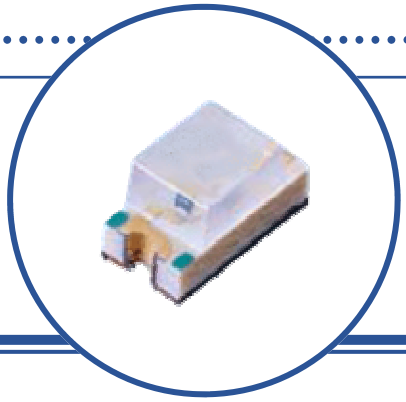
Infrared Light Emitting Diode in Miniature SMD Package

TT electronics
OPTEK Technology

OP200

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

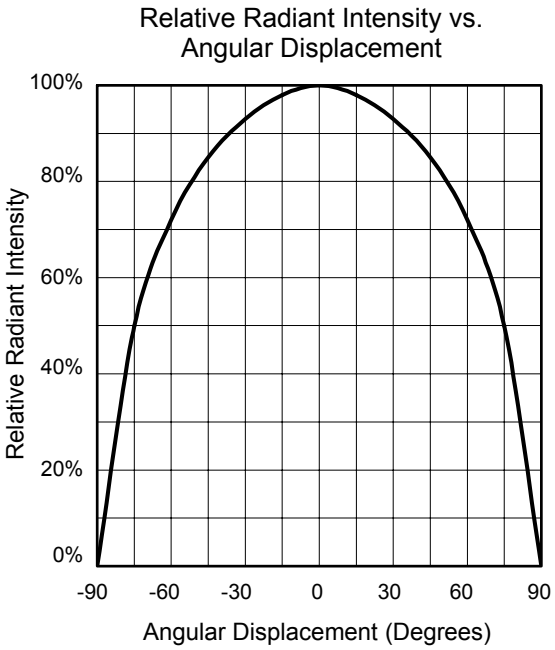


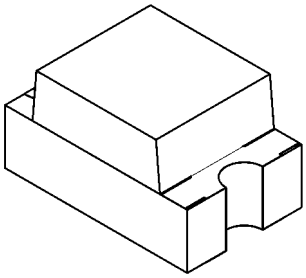
PRELIMINARY

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
- Datum detection
- Machine automation
- Optical encoders





OP200

Pb
LEAD FREE

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.— 1645 Wallace Drive, Carrollton, Texas 75006
Phone: (800) 341-4747 FAX: (972) 323– 2396 sensors@optekinc.com www.optekinc.com

A subsidiary of
TT electronics plc

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)

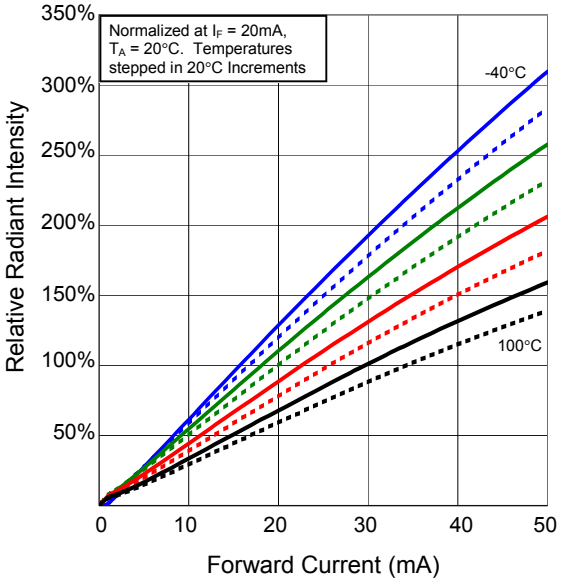
Notes:
1. Solder time less than 5 seconds at temperature extreme.
2. De-rate linearly at 2.17 mW/° C above 25° C.

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

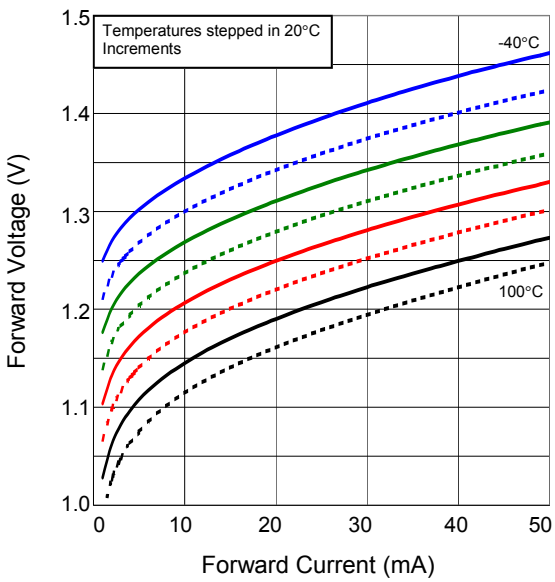
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
$E_{e(APT)}$	Apertured Radiant Incidence	0.2			mW/cm^2	I_F = 20mA(3)
V_F	Forward Voltage			1.5	V	I_F = 20mA
I_R	Reverse Current			100	µA	V_R = 2.0V
λ_P	Peak Emission Wavelength		890		nm	I_F = 10mA
Θ_{HP}	Emission Angle at Half Power Points		150		Deg.	I_F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

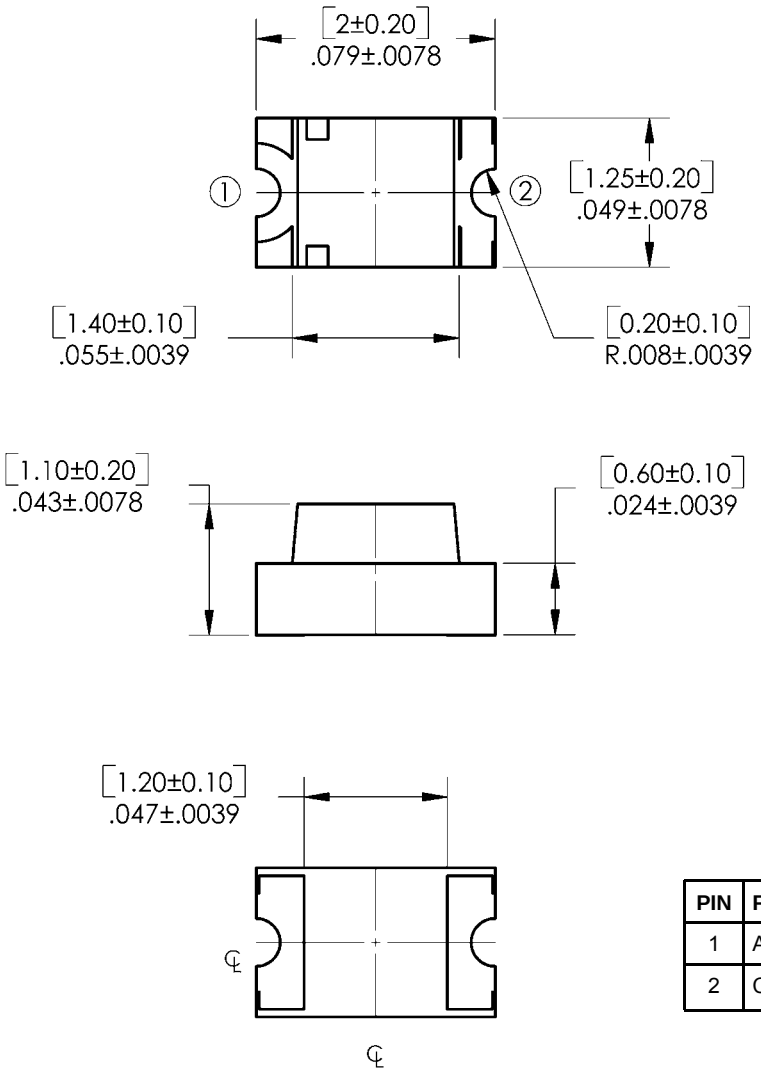
3. $E_{e(APT)}$ is a measurement of the apertured radiant incidence upon a sensing area 0.081" (2.06mm) in diameter, perpendicular to and centered on the mechanical axis of the lens, and 0.590" (14.99mm) from the measurement surface. $E_{e(APT)}$ is not necessarily uniform within the measured area.

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].