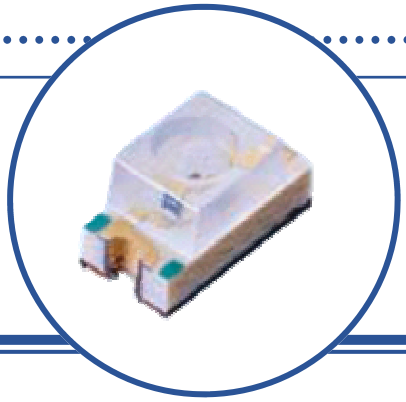
Infrared Light Emitting Diode in Miniature SMD Package

TT electronics
OPTEK Technology

OP251

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

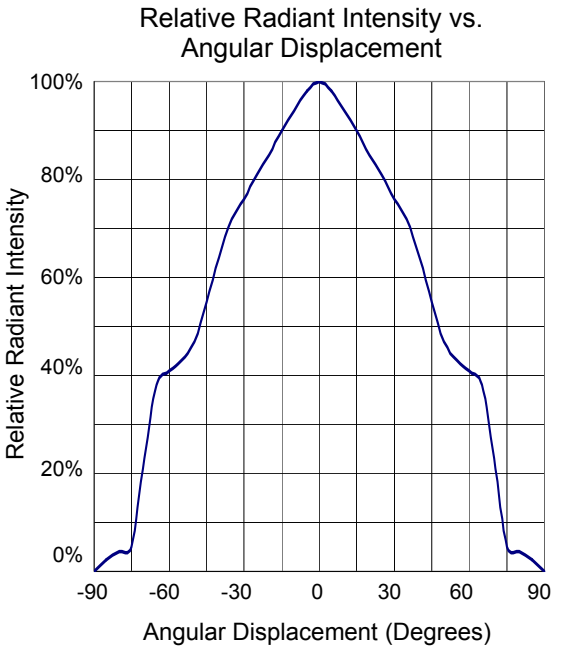


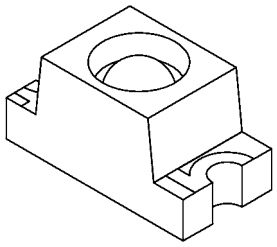
PRELIMINARY

The OP251 is a GaAlAs infrared LEDs mounted in a miniature SMT package. The device incorporates an integral molded lens which enables a tight 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 OP251 is mechanically and spectrally matched to the OP520 series phototransistors.

Applications

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





OP251

LEAD FREE

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A subsidiary of
TT electronics plc

Absolute Maximum Ratings

T_A = 25° C unless otherwise noted

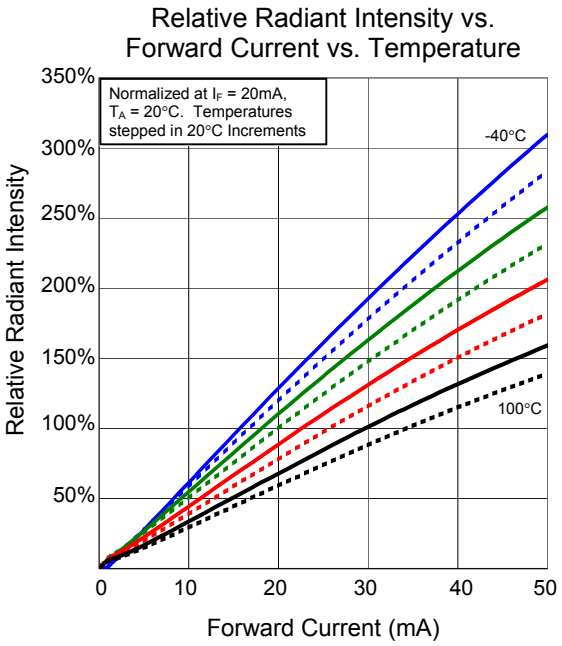
Storage Temperature Range	-40° C to +85° C
Operating Temperature Range	-25° C to +85° C
Lead Soldering Temperature	260° C(1)
Reverse Voltage	30 V
Continuous Forward Current	50 mA
Power Dissipation	130 mW(2)

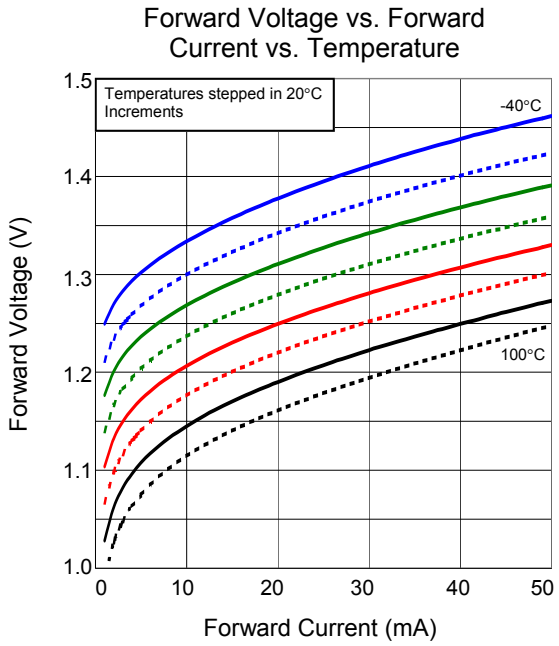
Notes:
1. Solder time less than 5 seconds at temperature extreme.
2. De-rate linearly at 2.17 mW/° C above 25° C.

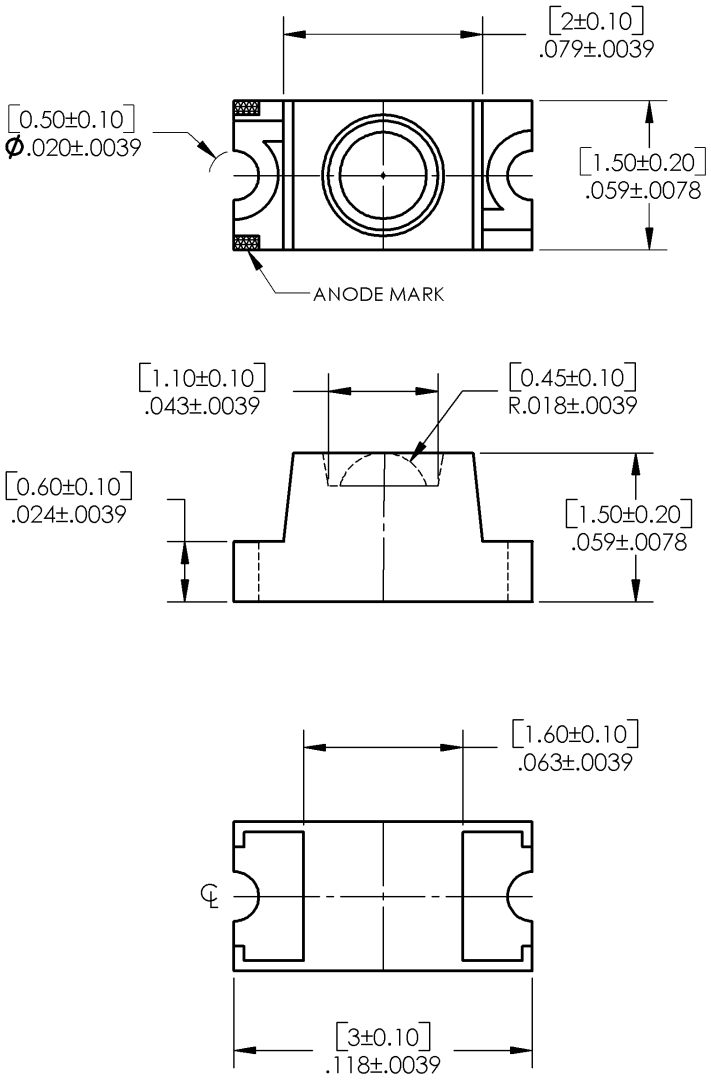
Electrical Characteristics (T_A = 25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
$E_{e(APT)}$	Apertured Radiant Incidence	0.3			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		105		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.







PIN	FUNCTION
1	Anode
2	Cathode

DIMENSIONS ARE IN INCHES AND [MILLIMETERS].

RECOMMENDED SOLDER PADS