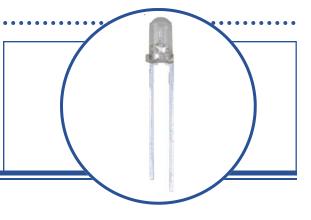
Plastic Infrared Emitting Diode OP266AA SERIES



Features:

- T-1 (3 mm) package style
- · Narrow irradiance pattern
- Dome lens
- Higher power output than GaAs at equivalent drive currents
- 850 nm diode



Description:

Each device in the **OP266AA** series is a high intensity gallium aluminum arsenide infrared emitting diode (GaAlAs) that is molded in an IR transmissive clear or amber-tinted epoxy package with a dome lens. Devices feature a narrow source irradiance pattern and a variety of electrical characteristics. The small T-1 package style makes these devices ideal for space-limited applications.

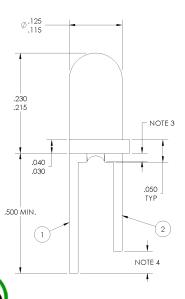
These devices are mechanically and spectrally matched to other OPTEK products as follows:

The OP266AA family conform to the OP506 and OP535 series devices.

Please refer to Application Bulletins 208 and 210 for additional design information and reliability (degradation) data.

Applications:

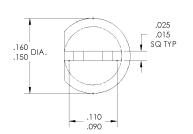
- · Space-limited applications
- · Applications requiring coupling efficiency
- Battery-operated or voltage-limited applications



Ordering Information									
Part LED Peak Number Wavelength		Output Power (mW/ cm²) Min / Max	I _F (mA) Typ / Max	Total Beam Angle	Lead Length				
OP266AA		5.5 / NA		18°	MIN 0.100"				
OP266AB	050	7.5 / 12.5	20 / 50						
OP266AC	850 nm	11.5 / 16.5	20/50						
OP266AD		15.5 / NA							

NOTES:

- 1. Outside discrete shell is polysulfone CLEAR.
- 2. This LED is built with a GaAlAs chip.
- 3. Max allowable epoxy miniscus is 0.030".
- For identification purposes, Cathode lead is .065" ± .035" longer than the anode lead.
- 5. Dimensions are in inches



Pin#	LED	
1	Cathode	
2	Anode	

CONTAINS POLYSULFONE

To avoid stress cracking, we suggest using ND Industries' Vibra-Tite for thread-locking. Vibra-Tite evaporates fast without causing structural failure in OPTEK'S molded plastics.

RoHS

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

Plastic Infrared Emitting Diode OP266AA SERIES



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

Storage and Operating Temperature Range	-40° C to +100° C
Reverse Voltage	2.0 V
Continuous Forward Current	50 mA
Peak Forward Current (1 µs pulse width, 300 pps)	3.0 A
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 seconds with soldering iron]	260° C ⁽¹⁾
Power Dissipation	100 mW ⁽²⁾

Notes:

- 1. RMA flux is recommended. Duration can be extended to 10 second maximum when flow soldering. A maximum of 20 grams force may be applied to the leads when soldering.
- 2. Derate linearly at 1.33 mW/° C above 25° C.
- 3. E_{E(APT)} is a measurement of the average 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. E_{E(APT)} is not necessarily uniform within the measured area.

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

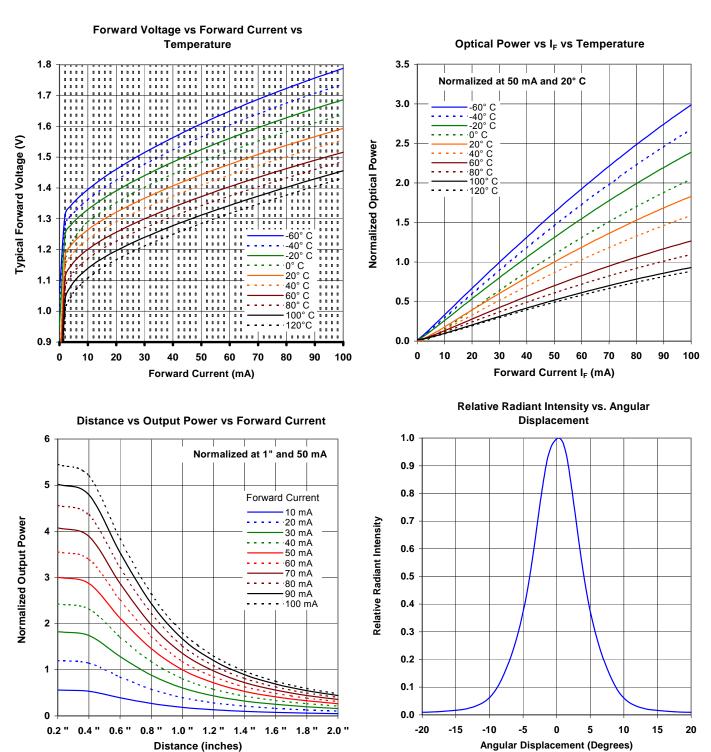
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS			
Input Diode									
E _{E (APT)}	Apertured Radiant Incidence OP266AA OP266AB OP266AC OP266AD	5.50 7.50 11.50 15.50	1 1 1 1	- 12.5 16.5 -	mW/cm ²	I _F = 20 mA Aperture = 0.081" diameter Distance = 0.590" from seating surface to aperture surface			
V_{F}	Forward Voltage	-	-	1.80	V	I _F = 20 mA			
I _R	Reverse Current	-	10	-	μA	V _R = 10 V			
λ_{P}	Wavelength at Peak Emission	ı	850	ı	nm	I _F = 10 mA			
$\Delta \lambda_P / \Delta T$	Spectral Shift with Temperature	-	±0.18	ı	nm/°C	I _F = Constant			
θ_{HP}	Emission Angle at Half Power Points	-	18	-	Degree	I _F = 20 mA			
t _r	Output Rise Time	-	10	-	ns	I _{F(PK)} =100 mA, PW=10 μs, D.C.=10.0%			
t _f	Output Fall Time	-	10	-	ns				

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OP266AA, AB, AC, AD



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