## **OPF345 Series**



#### **Features:**

- Low Cost 850 nm LED technology
- Electrically isolated plastic cap package
- High thermal stability
- High optical coupling efficiency to multimode fiber
- Industrial temperature range
- 75 MHz Bandwidth



#### **Description:**

The OPF345 series fiber optic transmitters are high performance devices 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 50/125µm 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.

### **Applications:**

- · Industrial Ethernet equipment
- Copper-to-fiber media conversion
- · Intra-system fiber optic links

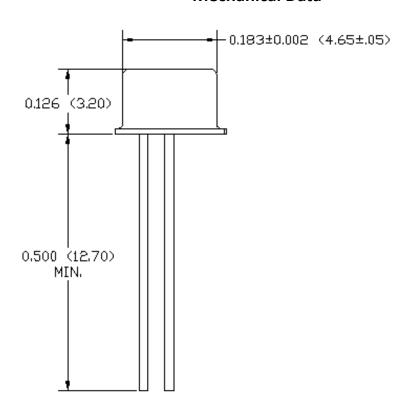
Typical Coupled Power I <sub>F</sub> = 100mA, 25°C								
Fiber Size	Туре	N.A.	OPF345A	OPF345C				
50/125 μm	Graded Index	0.20	25μW	12.5μW				
62.5/125 μm	Graded Index	0.28	45μW	22μW				
100/140 μm	Graded Index	0.29	125μW	62μW				
200/300 μm	Step Index	0.41	475μW	235μW				

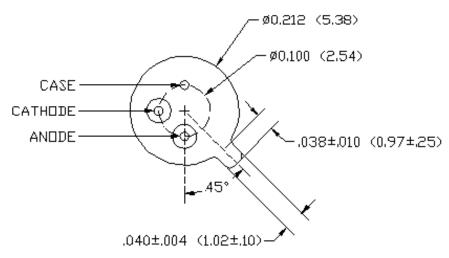


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### **Mechanical Data**





### DIMENSIONS ARE IN INCHES (MILLIMETERS)

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## **Electrical Specifications**

Absolute Maximum Ratings (T <sub>A</sub> = 25° 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 <sub>A</sub> = 25° C unless otherwise noted)									
SYMBOL	PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITIONS		
P <sub>T50</sub> <sup>(3)</sup>	Total Coupled Power	OPF345A	20.0	25.0		μW	I <sub>F</sub> = 100 mA		
	50/125 mm Fiber NA = 0.20	OPF345C	10.0	12.5					
$V_{F}$	Forward Voltage			1.8	2.2	V	I <sub>F</sub> = 100 mA		
$V_R$	Reverse Voltage		1.8			V	Ι <sub>R</sub> = 100 μΑ		
λ	Wavelength		830	850	870	nm	I <sub>F</sub> = 50 mA		
Δλ	Optical Bandwidth			35		nm	I <sub>F</sub> = 50 mA		
t <sub>r</sub> ,t <sub>f</sub>	Rise and Fall Time			3.5	4.5	ns	I <sub>F</sub> = 100 mA; 10% to 90% <sup>(4)</sup>		

#### 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 1.0mA /°C above 25°C .
- 3. The component must be actively aligned into the mating fiber cable assembly to achieve optimal performance.
- 4. No Pre-bias.
- 5. 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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### **Performance**

