

# Fiber Optic Transmitter

## OPF693-2



### Features:

- 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
- 55MHz operation

### Description:

The OPF693-2 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 50/125 $\mu$ 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 products' combination of features including high speed and efficient coupled power makes it ideal transmitters for integration into all types of data communications equipment.

The mechanical design of this package 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

Package Material		
Part Number	Body Material	Body Style
OPF693	Zinc, Die Cast	ST-LP <sup>®</sup>

Typical Coupled Power $I_f = 100\text{mA}, 25^\circ\text{C}$			
Fiber Size	Type	N.A.	OPF693-2
50/125 $\mu\text{m}$	Graded Index	0.20	25 $\mu\text{W}$
62.5/125 $\mu\text{m}$	Graded Index	0.28	65 $\mu\text{W}$
100/140 $\mu\text{m}$	Graded Index	0.29	160 $\mu\text{W}$
200/300 $\mu\text{m}$	Step Index	0.41	630 $\mu\text{W}$

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

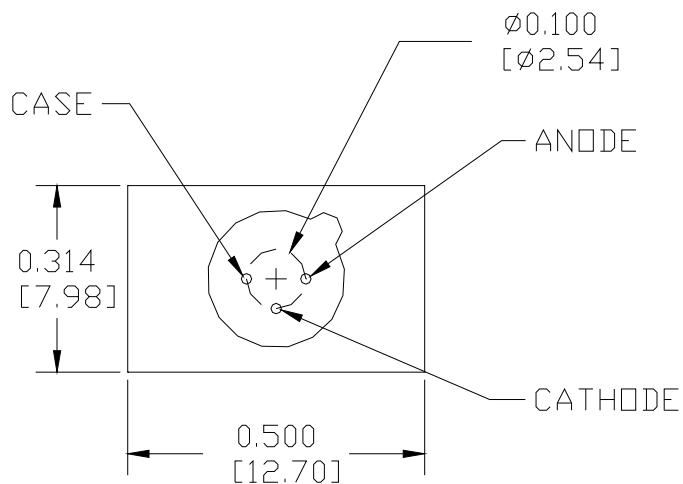
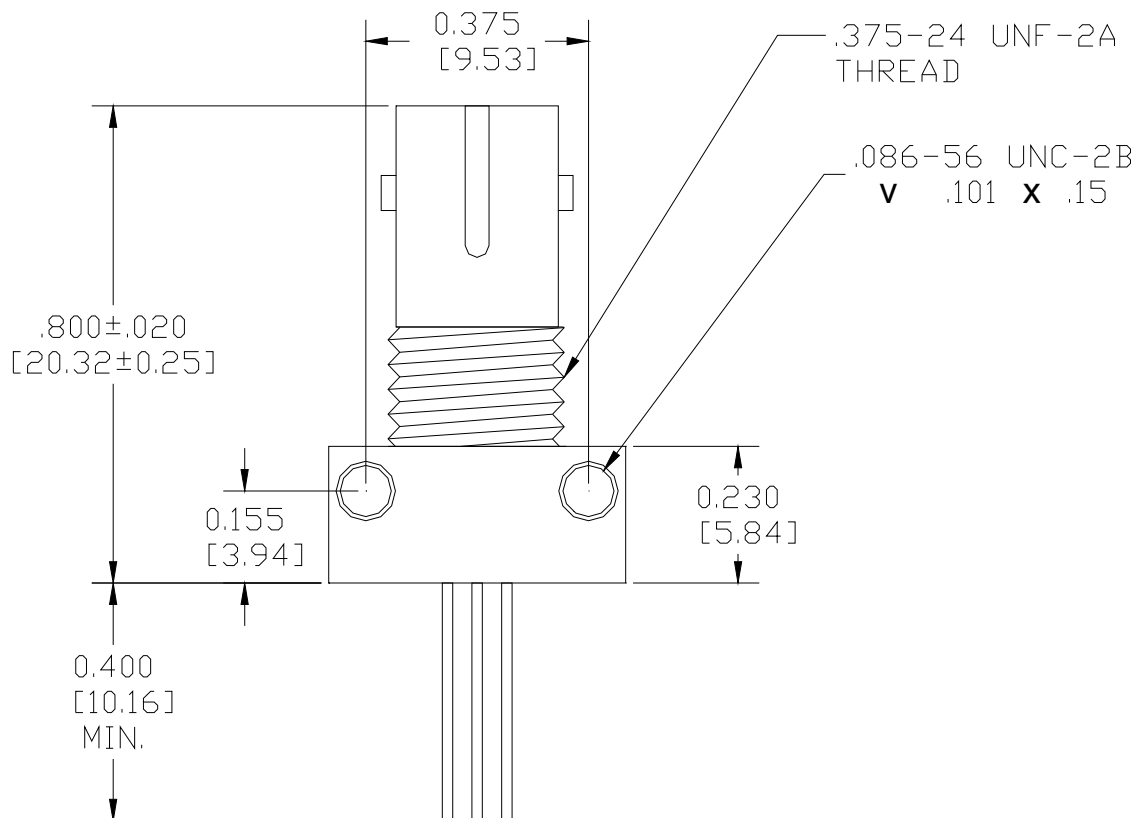
ST<sup>®</sup> is a registered trademark of AT&T.

### 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 +100° C
Operating Temperature Range	-40° C to +85° 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
$P_{OC}$	Total Coupled Power 50/125 mm Fiber, NA = 0.20	OPF693-2	25.0	50.0	80.0	$\mu\text{W}$	$I_F = 100\text{ mA}$
$V_F$	Forward Voltage			1.8	2.2	V	$I_F = 100\text{ mA}$
$V_R$	Reverse Voltage		1.8			V	$I_R = 100\ \mu\text{A}$
$\lambda$	Wavelength		830	850	870	nm	$I_F = 50\text{ mA}$
$D\lambda$	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:

1. Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
2. De-rate linearly at 1.33mA /°C above 25°C .
3. No Pre-bias.
4. 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

