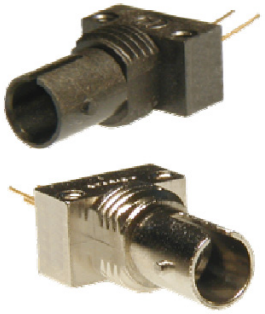
Fiber Optic Transmitter

OPF692, OPF693 Series



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
- 55MHz operation

Description:

The OPF692 and OPF693 fiber optic transmitters are high performance devices packaged for data communication links. These transmitters are an 850nm GaAlAs LED and are 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.

These products' combination of features including high speed and efficient coupled power makes them ideal transmitters for integration into all types of data communications equipment.

The mechanical design of these packages are intended for PC Board or panel mounting. They are 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**
OPF692	Conductive Plastic	ST-LP®
OPF693	Zinc, Die Cast	ST-LP®

Typical Coupled Power I_F = 100mA, 25°C				
Fiber Size	**Type**	**N.A.**	**OPF69x-1**	**OPF69x-2**
50/125 µm	Graded Index	0.20	12µW	25µW
62.5/125 µm	Graded Index	0.28	32µW	65µW
100/140 µm	Graded Index	0.29	80µW	160µW
200/300 µm	Step Index	0.41	315µW	630µW

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.

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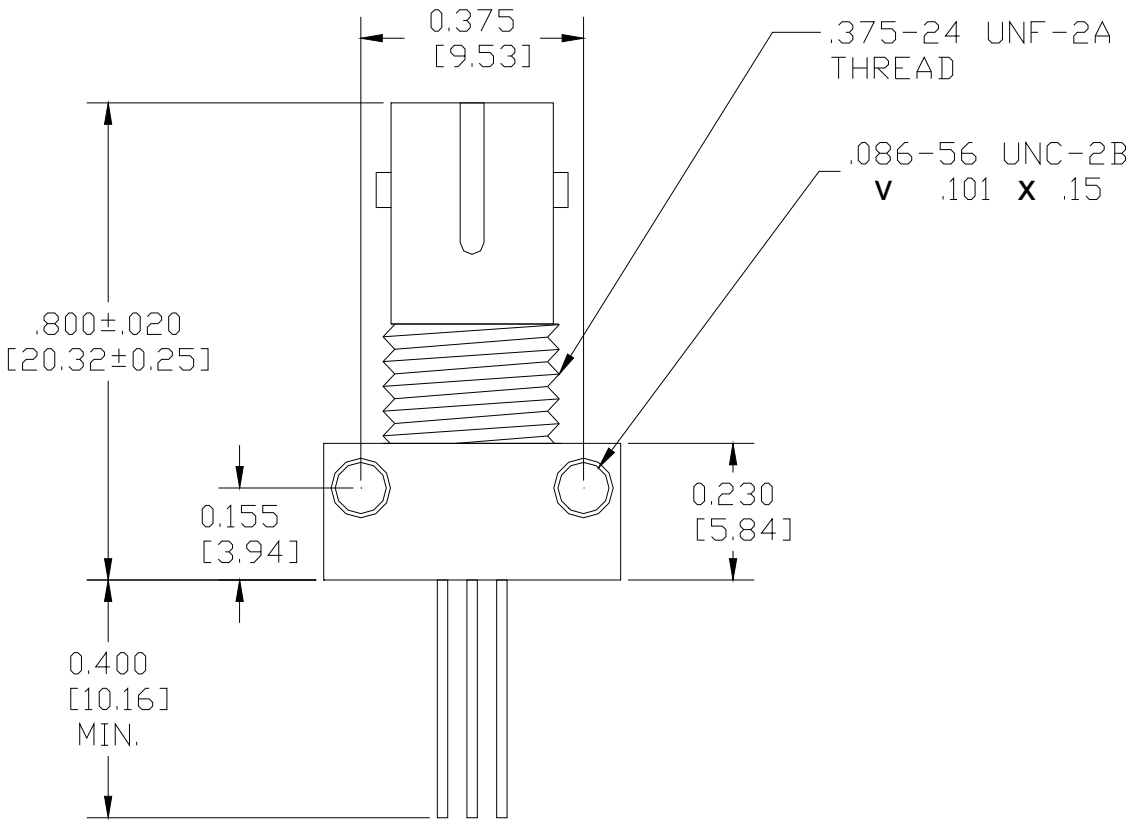
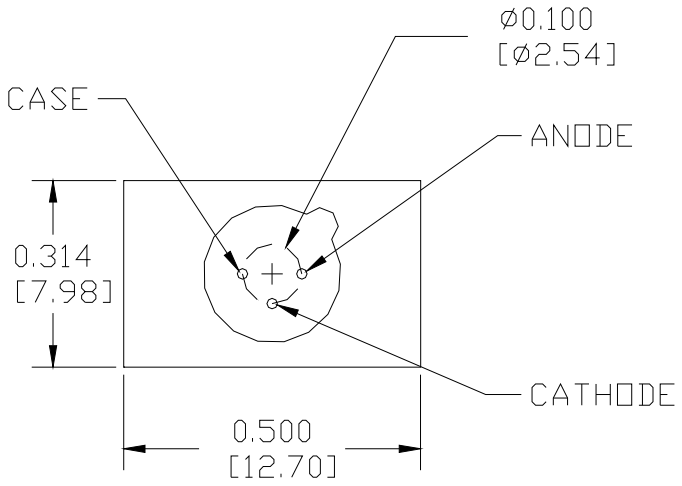
Mechanical Data





DIMENSIONS ARE IN INCHES (MILLIMETERS)

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Electrical Specifications

Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)	
Storage Temperature Range	-55° C to +100° C
Operating Temperature Range	-40° C to +85° C
Lead Soldering Temperature[1]	260° C
Continuous Forward Current[2]	100 mA
Maximum Reverse Voltage	1.0 V

Electrical Characteristics (T_A = 25° C unless otherwise noted)

SYMBOL	PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITIONS
P_{OC}	Total Coupled Power 50/125 mm Fiber, NA = 0.20	OPF69X-1	12.0	25.0	40.0	µW	I_F = 100 mA
		OPF69X-2	25.0	50.0	80.0		
V_F	Forward Voltage			1.8	2.2	V	I_F = 100 mA
V_R	Reverse Voltage		1.8			V	I_R = 100 µA
λ	Wavelength		830	850	870	nm	I_F = 50 mA
Δλ	Optical Bandwidth			45	60	nm	I_F = 50 mA
t_r,t_f	Rise and Fall Time			4.5	6.0	ns	I_F = 100 mA; 10% 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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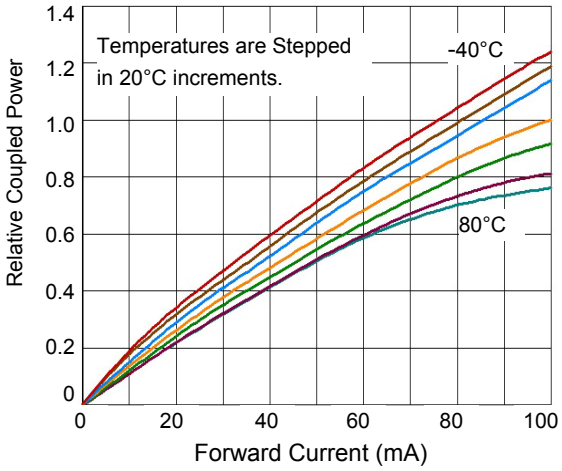
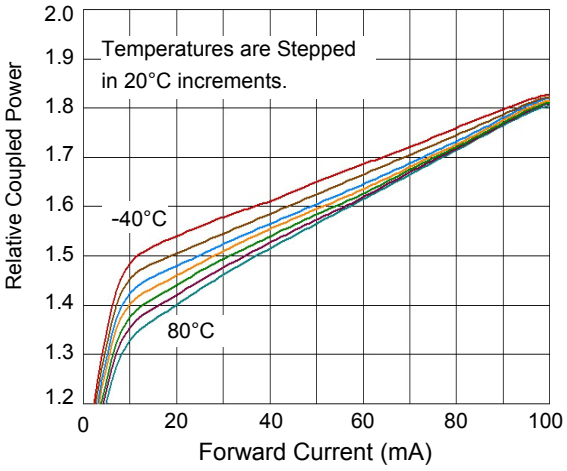
Performance

Relative Coupled Power vs. Forward Current



Typical Forward Voltage vs. Forward Current



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