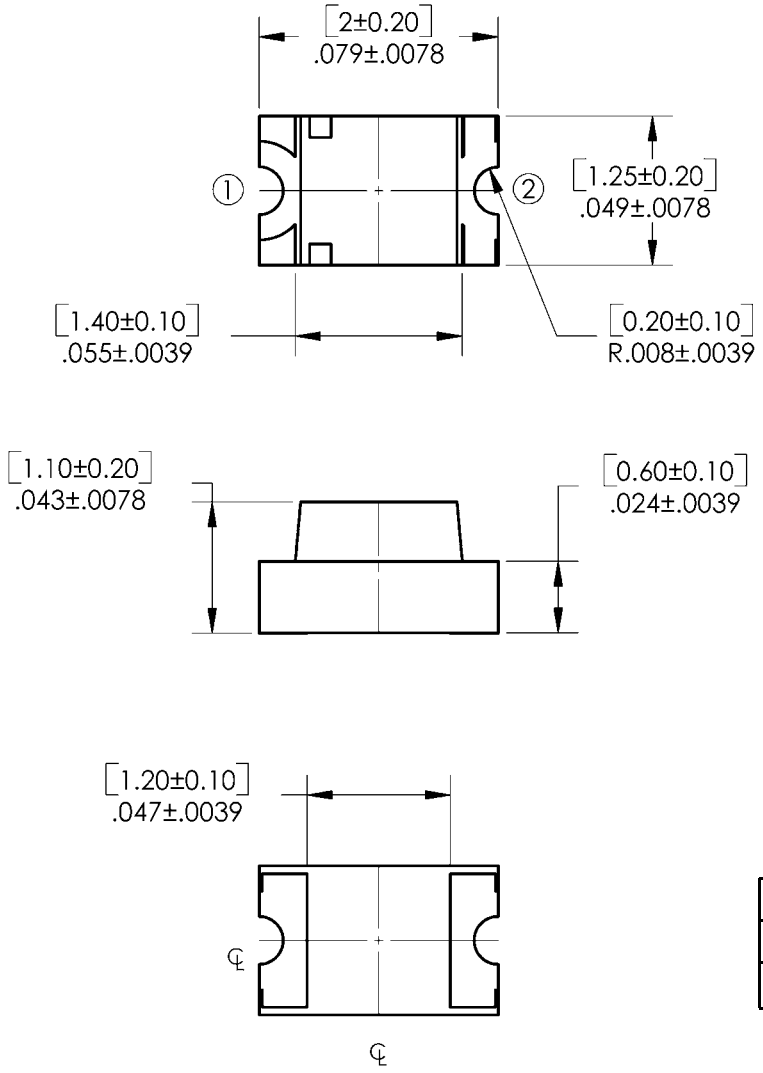
3. $E_{e(APT)}$ is a measurement of the apertured radiant incidence upon a sensing area 0.081" (2.06mm) in diameter, perpendicular to and centered on the mechanical axis of the lens, and 0.590" (14.99mm) from the measurement surface. $E_{e(APT)}$ is not necessarily uniform within the measured area.

Relative Radiant Intensity vs.
Forward Current vs. Temperature




Forward Voltage vs. Forward
Current vs. Temperature






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

DIMENSIONS ARE IN INCHES AND [MILLIMETERS].