

Fiber Optic Transmitter

OPF693-2



Features:

- Low Cost 850 nm LED technology
- Popular ST® style receptacle
- 100% pre-tested with optical fiber to assure performance
- Component pre-mounted and ready to use
- 55 MHz operation
- Subjected to 100% Burn-in for 96 hrs. at 25° C at 100 mA

Description:

The OPF693-2 fiber optic transmitter is a high-performance device packaged for data communication links. This transmitter is an 850 nm GaAlAs LED and is specifically designed to efficiently launch optical power into optical fibers ranging in size from 50/125 μm up to 200/230 μm 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 printed circuit 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
OPF693-2	Zinc, Die Cast	ST®

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



RoHS



ESD Class 2

ST® is a registered trademark of AT&T.

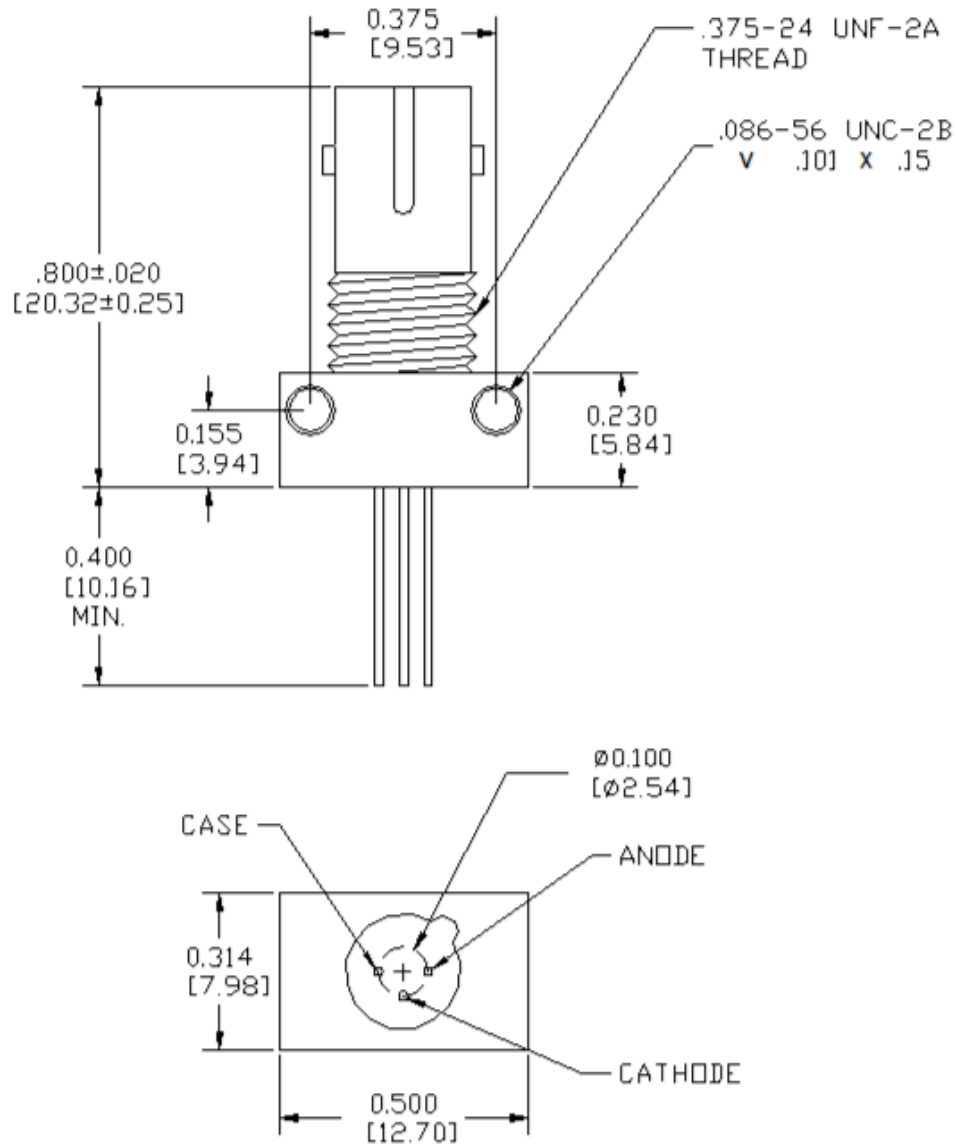
All Optek OPF LED emitters are AEL Class I as defined by IEC 60825-1 and are Risk Group 1 (Low-Risk) as defined by IEC 62471.

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
P_{OC}	Total Coupled Power 50/125 mm Fiber, NA = 0.20	25.0	50.0	80.0	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	$I_R = 100 \mu\text{A}$
λ	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 ⁽³⁾	Rise and Fall Time	-	4.5	6.0	ns	$I_F = 100 \text{ mA}$, 10% to 90%

Notes:

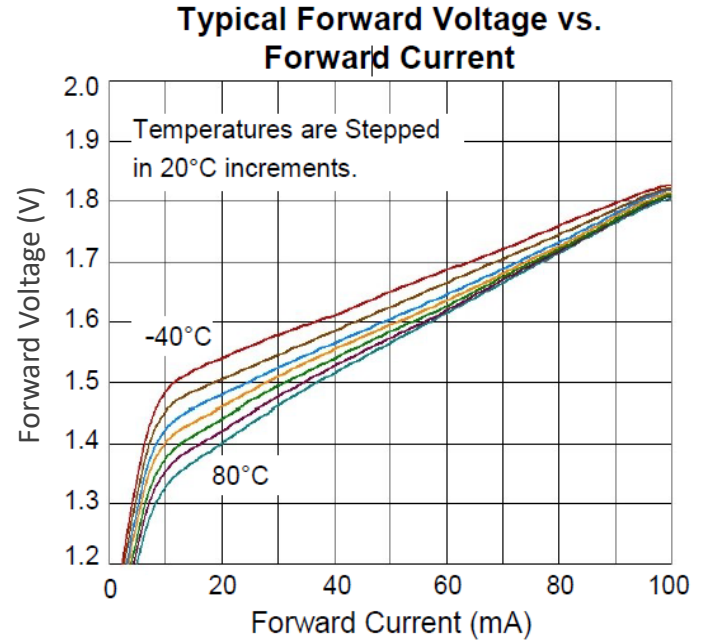
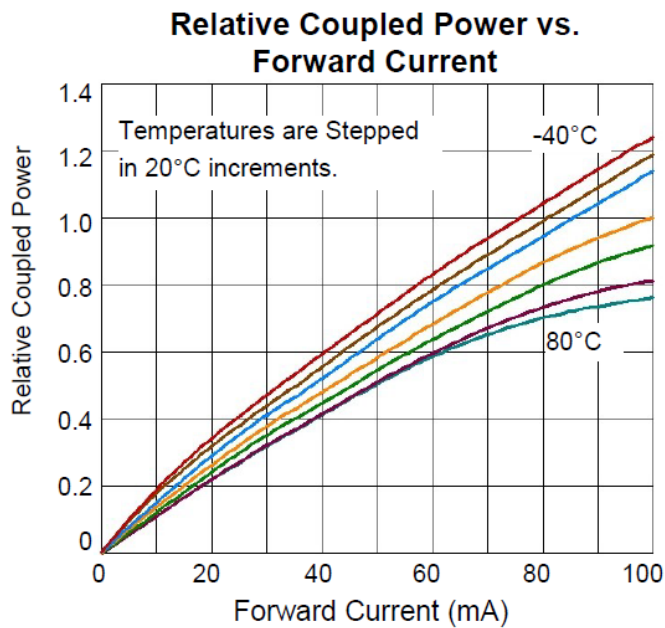
- (1) Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
- (2) Derate linearly at 1.33 mW/° C above 25° C.
- (3) No Pre-bias.
- (4) All Optek fiber optic LED products are subjected to 100% burn-in as part of their quality control process. The burn-in conditions are 96 hours at 100 mA drive current and 25° C.

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Typical Performance



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