

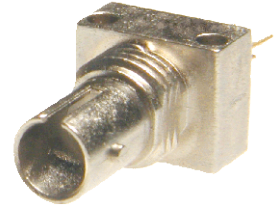
# Fiber Optic Transmitter

OPF322A



## Features:

- Low Cost 850 nm LED technology
- Popular ST® style receptacle
- Pre-tested with optical fiber to assure performance
- Component pre-mounted and ready to use
- Extended temperature range
- 35 MHz operation
- Subjected to 100% Burn-in for 96 Hrs at 25° C at 100 mA
- LED chip is hermetically sealed



## Description:

The OPF322A 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 fibers ranging in size from 50/125  $\mu\text{m}$  up to 200/230  $\mu\text{m}$  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 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

| Typical Coupled Power<br>$I_F = 100 \text{ mA}, 25^\circ \text{ C}$ |              |      |                   |
|---------------------------------------------------------------------|--------------|------|-------------------|
| Fiber Size                                                          | Type         | N.A. | OPF322A           |
| 50/125 $\mu\text{m}$                                                | Graded Index | 0.20 | 19 $\mu\text{W}$  |
| 62.5/125 $\mu\text{m}$                                              | Graded Index | 0.28 | 34 $\mu\text{W}$  |
| 100/140 $\mu\text{m}$                                               | Graded Index | 0.29 | 95 $\mu\text{W}$  |
| 200/230 $\mu\text{m}$                                               | Step Index   | 0.41 | 360 $\mu\text{W}$ |

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® 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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### Electrical Specifications

#### Absolute Maximum Ratings (T<sub>A</sub> = 25° C unless otherwise noted)

|                                           |                   |
|-------------------------------------------|-------------------|
| Storage Temperature Range                 | -55° C to +125° C |
| Operating Temperature Range               | -40° C to +100° 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<sub>A</sub> = 25° C unless otherwise noted)

| SYMBOL                                         | PARAMETER                                         | MIN  | TYP  | MAX  | UNITS | TEST CONDITIONS                     |
|------------------------------------------------|---------------------------------------------------|------|------|------|-------|-------------------------------------|
| P <sub>OC</sub>                                | Total Coupled Power<br>50/125 mm Fiber, NA = 0.20 | 15.0 | 19.0 | -    | μW    | I <sub>F</sub> = 100 mA             |
| V <sub>F</sub>                                 | Forward Voltage                                   | -    | 1.8  | 2.2  | V     | I <sub>F</sub> = 100 mA             |
| V <sub>R</sub>                                 | Reverse Voltage                                   | 1.8  | -    | -    | V     | I <sub>R</sub> = 100 μA             |
| λ                                              | Wavelength                                        | 830  | 850  | 870  | nm    | I <sub>F</sub> = 50 mA              |
| Dλ                                             | Optical Bandwidth                                 | -    | 45   | 60   | nm    | I <sub>F</sub> = 50 mA              |
| t <sub>r</sub> , t <sub>f</sub> <sup>(3)</sup> | Rise and Fall Time                                | -    | 6.0  | 10.0 | ns    | I <sub>F</sub> = 100 mA, 10% to 90% |

#### Notes:

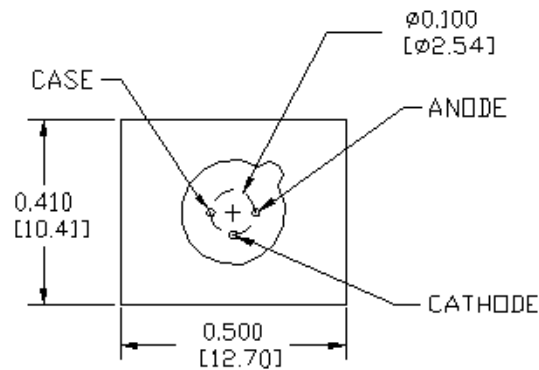
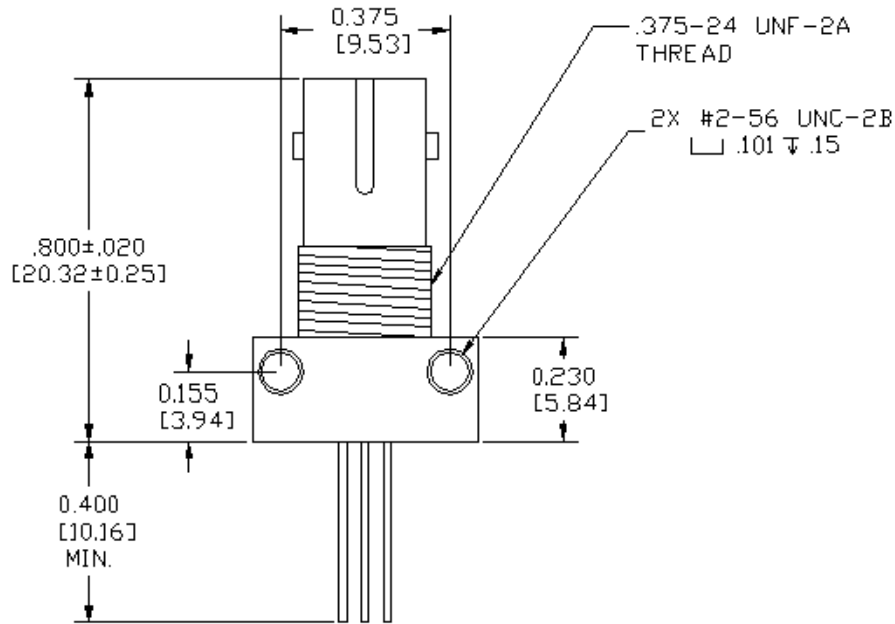
- (1) Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
- (2) Derate linearly at 1.00 mA/° C above 25° C.
- (3) No Pre-bias.
- (4) All Optek fiber optic LED products are subjected to 100% burn-in as part of their quality control process. The burn-in conditions are 96 hours at 100 mA drive current and 25° C ambient temperature.

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### Mechanical Data

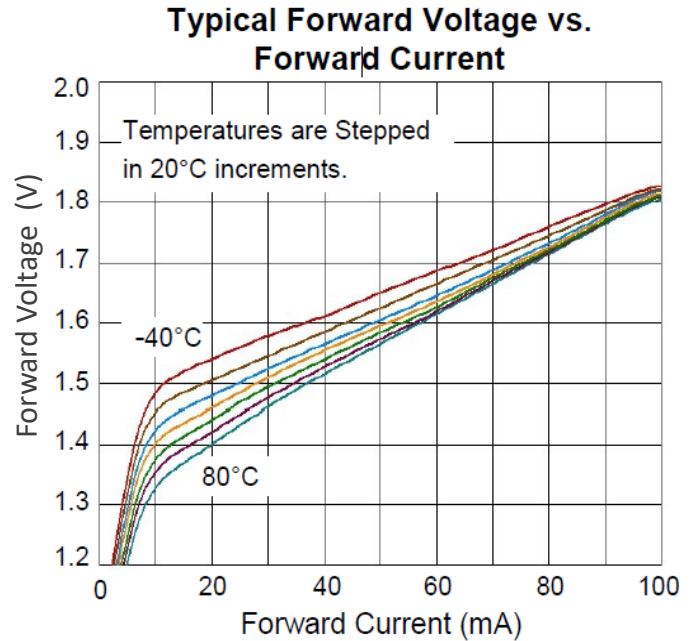
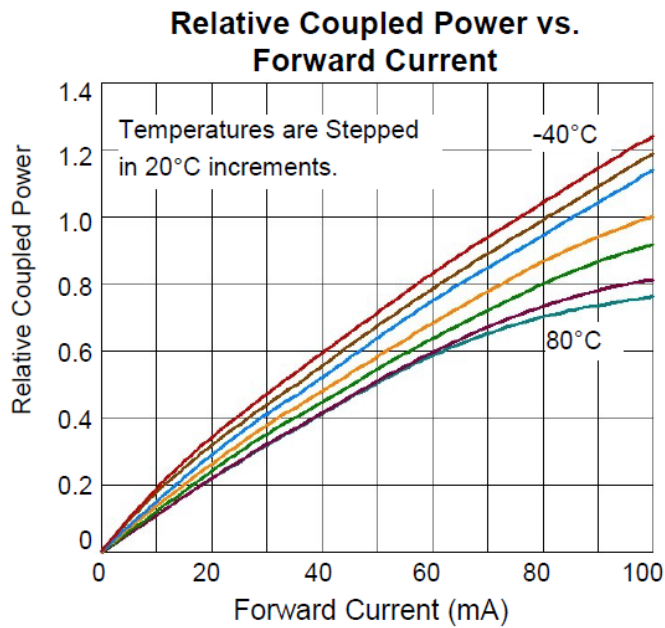


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### Typical Performance



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