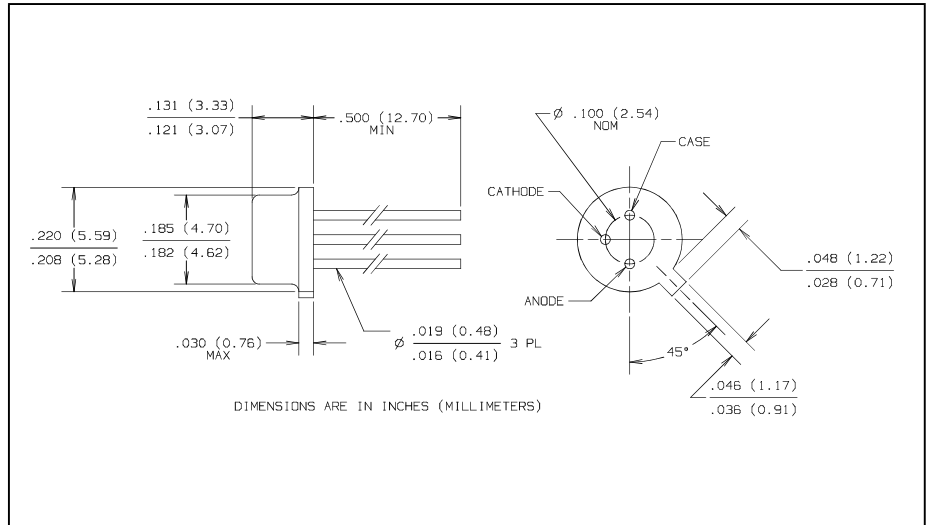
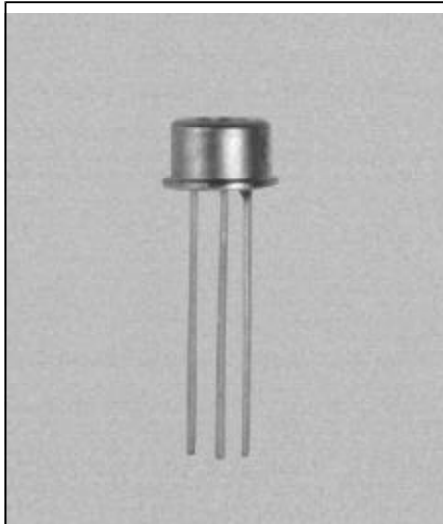


# Fiber Optic GaAlAs High Speed LED

## Types OPF345A, OPF345B, OPF345C, OPF345D



### Features

- High radiant output for fiber optic applications
- High speed
- Electrically isolated from case

### Description

The OPF345 series LED provides fiber optic users with high coupled power and wide bandwidth in an easily mounted package.

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

### 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° C to +150° C
Operating Temperature Range	-40° C to +125° C
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron]	240° 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° 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° 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.	OPF345D	OPF345C	OPF345B	OPF345A
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

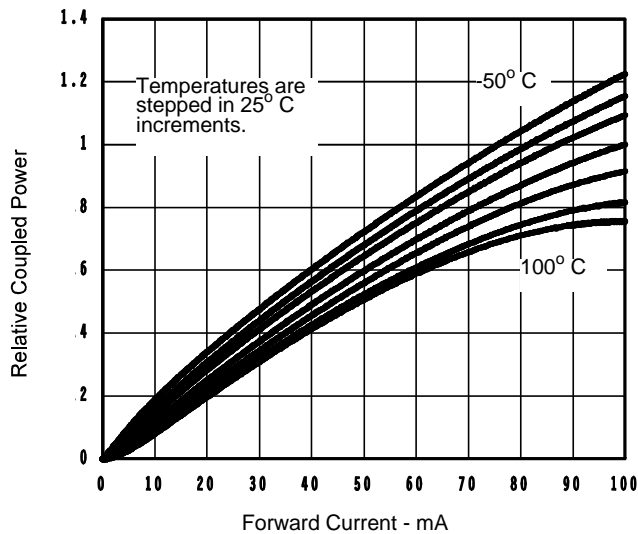
# Types OPF345A, OPF345B, OPF345C, OPF345D

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
$P_O$	Radiant Power Output	OPF345D	5.0	7.5		$\mu\text{W}$ $I_F = 100\text{mA}^{(2)}$
		OPF345C	10.0	12.5		
		OPF345B	15.0	18.0		
		OPF345A	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		3.5	4.5	ns	$I_F = 100\text{mA}$ , 10%-90% <sup>(5)</sup>
$t_f$	Output Fall Time		3.5	4.5	ns	$I_F = 100\text{mA}$ , 90%-10% <sup>(5)</sup>

## Typical Performance Curves

Relative Coupled Power vs. Forward Current



Forward Voltage vs. Forward Current

