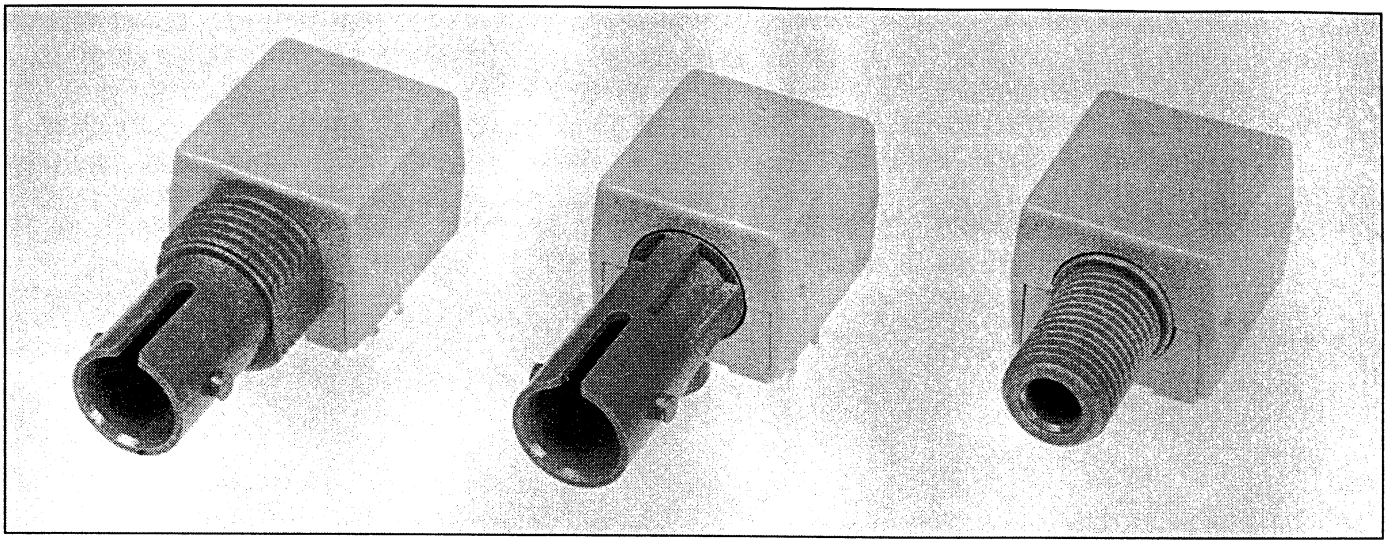
5MBd Fiber Optic Receiver
Types OPF2402, OPF2412, OPF2412T



Features

- Low cost
- CMOS and TTL compatible
- No mounting hardware required
- SMA and ST* style ports
- Wave Solderable
- Wide temperature range

Description

The OPF2402/2412 is a low cost digital output fiber optic receiver. The lensed optical system keeps the receiver response consistent for all fiber sizes which makes it ideal for use on fibers as small as 50/125µm.

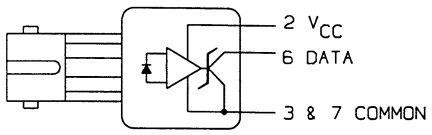
The OPF2402/2412 contains a monolithic photo-IC comprised of a photodetector and DC amplifier driving an open collector output Schottky transistor. The output makes the OPF2402/2412 compatible with TTL and CMOS logic.

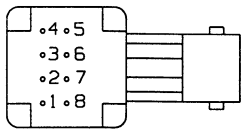
The receiver is designed to operate from a single +5 V supply. A bypass capacitor (0.1 µF ceramic) should be connected from Pin 2 (V_{CC}) to Pin 3 (Common) of the receiver.

*ST is a registered trademark of AT&T.

Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

Storage Temperature	-55° C to +85° C
Operating Temperature	-55° C to +85° C
Lead Soldering Temperature (for 10 sec.)	260° C
Supply Voltage	-0.5 V to 7.0 V
Output Current	25 mA
Output Voltage	-0.5 V to 18.0 V
Open Collector Power Dissipation	40 mW
Fan Out (TTL)	5(1)





Bottom View

PIN	FUNCTION
1**	N.C.
2	V_{CC}(5V)
3*	Common
4**	N.C.
5**	N.C.
6	Data
7*	Common
8**	N.C.

* Pins 3 & 7 are electrically connected to header.
** Pins 1,4,5 & 8 are electrically connected.

See Mechanical Dimensions page 8-19 for Mechanical Drawings.
"T" suffix = Threaded ST package.

This component is susceptible to damage from electrostatic discharge (ESD). Normal static precautions should be taken in handling and assembly of this component to prevent ESD damage or degradation.

Types OPF2402, OPF2412 , OPF2412T

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

4.75 ≤ V_{CC} ≤ 5.25, Fiber Sizes ≤ 100 Microns, N.A. ≤ 0.35, BER ≤ 10^{-9}

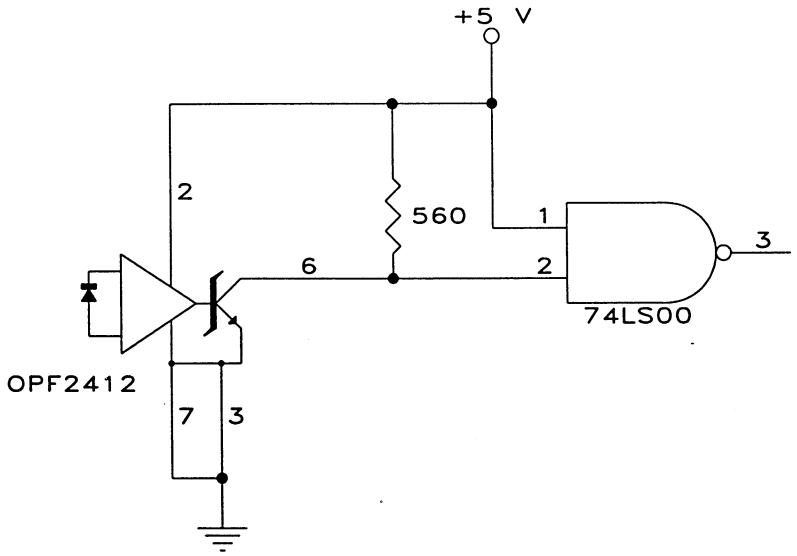
Symbol	Parameter	Min	Typ	Max	Units	Test Condition
I_{OH}	High Level Output Current		5	250	µA	V_O = 18 V, P_R < -40 dBm
V_{OL}	Low Level Output Voltage		0.4	0.5	V	I_O = 8 mA, P_R > -24 dBm
I_{CCH}	High Level Supply Current		3.5	6.3	mA	V_{CC} = 5.25 V, P_R < -40 dBm
I_{CCL}	Low Level supply Current		6.2	10	mA	V_{CC} = 5.25 V, P_R > -24 dBm
P_{RH}	Peak Input Power Level Logic HIGH			-40	dBm	λp = 840 nm(2)
				0.1	µW	
P_{RL}	Peak Input Power Level Logic LOW	-25.4		-9.2	dBm	λp = 840 nm, I_{OL} = 8 mA(2)
		2.9		120	µW	
		-24		-10	dBm	-40° C ≤ T_A ≤ +85° C
		4.0		100	µW	
t_{PLHR}	Propagation Delay LOW to HIGH		65		ns	P_R = -21 dBm, Data Rate = 5 MBd
t_{PHLR}	Propagation Delay HIGH to LOW		49		ns	

Notes:

(1) 8 mA load (5 x 1.6 mA), R_L = 560 Ω.

(2) Measured at the end of 100/140 µm fiber cable with a large area detector.

Application Circuit



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