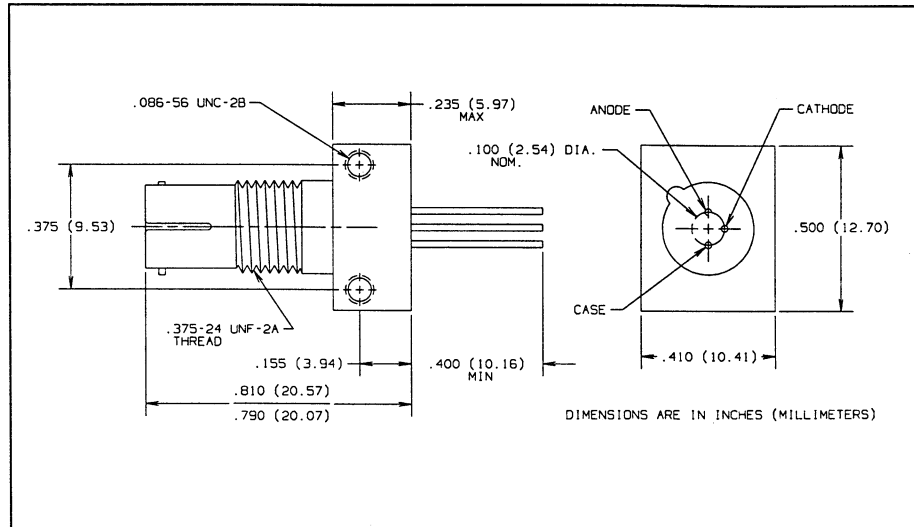
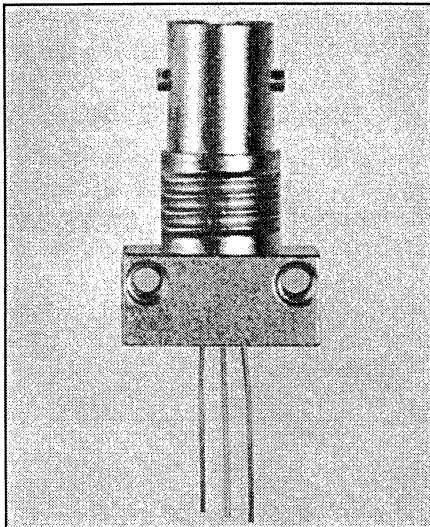


# Fiber Optic GaAlAs High Speed LED in ST\* Receptacle Types OPF342A, OPF342B, OPF342C, OPF342D



## Features

- Component pre-mounted and ready to use
- Pre-tested with fiber to assure performance
- Popular ST\* style receptacle
- High Speed
- Electrically isolated from case

## Description

The OPF342 series LED consists of a hermetic LED, pre-mounted and aligned in an ST\* receptacle. This configuration is designed for PC board or panel mounting. Includes lock washer and jam nut, two 2-56 screws, and a dust cap.

The LED's are designed to interface with multimode optical fibers from 50/125 to 200/300 microns.

\*ST is a registered trademark of AT&T.

## Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

|  |   |
|--|---|
| Reverse Voltage  | 1.0 V                                       |
| Continuous Forward Current   | 100 mA <sup>(4)</sup>                       |
| Storage Temperature Range  | $-55^\circ\text{C}$ to $+150^\circ\text{C}$ |
| Operating Temperature Range  | $-40^\circ\text{C}$ to $+125^\circ\text{C}$ |
| Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron] | $240^\circ\text{C}$ <sup>(1)</sup>          |

### Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 sec. max when flow soldering.
- (2) Graded index fiber, 50  $\mu\text{m}$  core, N.A. = 0.20.
- (3) To convert radiant power output to dBm, use the following expression  $\text{dBm} = 10 \log (\mu\text{W}/1000)$ .
- (4) Derate linearly @ 1.0 mA/ $^\circ\text{C}$  above  $25^\circ\text{C}$ .
- (5) Prebias @ 5 mA current.

## LED Burn-in

All LED's are subject to 100% burn-in testing. Test conditions are 96 hours at 100 mA continuous current in  $25^\circ\text{C}$  ambient.

## TYPICAL COUPLED POWER into OPTICAL FIBER

| Typical Coupled Power<br>$I_F = 100 \text{ mA} @ 25^\circ\text{C}$ |                  |      |                   |                    |                   |                   |
|--|------------------|------|-------------------|--------------------|-------------------|-------------------|
| Fiber  | Refractive Index | N.A. | OPF342D           | OPF342C            | OPF342B           | OPF342A           |
| 50/125 $\mu\text{m}$   | Graded           | 0.20 | 7.5 $\mu\text{W}$ | 12.5 $\mu\text{W}$ | 18 $\mu\text{W}$  | 25 $\mu\text{W}$  |
| 62.5/125 $\mu\text{m}$   | Graded           | 0.28 | 14 $\mu\text{W}$  | 22 $\mu\text{W}$   | 34 $\mu\text{W}$  | 45 $\mu\text{W}$  |
| 100/140 $\mu\text{m}$  | Graded           | 0.29 | 38 $\mu\text{W}$  | 62 $\mu\text{W}$   | 95 $\mu\text{W}$  | 125 $\mu\text{W}$ |
| 200/300 $\mu\text{m}^*$  | Step             | 0.41 | 140 $\mu\text{W}$ | 235 $\mu\text{W}$  | 340 $\mu\text{W}$ | 475 $\mu\text{W}$ |

\*PCS - Plastic Clad Silica

# Types OPF342A, OPF342B, OPF342C, OPF342D

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

| SYMBOL      | PARAMETER                                    | MIN     | TYP  | MAX  | UNITS | TEST CONDITIONS                           |
|-------------|--|---------|------|------|-------|---|
| $P_O$       | Radiant Power Output                         | OPF342D | 5.0  | 7.5  |       | $\mu\text{W}$ $I_F = 100\text{ mA}^{(2)}$ |
|             |  | OPF342C | 10.0 | 12.5 |       |   |
|             |  | OPF342B | 15.0 | 18.0 |       |   |
|             |  | OPF342A | 20.0 | 25.0 |       |   |
| $V_F$       | Forward Voltage                              |         | 1.8  | 2.0  | V     | $I_F = 100\text{ mA}$                     |
| $\lambda_p$ | Peak Output Wavelength                       | 830     | 850  | 870  | nm    | $I_F = 50\text{ mA}$                      |
| B           | Spectral Bandwidth Between Half Power Points |         | 35   |      | nm    | $I_F = 50\text{ mA}$                      |
| $t_r$       | Output Rise Time                             |         | 4.5  | 6.0  | ns    | $I_F = 100\text{ mA}, 10\%-90\%^{(5)}$    |
| $t_f$       | Output Fall Time                             |         | 4.5  | 6.0  | ns    | $I_F = 100\text{ mA}, 90\%-10\%^{(5)}$    |

## Typical Performance Curves

