

Fiber Optic Transmitter

OPF694-2



Features:

- Low Cost 850 nm LED Technology
- High Thermal Stability
- High optical coupling efficiency to multimode fiber
- Metal ST* style receptacle
- Industrial temperature range



Description:

The OPF694-2 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 either 50/125 μ m or 62.5/125 μ m diameter multimode fiber. Two power ranges with upper and lower limits are offered which allows the designer to select a device best suited for the application.

Applications:

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

Typical Coupled Power $I_F = 100\text{mA}, 25^\circ\text{C}$			
Fiber Size	Type	N.A.	OPF694-2
50/125 μm	Graded Index	0.20	-16dBm
62.5/125 μm	Graded Index	0.28	-12dBm
100/140 μm	Graded Index	0.29	-8dBm
200/300 μm	Step Index	0.41	-2dBm



RoHS

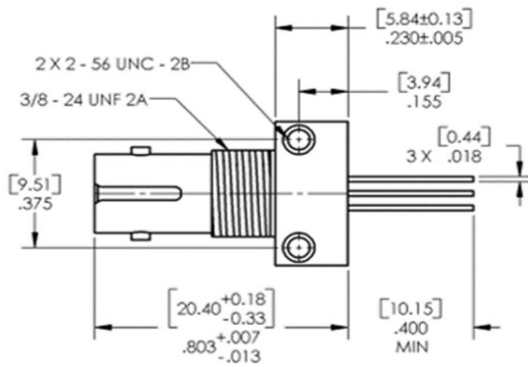
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General Note

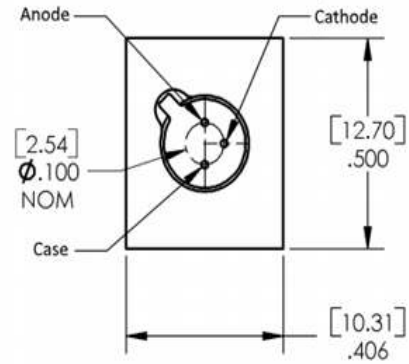
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Mechanical Data

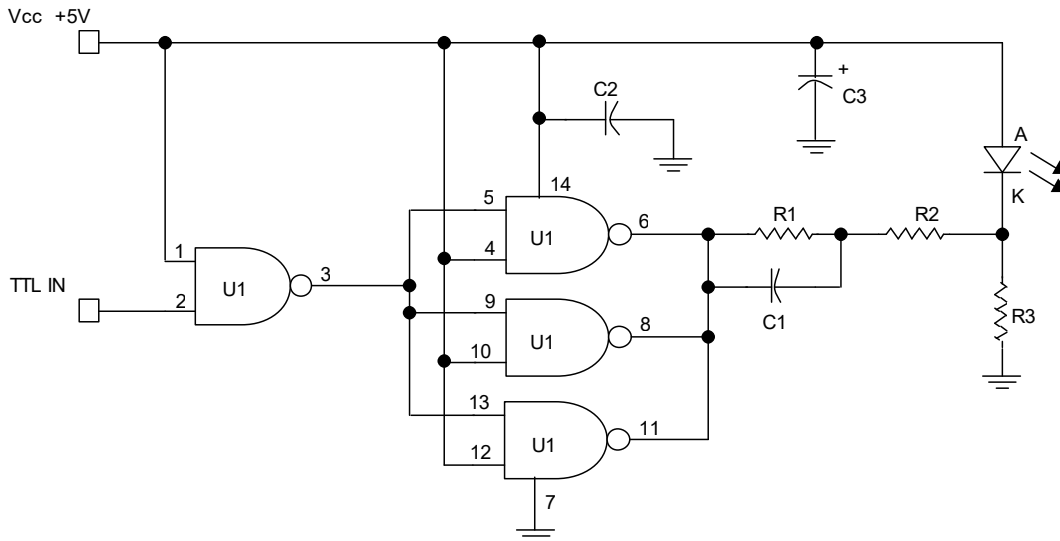


DIMENSIONS ARE IN INCHES AND [MILLIMETERS].



The case lead is isolated from the ST receptacle

Application Circuit: 155Mbps TTL Drive Circuit



Part	Description	Value/Type	Symbol	Tol.
C1	Capacitor	75	pF	20%
C2	Capacitor	100	pF	20%
C3	Capacitor	10	μF	20%
R1	Resistor	33	Ω	5%
R2	Resistor	33	Ω	5%
R3	Resistor	270	Ω	5%
U1	IC, Quad NAND	74 ACTQ00	-	-

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Electrical Specifications

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

Storage Temperature Range	-55° C to +100° C
Operating Temperature Range	-40° C to +85° C
Lead Soldering Temperature ⁽¹⁾	260° C
Continuous Forward Current ⁽²⁾	100 mA
Maximum Reverse Voltage	1.0 V

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
P_{T50}	50/125 mm Fiber NA=0.20 OPF694-2	-16.0		-11.0	dBm	$I_F = 100\text{ mA}$
V_F	Forward Voltage	1.5		2.1	V	$I_F = 100\text{ mA}$
V_R	Reverse Voltage	1.8			V	$I_R = 100\ \mu\text{A}$
λ	Wavelength	830	850	870	nm	$I_F = 50\text{ mA}$
$D\lambda$	Optical Bank Width		35		nm	$I_F = 50\text{ mA}$
t_r, t_f	Rise and Fall Time		4.5	6.5	ns	$I_F = 100\text{ mA}; 10\% \text{ to } 90\%^{(3)}$

Notes:

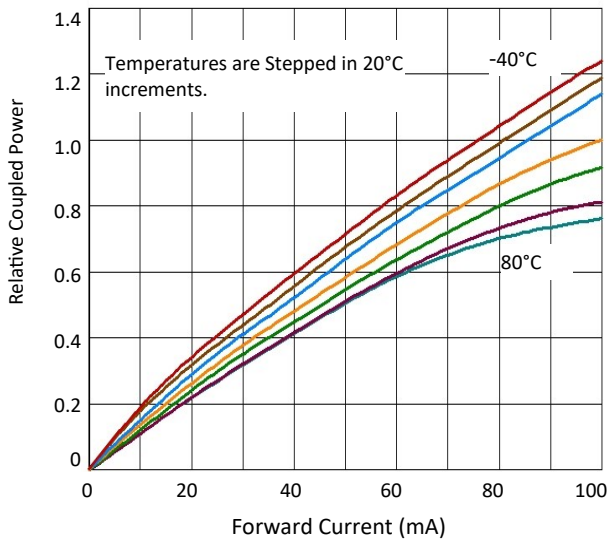
- Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
- De-rate linearly at 1.0mA /°C above 25°C .
- No Pre-bias.
- All Optek fiber optic LED products are subjected to 100% burn-in as part of its quality control process. The burn-in conditions are 96 hours at 100mA drive current and 25°C ambient temperature.

General Note

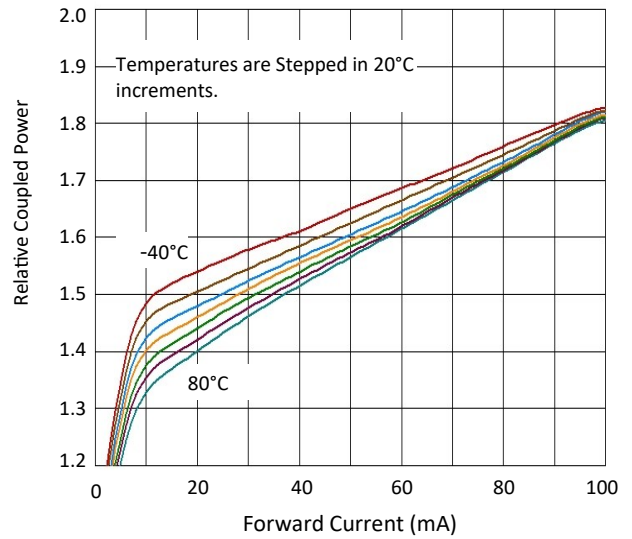
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Performance

Relative Coupled Power vs. Forward Current



Typical Forward Voltage vs. Forward Current



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