

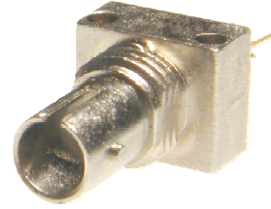
# Fiber Optic Transmitter

## OPF342 Family



### 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
- Extended temperature range
- 55MHz operation



### Description:

The OPF342 family fiber optic transmitters are high performance devices 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<br>$I_f = 100\text{mA}, 25^\circ\text{C}$ |              |      |         |         |         |         |
|---|--------------|------|---------|---------|---------|---------|
| Fiber Size  | Type         | N.A. | OPF342A | OPF342B | OPF342C | OPF342D |
| 50/125 µm   | Graded Index | 0.20 | 25µW    | 18µW    | 12.5µW  | 7.5µW   |
| 62.5/125 µm   | Graded Index | 0.28 | 45µW    | 34µW    | 22µW    | 14µW    |
| 100/140 µm  | Graded Index | 0.29 | 125µW   | 95µW    | 62µW    | 38µW    |
| 200/300 µm  | Step Index   | 0.41 | 475µW   | 340µW   | 235µW   | 140µW   |



RoHS



ESD Class 2

ST<sup>®</sup> 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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## Electrical Specifications

| Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ unless otherwise noted) |                   |
|---|-------------------|
| Storage Temperature Range   | -55° C to +150° C |
| Operating Temperature Range   | -40° C to +125° 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<br>50/125 mm Fiber, NA = 0.20 | OPF342A | 20.0 | 25.0 |     | $\mu\text{W}$ | $I_F = 100\text{ mA}$                              |
|   |   | OPF342B | 15.0 | 18.0 |     |               |  |
|   |   | OPF342C | 10.0 | 12.5 |     |               |  |
|   |   | OPF342D | 5.0  | 7.5  |     |               |  |
| $V_F$   | 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            | $I_F = 50\text{ mA}$                               |
| $\Delta\lambda$   | 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:

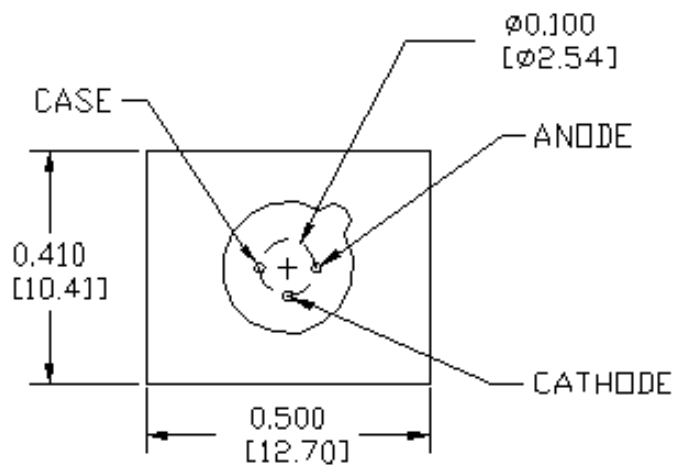
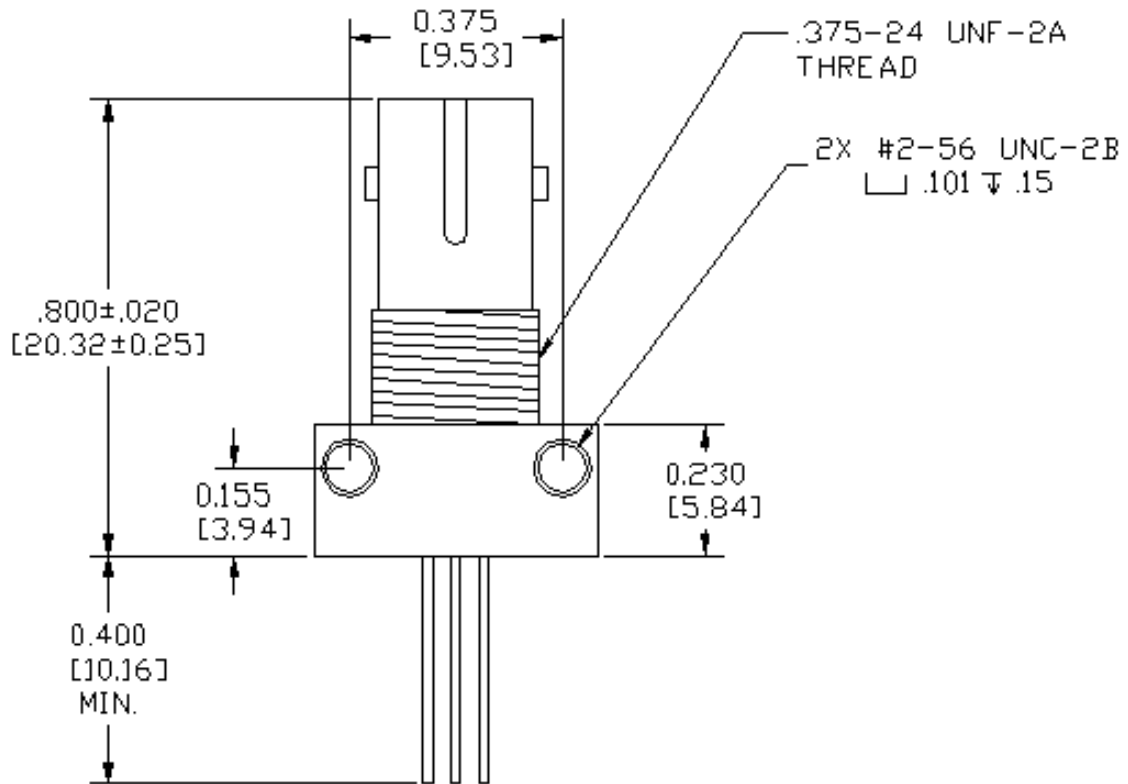
1. Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
2. De-rate linearly at 0.64mA /°C above 25°C .
3. No Pre-bias.
4. All Optek fiber optic LED products are subjected to 100% burn-in as part of its quality control process. The burn-in conditions are 96 hours at 100mA drive current and 25°C ambient temperature.

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## Mechanical Data



DIMENSIONS ARE IN INCHES (MILLIMETERS)

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### Performance

