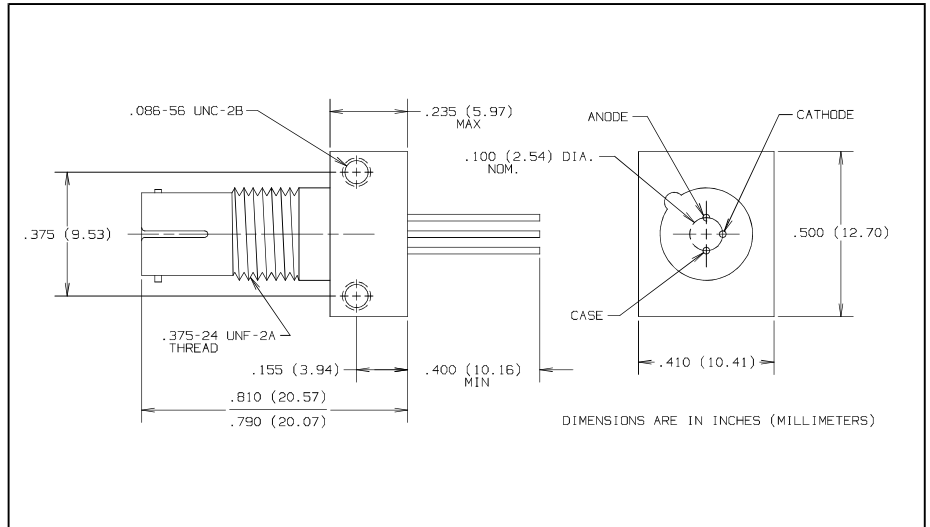
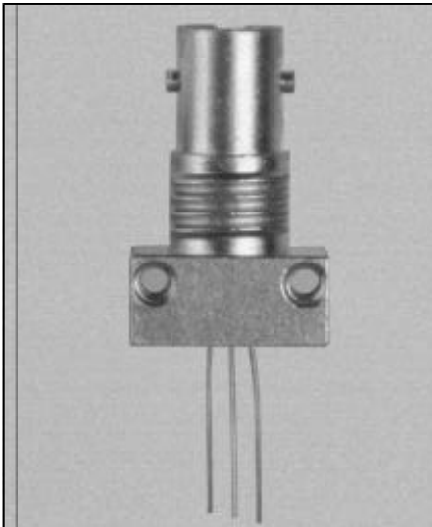


# Fiber Optic GaAlAs LED in ST\* Receptacle Types OPF322A, OPF322B, OPF322C



## Features

- Component pre-mounted and ready to use
- Pre-tested with fiber to assure performance
- Popular ST\* style receptacle

## Description

The OPF322 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 <sup>o</sup> C to +125 <sup>o</sup> C |
| Operating Temperature Range  | -40 <sup>o</sup> C to +100 <sup>o</sup> C |
| Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron] | 240 <sup>o</sup> 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/<sup>o</sup> C above 25<sup>o</sup> 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<sup>o</sup> C ambient.

## TYPICAL COUPLED POWER into OPTICAL FIBER

| Typical Coupled Power                   |                  |      |                   |                    |                   |
|---|------------------|------|-------------------|--------------------|-------------------|
| $I_F = 100\text{mA} @ 25^\circ\text{C}$ |                  |      |                   |                    |                   |
| Fiber                                   | Refractive Index | N.A. | OPF322C           | OPF322B            | OPF322A           |
| 50/125 $\mu\text{m}$                    | Graded           | 0.20 | 7.5 $\mu\text{W}$ | 12.5 $\mu\text{W}$ | 19 $\mu\text{W}$  |
| 62.5/125 $\mu\text{m}$                  | Graded           | 0.28 | 16 $\mu\text{W}$  | 22 $\mu\text{W}$   | 34 $\mu\text{W}$  |
| 100/140 $\mu\text{m}$                   | Graded           | 0.29 | 38 $\mu\text{W}$  | 62 $\mu\text{W}$   | 95 $\mu\text{W}$  |
| 200/300 $\mu\text{m}^*$                 | Step             | 0.41 | 140 $\mu\text{W}$ | 235 $\mu\text{W}$  | 360 $\mu\text{W}$ |

\*PCS - Plastic Clad Silica

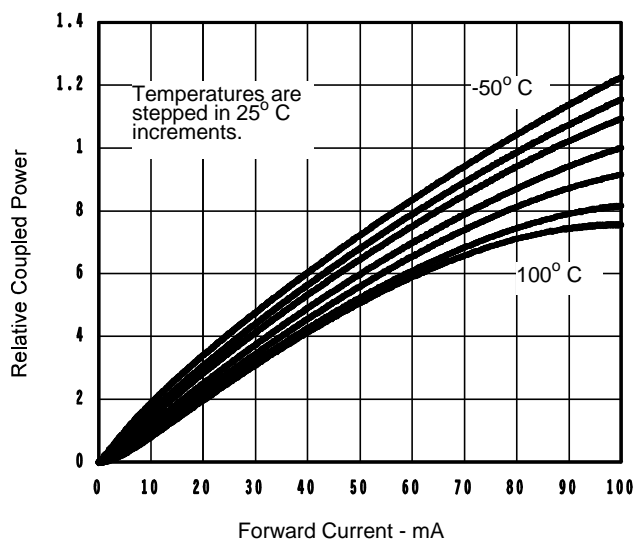
# Types OPF322A, OPF322B, OPF322C

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

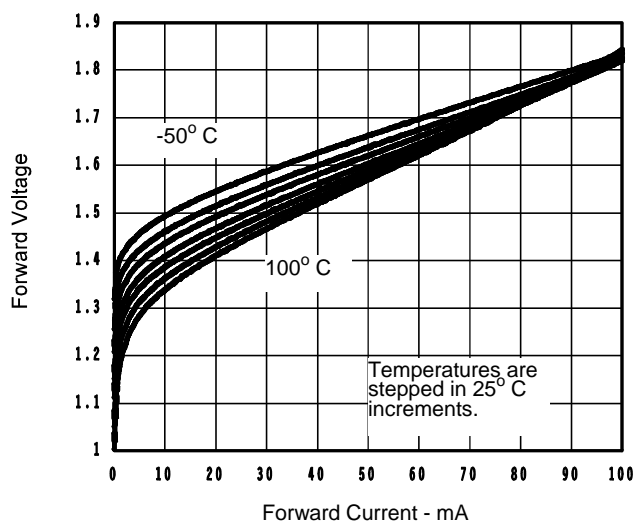
| SYMBOL      | PARAMETER                                    |         | MIN  | TYP  | MAX  | UNITS         | TEST CONDITIONS                        |
|-------------|--|---------|------|------|------|---------------|--|
| $P_O$       | Radiant Power Output                         | OPF322C | 5.0  | 7.5  |      | $\mu\text{W}$ | $I_F = 100\text{ mA}^{(2)}$            |
|             |  | OPF322B | 10.0 | 12.5 |      |               |  |
|             |  | OPF322A | 15.0 | 19.0 |      |               |  |
| $V_F$       | 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                             |         |      | 6.0  | 8.0  | ns            | $I_F = 100\text{ mA}, 10\%-90\%^{(5)}$ |
| $t_f$       | Output Fall Time                             |         |      | 6.0  | 10.0 | ns            | $I_F = 100\text{ mA}, 90\%-10\%^{(5)}$ |

## Typical Performance Curves

Relative Coupled Power vs. Forward Current



Forward Voltage vs. Forward Current



FIBER OPTIC COMPONENTS

Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible.

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