

Plastic Infrared Emitting Diode

OP265FAA Series Obsolete (OP265FAC)



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 **OP265FAA** series is a high intensity gallium arsenide infrared emitting diode (GaAIAs) that is molded in an IR transmissive clear 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:

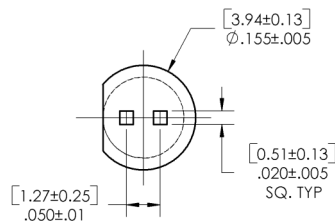
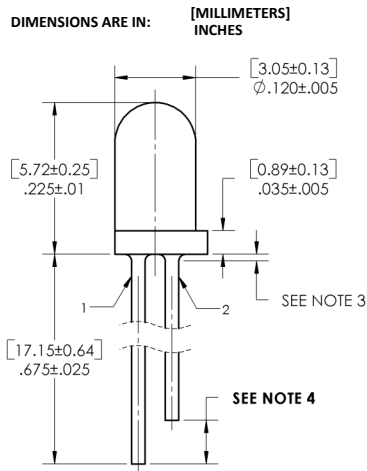
OP265 devices conform to the OP505 and OP535 series devices.

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 Number	LED Peak Wavelength	Output Power (mW/cm ²) Min / Max	I _F (mA) Typ / Max	Total Beam Angle	Lead Length
OP265FAA	850 nm	5.5 / NA	20 / 50	18°	0.50"
OP265FAB		7.5 / 12.5			
OP265FAC (Obsolete)		11.5 / 16.5			



DISCRETE PIN-OUT

- 1 CATHODE
- 2 ANODE



IMPORTANT:
For identification purposes, ANODE lead is shorter than the CATHODE lead in order to differentiate this product from regular OP265 and/or OP313.

NOTES:

1. OUTSIDE DISCRETE SHELL IS POLYSULFONE P1700 CLEAR.
2. THIS LED IS BUILT WITH A 850nm CHIP.
3. MAX ALLOWABLE EPOXY MINISCUS IS 0.030.
4. FOR IDENTIFICATION PURPOSES, ANODE LEAD IS .065 ± .035 SHORTER THAN THE CATHODE LEAD.

Pin #	LED
1	Cathode
2	Anode



RoHS

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.

General Note

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Electrical Specifications

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Storage and Operating Temperature Range	-40°C to $+100^\circ\text{C}$
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]	$260^\circ\text{C}^{(1)}$
Power Dissipation	$100\text{ mW}^{(2)}$

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 $1.33\text{ mW}/^\circ\text{C}$ above 25°C .
3. $E_{E(\text{APT})}$ 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. $E_{E(\text{APT})}$ is not necessarily uniform within the measured area.

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode						
$E_{E(\text{APT})}$	Apertured Radiant Incidence OP265FAA OP265FAB	5.50 7.50	- -	- 12.5	mW/cm^2	$I_F = 20\text{ mA}$ Aperture = 0.081" diameter Distance = 0.590" from seating surface to aperture surface
V_F	Forward Voltage	-	-	1.80	V	$I_F = 20\text{ mA}$
I_R	Reverse Current	-	10	-	μA	$V_R = 10\text{ V}$
λ_P	Wavelength at Peak Emission	-	850	-	nm	$I_F = 10\text{ mA}$
$\Delta\lambda_P/\Delta T$	Spectral Shift with Temperature	-	± 0.18	-	$\text{nm}/^\circ\text{C}$	$I_F = \text{Constant}$
θ_{HP}	Emission Angle at Half Power Points	-	18	-	Degree	$I_F = 20\text{ mA}$
t_r	Output Rise Time	-	10	-	ns	$I_{F(\text{PK})} = 100\text{ mA}$, $\text{PW} = 10\text{ }\mu\text{s}$, D.C. = 10.0 %
t_f	Output Fall Time	-	10	-	ns	$I_{F(\text{PK})} = 100\text{ mA}$, $\text{PW} = 10\text{ }\mu\text{s}$, D.C. = 10.0 %

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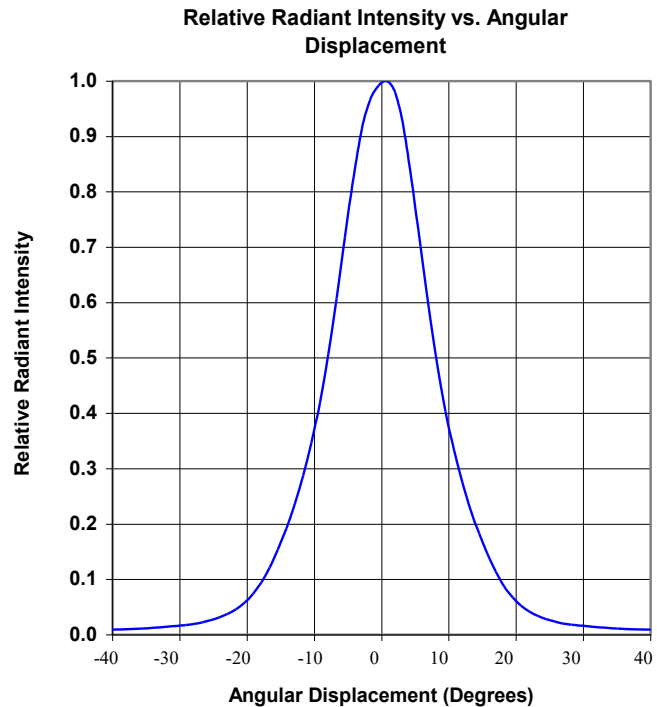
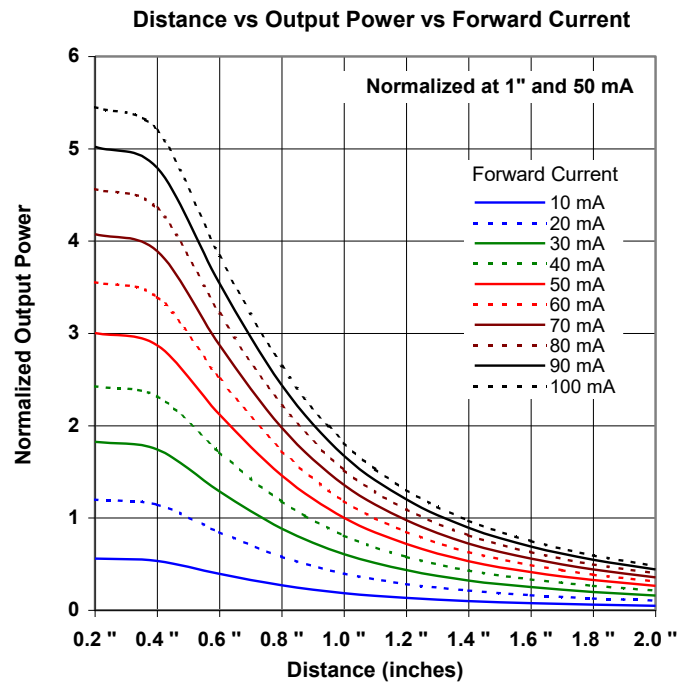
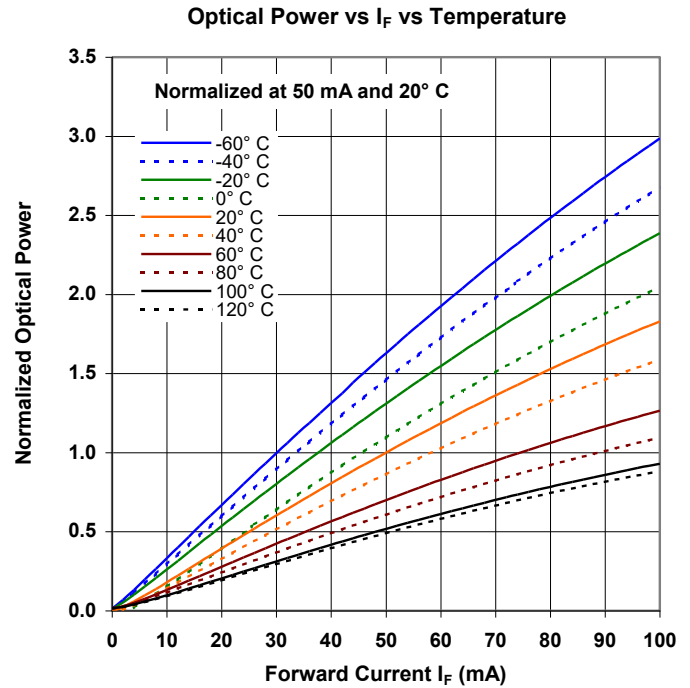
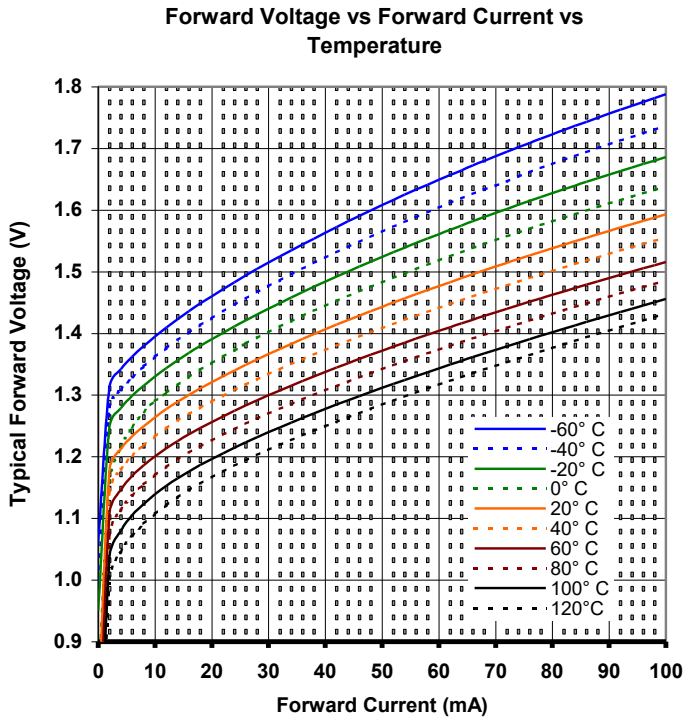
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Performance

OP265F (AA, AB)



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