Fiber Optic Transmitter

OPF370A

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



Description:

The OPF370A fiber optic transmitter is a high performance device 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
- ♦ Video surveillance systems

Typical Coupled Power I_F = 100mA, 25°C			
Fiber Size	**Type**	**N.A.**	**OPF370A**
50/125 µm	Graded Index	0.20	29µW
62.5/125 µm	Graded Index	0.28	89µW
100/140 µm	Graded Index	0.29	200µW
200/300 µm	Step Index	0.41	750µW

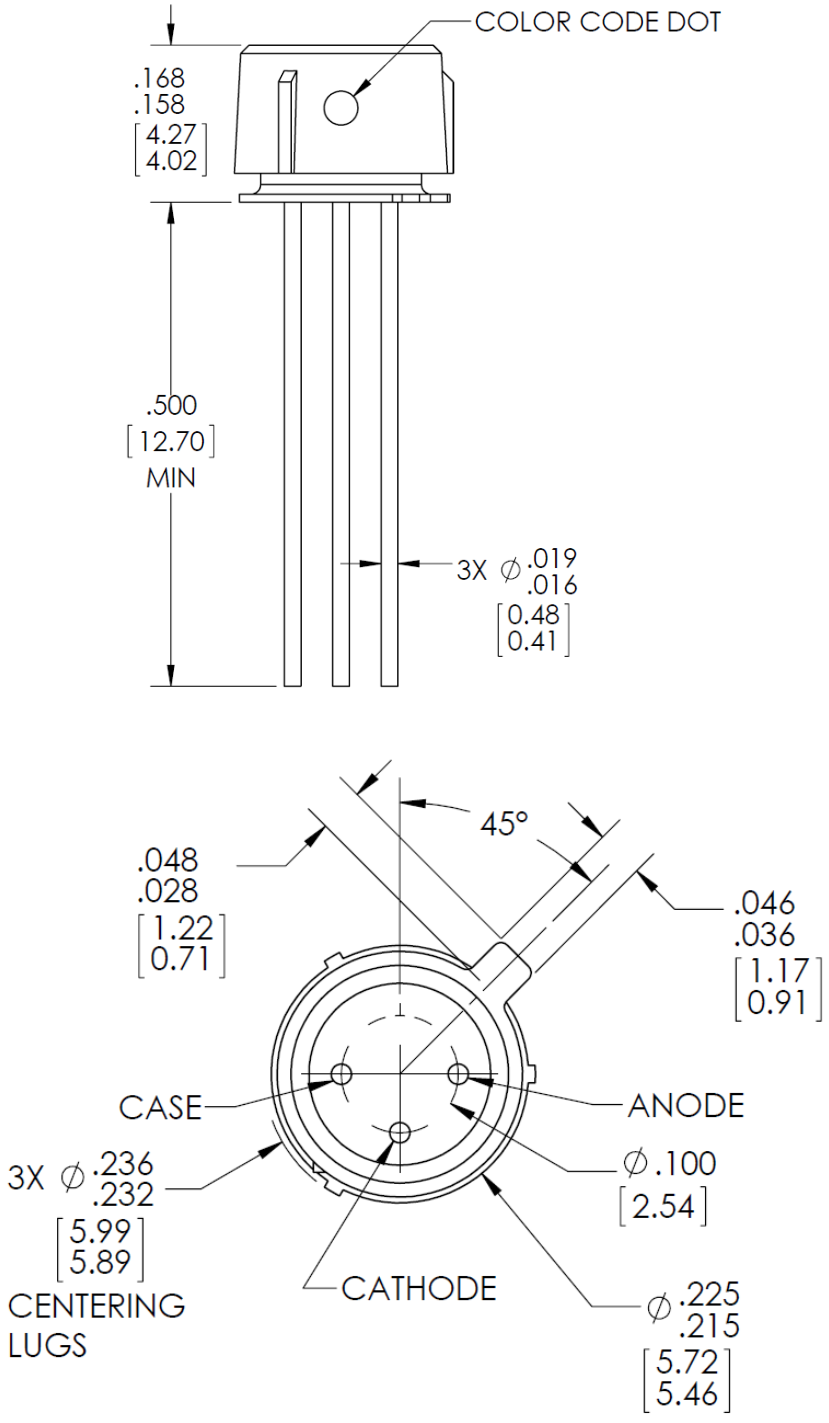
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Mechanical Data



DIMENSIONS ARE IN INCHES (MILLIMETERS)

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Electrical Specifications

Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)	
Storage Temperature Range	-55° C to +115° C
Operating Temperature Range	-40° C to +100° C
Lead Soldering Temperature[1]	260° C
Continuous Forward Current[2]	100 mA
Maximum Reverse Voltage	1.0 V

Electrical Characteristics (T_A = 25° C unless otherwise noted)

SYMBOL	PARAMETER		DOT	MIN	TYP	MAX	UNITS	TEST CONDITIONS
P_{T50}[3]	Total Coupled Power	OPF370A	Red	25.0	29.0		µW	I_F = 100 mA
V_F	Forward Voltage				1.8	2.2	V	I_F = 100 mA
V_R	Reverse Voltage			1.8			V	I_R = 100 µA
λ	Wavelength			830	850	870	nm	I_F = 50 mA
Δλ	Optical Bandwidth				35		nm	I_F = 50 mA
t_r,t_f	Rise and Fall Time				6.0	10.0	ns	I_F = 100 mA; 10% to 90%[4]

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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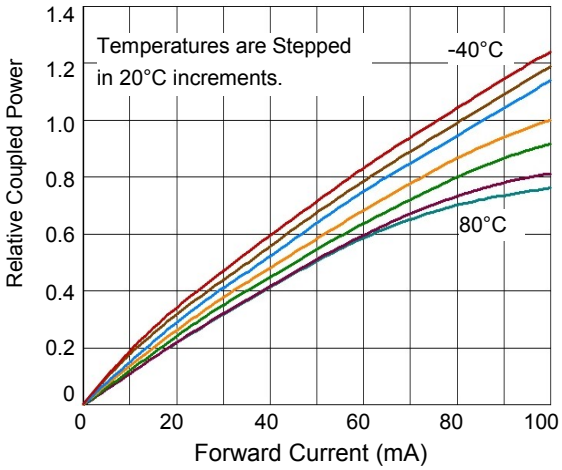
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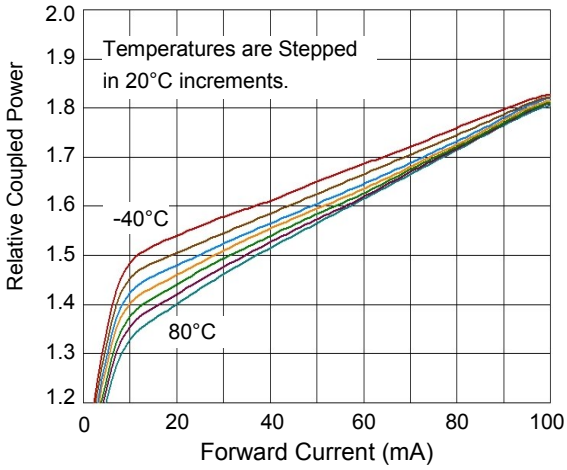
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Performance

Relative Coupled Power vs. Forward Current



Typical Forward Voltage vs. Forward Current



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Issue	Change Description	Approval	Date
1.0	Initial Release	Harry Whitford	4/22/10
A	Move note 3 to 4 and 4 to 5, add a new note 3.	Trevor Schelp	11/11/10
B	Change DOT colors in table on page 2 from, OPF370A-None to Red; OPF370B-Blue to Yellow, OPF370C-Yellow to Blue and OPF370D-Red to None.	Harry Whitford	8/12/11
C	Transferred to the new TT Electronics template		8/2016

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