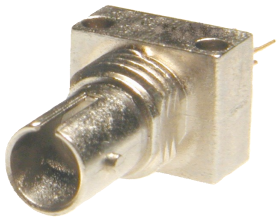
Fiber Optic Transmitter

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 50/125µm or 62.5/125µm 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 = 100mA, 25°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

ST® is a registered trademark of Fitel USA Corp..

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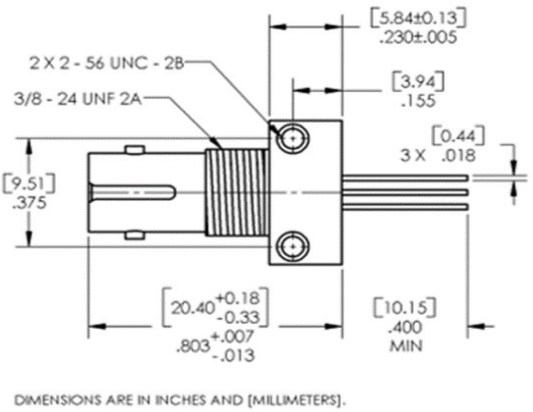
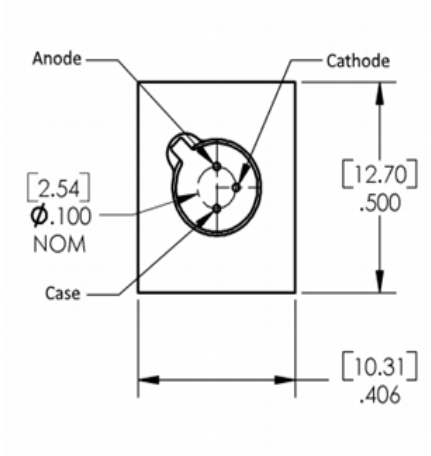
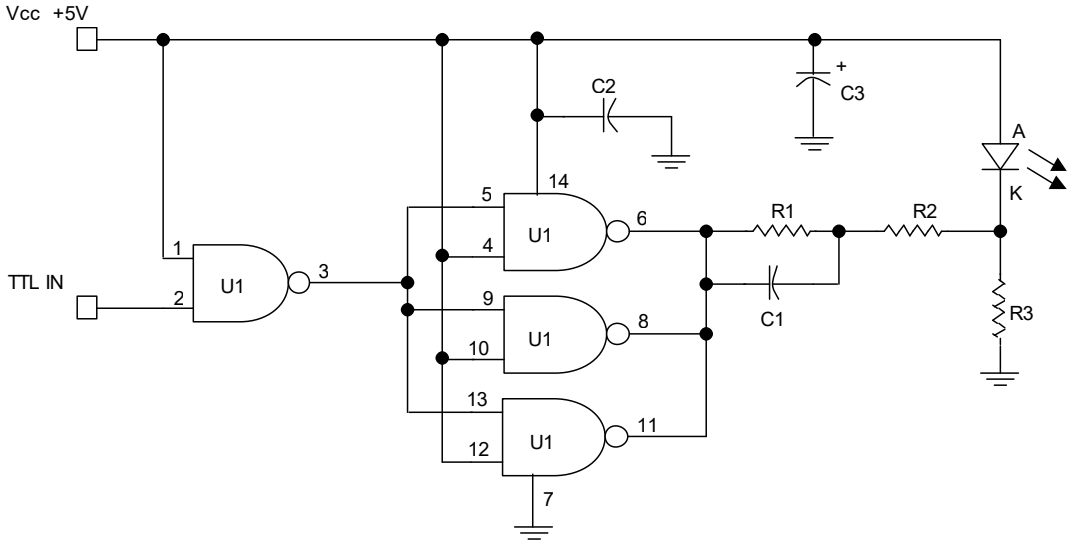
Mechanical Data





The case lead is isolated from the ST receptacle

Application Circuit: 155Mbps TTL Drive Circuit



Part	Description	Value/Type	Symbol	Tol.
CI	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° 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° C unless otherwise noted)

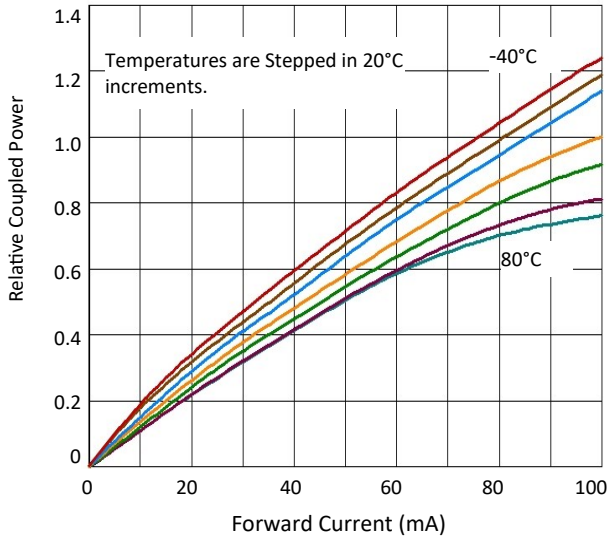
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
P_{T50}	50/125 mm Fiber NA=0.20 OPF694-2	-16.0		-11.0	dBm	I_F = 100 mA
V_F	Forward Voltage	1.5		2.1	V	I_F = 100 mA
V_R	Reverse Voltage	1.8			V	I_R = 100 µA
λ	Wavelength	830	850	870	nm	I_F = 50 mA
Dλ	Optical Bank Width		35		nm	I_F = 50 mA
t_r,t_f	Rise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

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. No Pre-bias.
4. 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.

Performance

Relative Coupled Power vs. Forward Current



Typical Forward Voltage vs. Forward Current