Infrared Light Emitting Diode OPR2800, OPR2800T



Features:

- High-power GaAIAs
- Matches PLCC-2 footprint
- 880 nm wavelength
- Wide beam angle
- Wide operating temperature range (-40° C to +100° C)



Description:

The **OPR2800** is a GaAlAs infrared LED mounted in a surface mount chip carrier (SMCC) package with a flat lens window that allows a wide beam angle. The SMCC format has a lower height profile than the PLCC-2 package and mounts in the same footprint. The device is suitable for use in single device or array applications. The OPR2800 is spectrally matched to the OPR5500 phototransistor.

Applications:

- Non-contact position sensing
- Datum detection
- Machine automation
 Optical oppoding
- Optical encoding

Ordering Information							
Part Number	LED Peak Wavelength	Total Beam Angle	Packaging				
OPR2800	880 nm	100°	Waffle Pack				
OPR2800T	000 mm	100	Tape & Reel				



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Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

Storage Temperature Range	-40° C to +100° C
Operating Temperature Range	-40° C to +100° C
Reverse Voltage	30 V
Continuous Forward Current	50 mA
Solder reflow time within 5°C of peak temperature is 20 to 40 seconds ⁽¹⁾	250° C
Power Dissipation	130 mW ⁽²⁾

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

SYMBOL	PARAMETER	MIN	ТҮР	MAX	UNITS	TEST CONDITIONS	
E _{E (APT)}	Apertured Radiant Incidence	0.2	-	-	mW/cm ²	I _F = 20 mA ⁽³⁾	
V_{F}	Forward Voltage	-	-	1.50	V	I _F = 50 mA	
I _R	Reverse Current	-	-	100	μA	V _R = 2.0 V	
λ_{P}	Wavelength at Peak Emission		890	-	nm	I _F = 10 mA	
θ_{HP}	Emission Angle at Half Power Points	-	100	-	Degree	I _F = 20 mA	
tr	Output Rise Time, Output Fall Time	-	-	500	ns	I _{F(PK)} = 100 mA, PW = 10 μs, D.C. = 10.0%	
t _f	Output Rise Time, Output Fall Time	-	-	500	ps		

Notes:

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

2. Derate linearly at 1.73 mW/° C above 25° C.

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



OP2800



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