

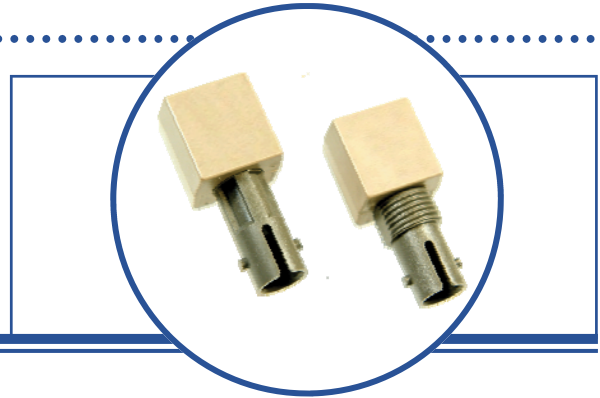
# Fiber Optic Receiver

## OPF2412, OPF2412T



### OPF2412 Family

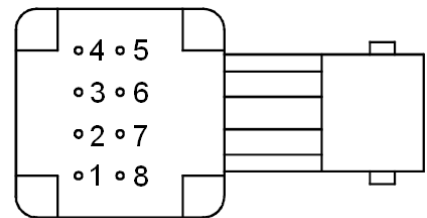
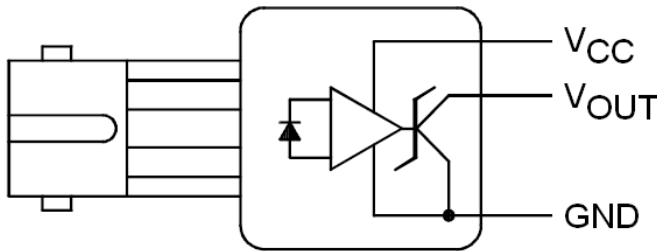
- Up to 5Mbps operation
- 850nm wavelength
- ST<sup>®</sup> style port
- CMOS and TTL compatible
- Wave solderable
- Wide temperature range



The OPF2412 family 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 design incorporates a monolithic photo-IC comprised of a photodetector and DC amplifier driving an open collector output Schottky transistor. The output makes the OPF2412 compatible with TTL and CMOS logic. The receiver is designed to operate from a single +5 V supply. A bypass capacitor (0.1µF ceramic) should be connected from V<sub>CC</sub> to GND of the receiver.

### Applications

- ◆ Industrial Ethernet equipment
- ◆ Copper-to-fiber media conversion
- ◆ Intra-system fiber optic links
- ◆ Video surveillance systems



PIN	FUNCTION
1	Not Connected
2	V <sub>CC</sub>
3	GND
4	Not Connected
5	Not Connected
6	V <sub>OUT</sub>
7	GND
8	Not Connected

"T" suffix = Threaded ST<sup>®</sup> package



RoHS



ESD Class 2

Pins 3 & 7 are electrically connected to the header.  
Pins 1,4,5 & 8 are mechanically connected together.

ST<sup>®</sup> is a registered trademark of AT&T.

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

### Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$  unless otherwise noted

Storage Temperature Range	-55° C to +85° C
Operating Temperature Range	-40° C to +85° C
Lead Soldering Temperature <sup>(1)</sup>	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 <sup>(2)</sup>

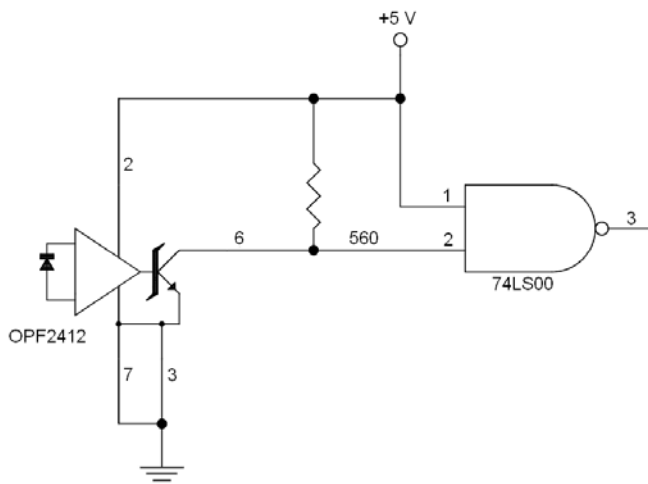
### Electrical/Optical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
$I_{OH}$	High Level Output Current		5	250	$\mu\text{A}$	$V_O = 18\text{ V}$ , $P_R < -40\text{ dBm}$
$V_{OL}$	Low Level Output Voltage		0.4	0.5	V	$I_O = 8\text{ mA}$ , $P_R > -24\text{ dBm}$
$I_{CCH}$	High Level Supply Current		3.5	6.3	mA	$V_{CC} = 5.25\text{ V}$ , $P_R < -40\text{ dBm}$
$I_{CCL}$	Low Level Supply Current		6.2	10	mA	$V_{CC} = 5.25\text{ V}$ , $P_R > -24\text{ dBm}$
$P_{RH}$	Peak Input Power Level, Logic HIGH			0.1	$\mu\text{W}$	$\lambda_p = 850\text{ nm}$
$P_{RL}$	Peak Input Power Level, Logic LOW	2.9		120	$\mu\text{W}$	$\lambda_p = 850\text{ nm}$ , $I_{OL} = 8\text{ mA}$
		4.0		100	$\mu\text{W}$	$-40^\circ\text{C} \leq T_A \leq +85^\circ\text{C}$
$t_{PLHR}$	Propagation Delay LOW to HIGH		65		ns	$P_R = -21\text{ dBm}$ , Data Rate = 5 MBd
$t_{PHLR}$	Propagation Delay HIGH to LOW		49		ns	$P_R = -21\text{ dBm}$ , Data Rate = 5 MBd

Notes:

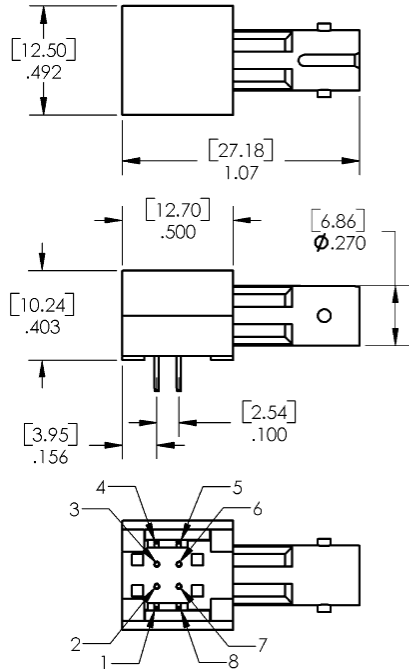
- Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
- 8 mA load (5 x 1.6 mA),  $R_L = 560\ \Omega$ .

Application Circuit



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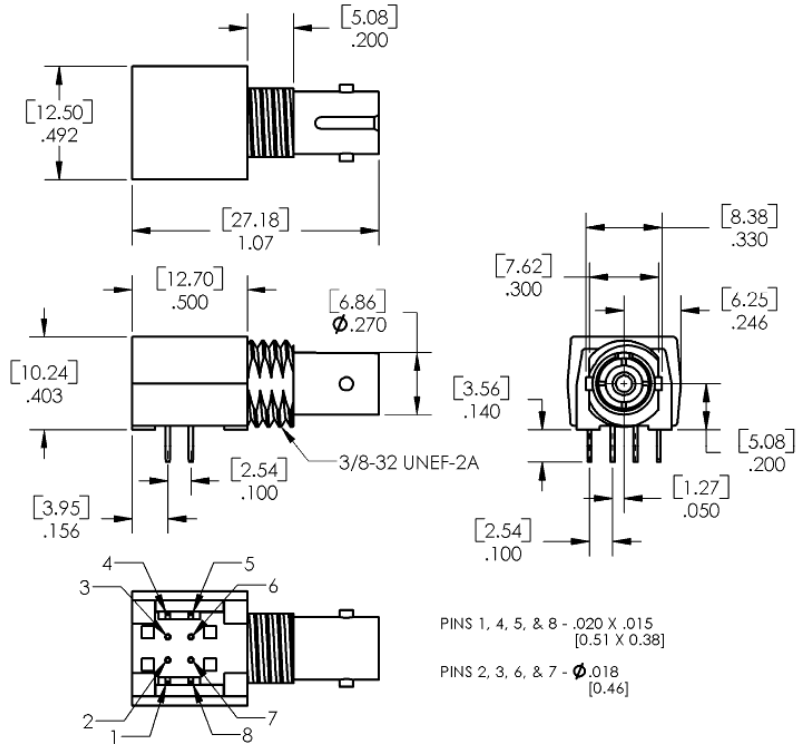
Mechanical Data



PINS 1, 4, 5, & 8 - .020 X .015  
[0.51 X 0.38]  
PINS 2, 3, 6, & 7 -  $\phi$ .018  
[0.46]

OPF2412

OPF2412T



PINS 1, 4, 5, & 8 - .020 X .015  
[0.51 X 0.38]  
PINS 2, 3, 6, & 7 -  $\phi$ .018  
[0.46]

DIMENSIONS ARE IN INCHES [MILLIMETERS]

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