



# THE DATASHEET OF OPF372A



# Fiber Optic GaAlAs LED

## OPF320, OPF340 Series



### Features:

- Low Cost 850 nm LED technology
- Electrically isolated plastic cap package
- High thermal stability
- High optical coupling efficiency to multimode fiber
- Industrial temperature range
- 75 MHz Bandwidth

### Description:

The OPF320 and OPF340 series fiber optic transmitters are high performance devices packaged for data communication links. This transmitter is an 850 nm GaAlAs LED and is specifically designed to efficiently launch optical power into fibers ranging in size from 50/125  $\mu\text{m}$  up to 200/300  $\mu\text{m}$  diameter fiber. Multiple power ranges with upper and lower limits are offered which allows the designer to select a device best suited for the application.

This product's combination of features including high speed and efficient coupled power makes it an ideal transmitter for integration into all types of data communications equipment.

### Applications:

- Industrial Ethernet equipment
- Copper-to-fiber media conversion
- Intra-system fiber optic links
- Video surveillance systems

Typical Coupled Power $I_F = 100 \text{ mA}, 25^\circ \text{ C}$					
Fiber Size	Type	N.A.	OPF320A	OPF320B	OPF340A
50/125 $\mu\text{m}$	Graded Index	0.20	19 $\mu\text{W}$	12.5 $\mu\text{W}$	25 $\mu\text{W}$
62.5/125 $\mu\text{m}$	Graded Index	0.28	34 $\mu\text{W}$	22 $\mu\text{W}$	45 $\mu\text{W}$
100/140 $\mu\text{m}$	Graded Index	0.29	95 $\mu\text{W}$	62 $\mu\text{W}$	125 $\mu\text{W}$
200/300 $\mu\text{m}$	Step Index	0.41	360 $\mu\text{W}$	235 $\mu\text{W}$	475 $\mu\text{W}$



RoHS

#### General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

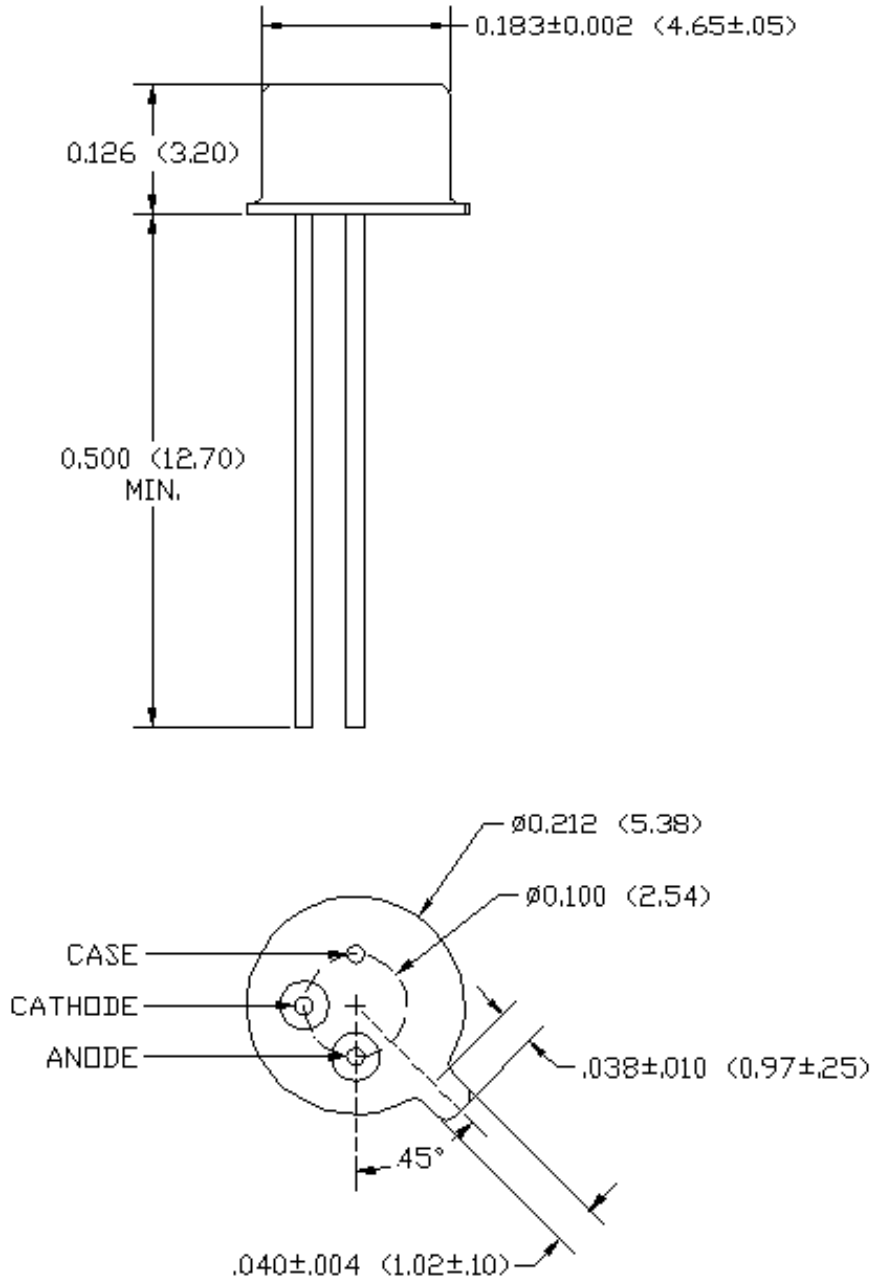
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## Mechanical Data



DIMENSIONS ARE IN INCHES (MILLIMETERS)

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### Electrical Specifications

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

Storage Temperature Range	-55°C to +150°C
Operating Temperature Range	-40°C to +125°C
Lead Soldering Temperature <sup>(1)</sup>	260°C
Continuous Forward Current <sup>(2)</sup>	100 mA
Maximum Reverse Voltage	1.0 V

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
$P_O$	Radiant Power Output:					$I_F = 100\text{ mA}$ , 50/125 $\mu\text{m}$ cable, N.A. = 0.20
	OPF320A	15	19.0	-	$\mu\text{W}$	
	OPF320B	10	12.5	-		
	OPF340A	20	25	-		
$V_F$	Forward Voltage	-	1.8	2.0	V	$I_F = 100\text{ mA}$
$\lambda_P$	Peak Output Wavelength	830	850	870	nm	$I_F = 50\text{ mA}$
B	Spectral Bandwidth Between Half Power Points	-	35	-	nm	$I_F = 50\text{ mA}$
$t_r, t_f$	Rise and Fall Time	-	6.0	10.0	ns	$I_F = 100\text{ mA}$ ; 10% to 90% <sup>(4)</sup>

#### Notes:

- (1) Maximum of 5 seconds with soldering iron, 1/16 inch (1.6 mm) from case. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
- (2) Derate linearly 1.0 mA/°C above 25° C.
- (3) To convert radiant power output to dBm, use the following expression  $\text{dBm} = 10 \log (\mu\text{W}/1000)$ .
- (4) No Pre-bias.

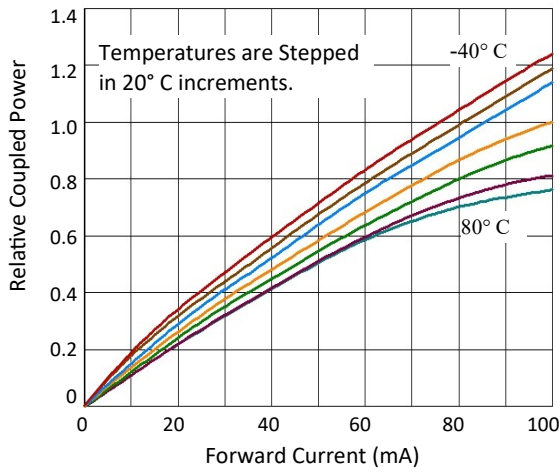
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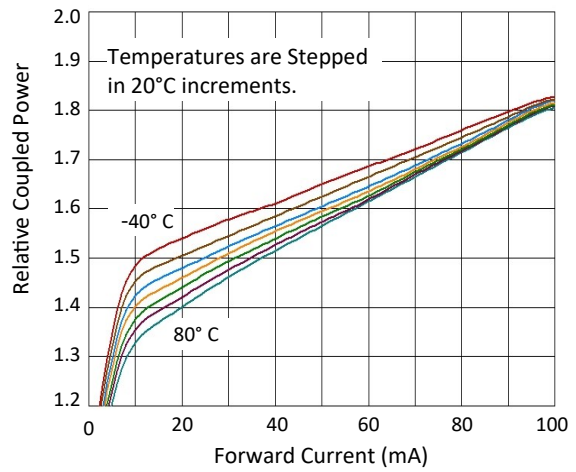
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### Performance

#### Relative Coupled Power vs. Forward Current



#### Typical Forward Voltage vs. Forward Current



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