

Fiber Optic Transmitter

OPF397A



Features:

- Low Cost 850 nm LED technology
- Popular ST[®] style receptacle
- Pre-tested with fiber to assure performance
- Component pre-mounted and ready to use
- 75MHz operation



Description:

The OPF397A fiber optic transmitter is a high performance device 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 50/125µm up to 200/300µm 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.	OPF397A
50/125 µm	Graded Index	0.20	25µW
62.5/125 µm	Graded Index	0.28	75µW
100/140 µm	Graded Index	0.29	170µW
200/300 µm	Step Index	0.41	650µW

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.



RoHS



ESD Class 2

ST[®] is a registered trademark of AT&T.

General Note

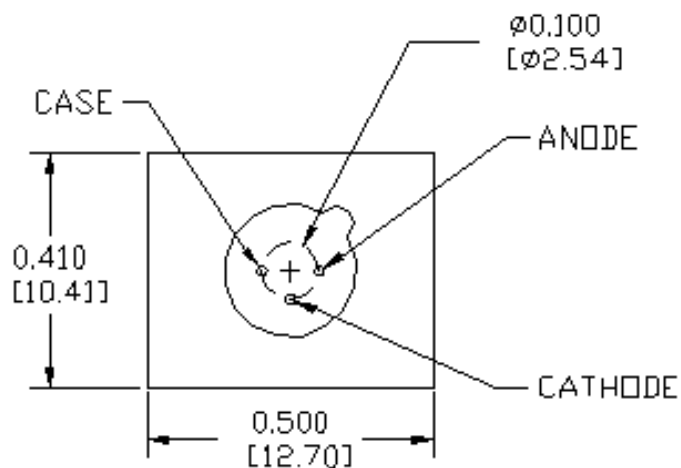
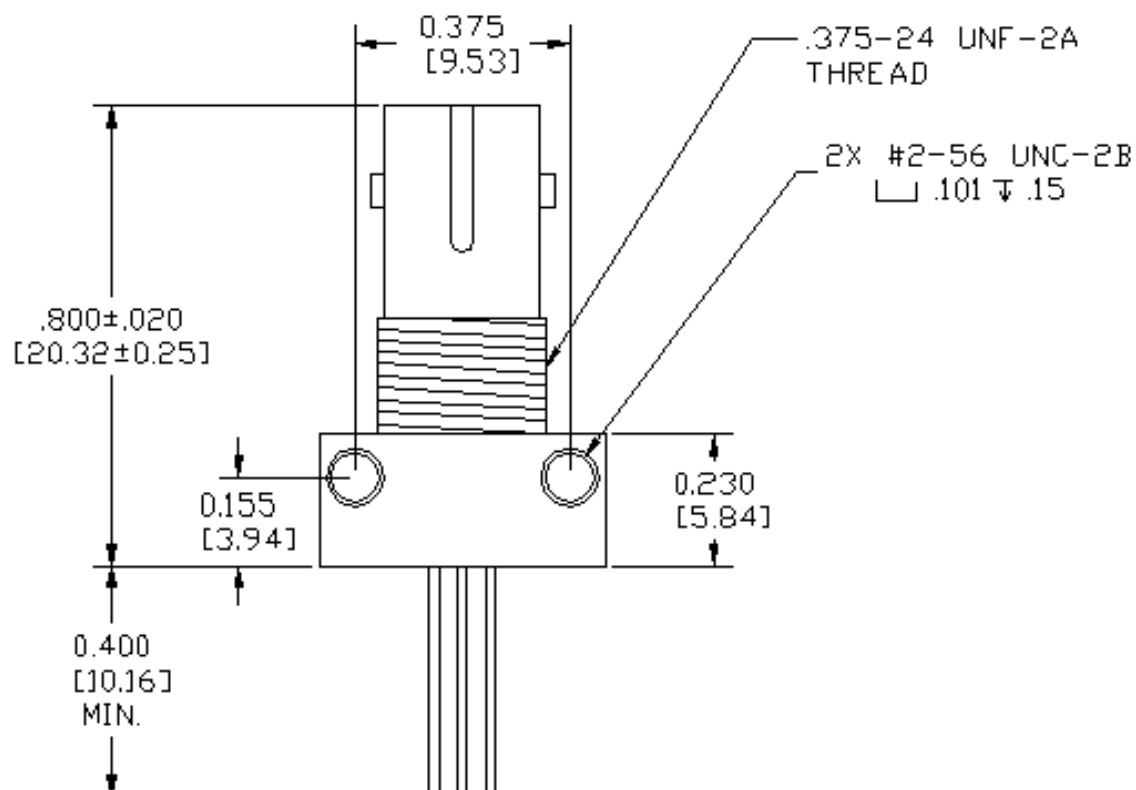
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Mechanical Data



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 $+100^\circ\text{C}$
Operating Temperature Range	-40°C to $+85^\circ\text{C}$
Lead Soldering Temperature ⁽¹⁾	260°C
Continuous Forward Current ⁽²⁾	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_{OC}	Total Coupled Power 50/125 mm Fiber, NA = 0.20	OPF397A	20.0	25.0		μW	$I_F = 100\text{ mA}$
V_F	Forward Voltage			1.8	2.2	V	$I_F = 100\text{ mA}$
V_R	Reverse Voltage		1.8			V	$I_R = 100\text{ }\mu\text{A}$
λ	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			3.5	4.5	ns	$I_F = 100\text{ mA}$; 10% to 90% ⁽³⁾

Notes:

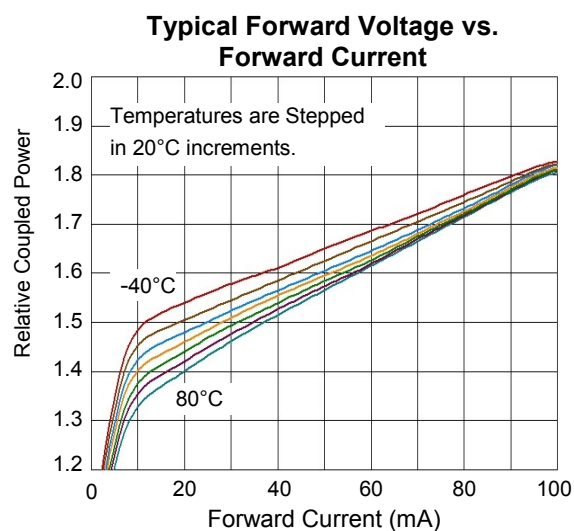
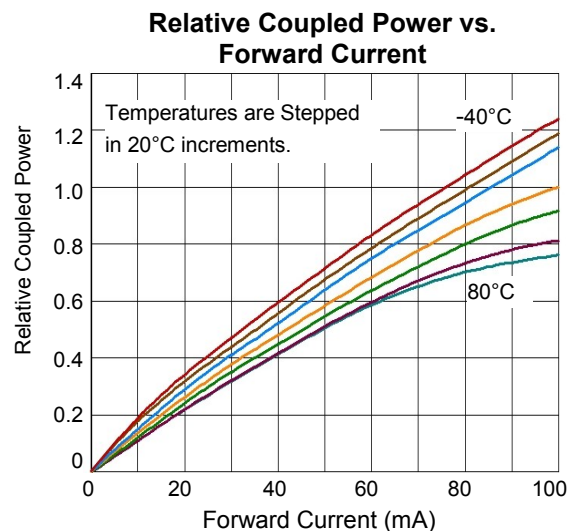
- Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
- De-rate linearly at $1.33\text{ mA}/^\circ\text{C}$ above 25°C .
- No Pre-bias.
- All Optek fiber optic LED products are subjected to 100% burn-in as part of its quality control process. The burn-in conditions are 96 hours at 100mA drive current and 25°C ambient temperature.

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Performance



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