

# Fiber Optic Transmitter

## OPF342 Family



### OPF342 Family

- Low Cost 850 nm LED technology
- Popular ST<sup>®</sup> style receptacle
- Pre-tested with fiber to assure performance
- Component pre-mounted and ready to use
- Extended temperature range
- 55MHz operation



The OPF342 family fiber optic transmitters are high performance devices packaged for data communication links. This transmitter is an 850nm GaAlAs LED and is specifically designed to efficiently launch optical power into fibers ranging in size from 50/125 $\mu$ m up to 200/300 $\mu$ 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.

The mechanical design of this packaged is intended for PC Board or panel mounting. It is shipped with a lock washer, jam nut, 2 #2-56 screws, and a protective dust cap.

### 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°C						
Fiber Size	Type	N.A.	OPF342A	OPF342B	OPF342C	OPF342D
50/125 $\mu$ m	Graded Index	0.20	25 $\mu$ W	18 $\mu$ W	12.5 $\mu$ W	7.5 $\mu$ W
62.5/125 $\mu$ m	Graded Index	0.28	45 $\mu$ W	34 $\mu$ W	22 $\mu$ W	14 $\mu$ W
100/140 $\mu$ m	Graded Index	0.29	125 $\mu$ W	95 $\mu$ W	62 $\mu$ W	38 $\mu$ W
200/300 $\mu$ m	Step Index	0.41	475 $\mu$ W	340 $\mu$ W	235 $\mu$ W	140 $\mu$ W



RoHS



ESD Class 2

All Optek OPF LED emitters are AEL Class I as defined by IEC 60825-1 and are Risk Group 1 (Low-Risk) as defined by IEC 62471.

ST<sup>®</sup> is a registered trademark of AT&T.

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

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### Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$  unless otherwise noted

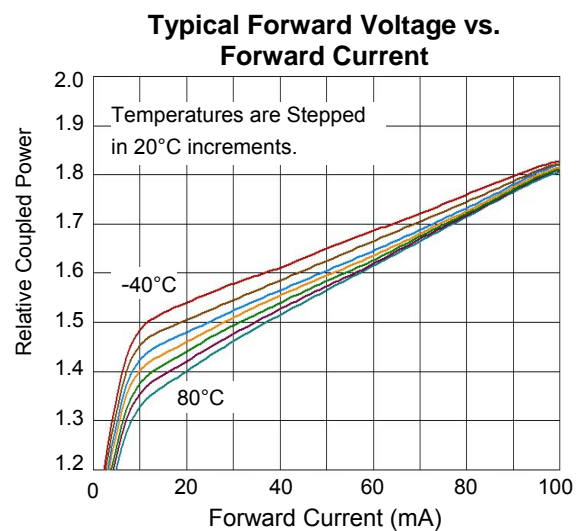
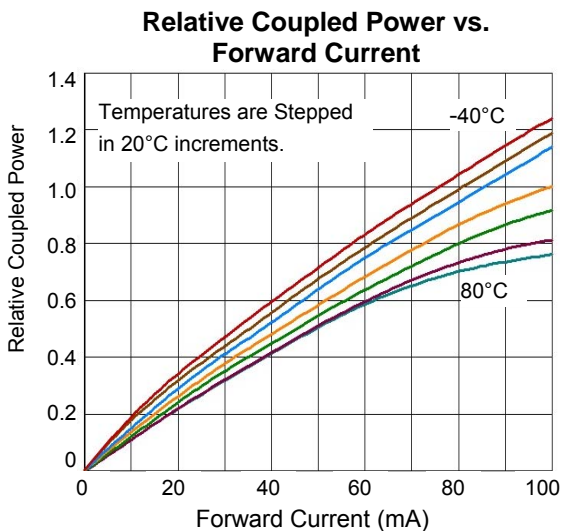
Storage Temperature Range	-55° C to +150° C
Operating Temperature Range	-40° C to +125° C
Lead Soldering Temperature <sup>(1)</sup>	260° C
Continuous Forward Current <sup>(2)</sup>	100 mA
Maximum Reverse Voltage	1.0 V

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

SYMBOL	PARAMETER		MIN	TYP	MAX	UNITS	CONDITIONS
$P_{OC}$	Total Coupled Power 50/125 mm Fiber, NA = 0.20	OPF342A	20.0	25.0		$\mu\text{W}$	$I_F = 100\text{ mA}$
		OPF342B	15.0	18.0			
		OPF342C	10.0	12.5			
		OPF342D	5.0	7.5			
$V_F$	Forward Voltage			1.8	2.2	V	$I_F = 100\text{ mA}$
$V_R$	Reverse Voltage		1.8			V	$I_R = 100\text{ }\mu\text{A}$
$\lambda$	Wavelength		830	850	870	nm	$I_F = 50\text{ mA}$
$\Delta\lambda$	Optical Bandwidth			45	60	nm	$I_F = 50\text{ mA}$
$t_r, t_f$	Rise and Fall Time			4.5	6.0	ns	$I_F = 100\text{ mA}; 10\% \text{ to } 90\%^{(3)}$

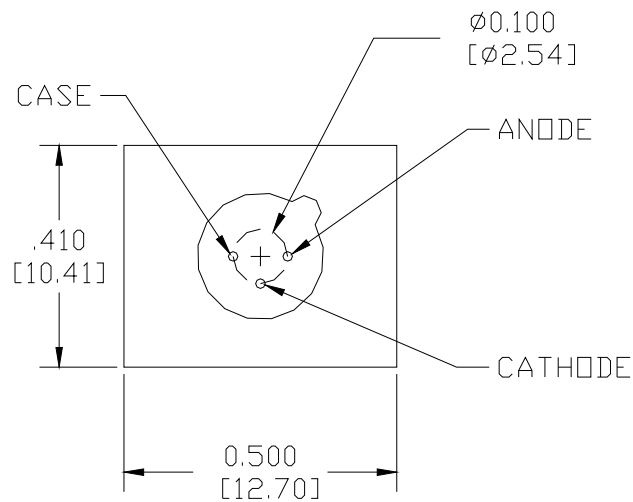
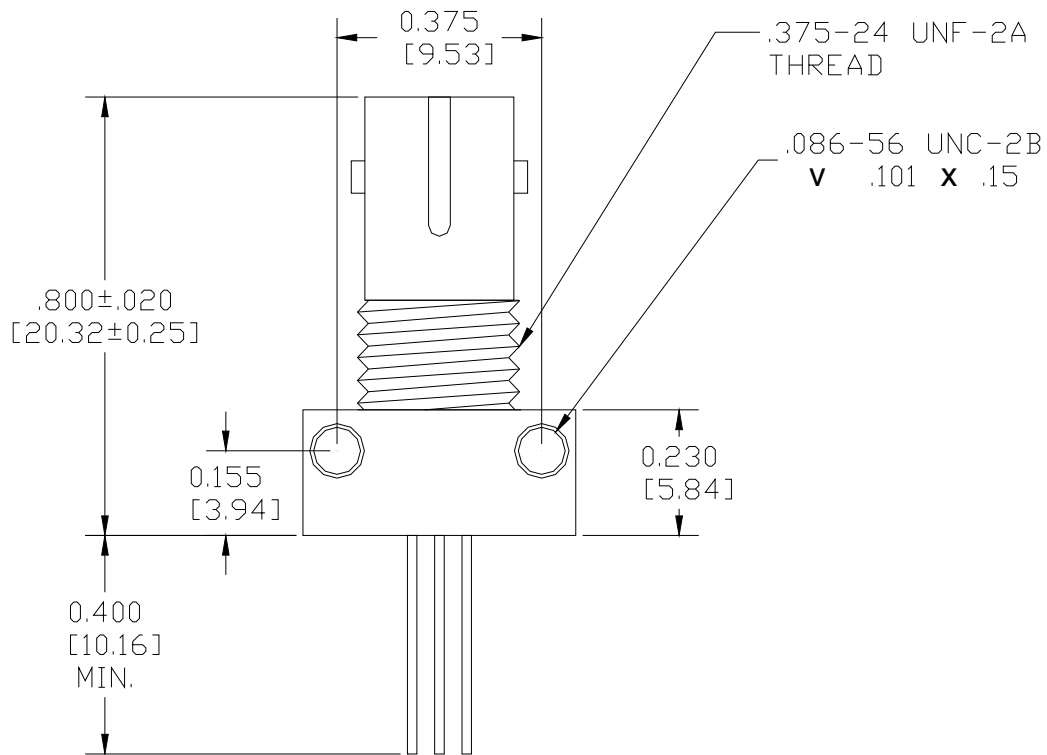
#### Notes:

- Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
- De-rate linearly at  $0.64\text{mA}/^\circ\text{C}$  above  $25^\circ\text{C}$ .
- No Pre-bias.
- All Optek fiber optic LED products are subjected to 100% burn-in as part of its quality control process. The burn-in conditions are 96 hours at 100mA drive current and  $25^\circ\text{C}$  ambient temperature.



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## Mechanical Data



DIMENSIONS ARE IN INCHES (MILLIMETERS)

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