

Fiber Optic Receiver

OPF500 Series



Features:

- Interfaces with all logic circuits
- Optimized for fiber optic applications using 50/125 to 200/230 micron fibers
- Data rate to 200 kbps NRZ
- Available with multiple packaging options

Description:

The OPF500 series receiver contains a monolithic integrated circuit which incorporates a photodiode, linear amplifier, voltage regulator, and a Schmitt trigger on a single silicon chip. These receivers are designed for short haul fiber optic systems using 850 nm LEDs such as Optek's OPF300 series.

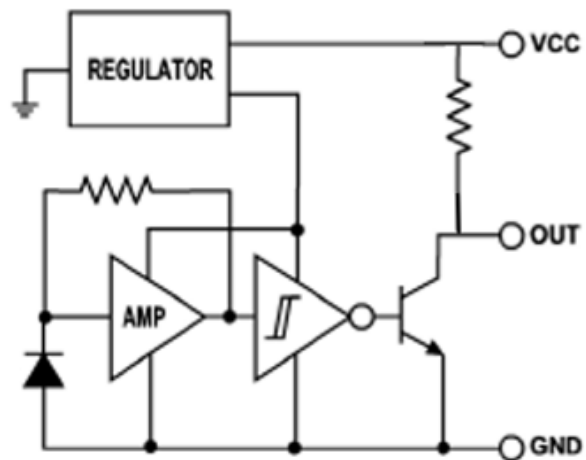
These devices feature TTL/LSTTL compatible logic level output. An internal voltage regulator allows operation with supply voltages ranging from 4.5 V to 16 V.

OPF507 receivers are supplied with a lock washer, jam nut, #2-56 mounting screws and dust cap.

Applications:

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

Part Ordering Information	
Part Number	Description
OPF500	Buffer, 10 k Ω Pull-Up Plastic Cap Component
OPF505	Buffer, 10 k Ω Pull-Up Metal Can Component
OPF507	Buffer, 10 k Ω Pull-Up Metal ST [®] Receptacle



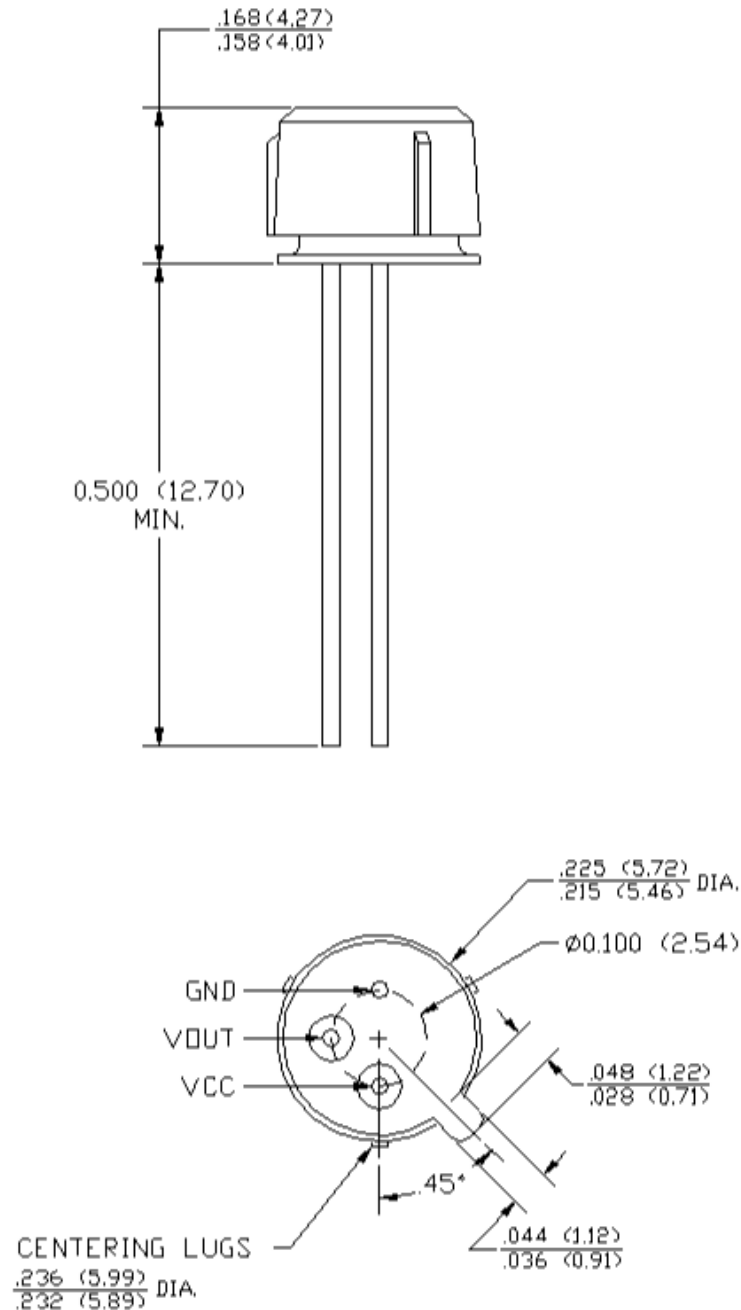
This component is susceptible to damage from electrostatic discharge (ESD). Normal static precautions should be taken in handling and assembly of this component to prevent ESD damage or degradation.

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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Mechanical Outline – OPF500

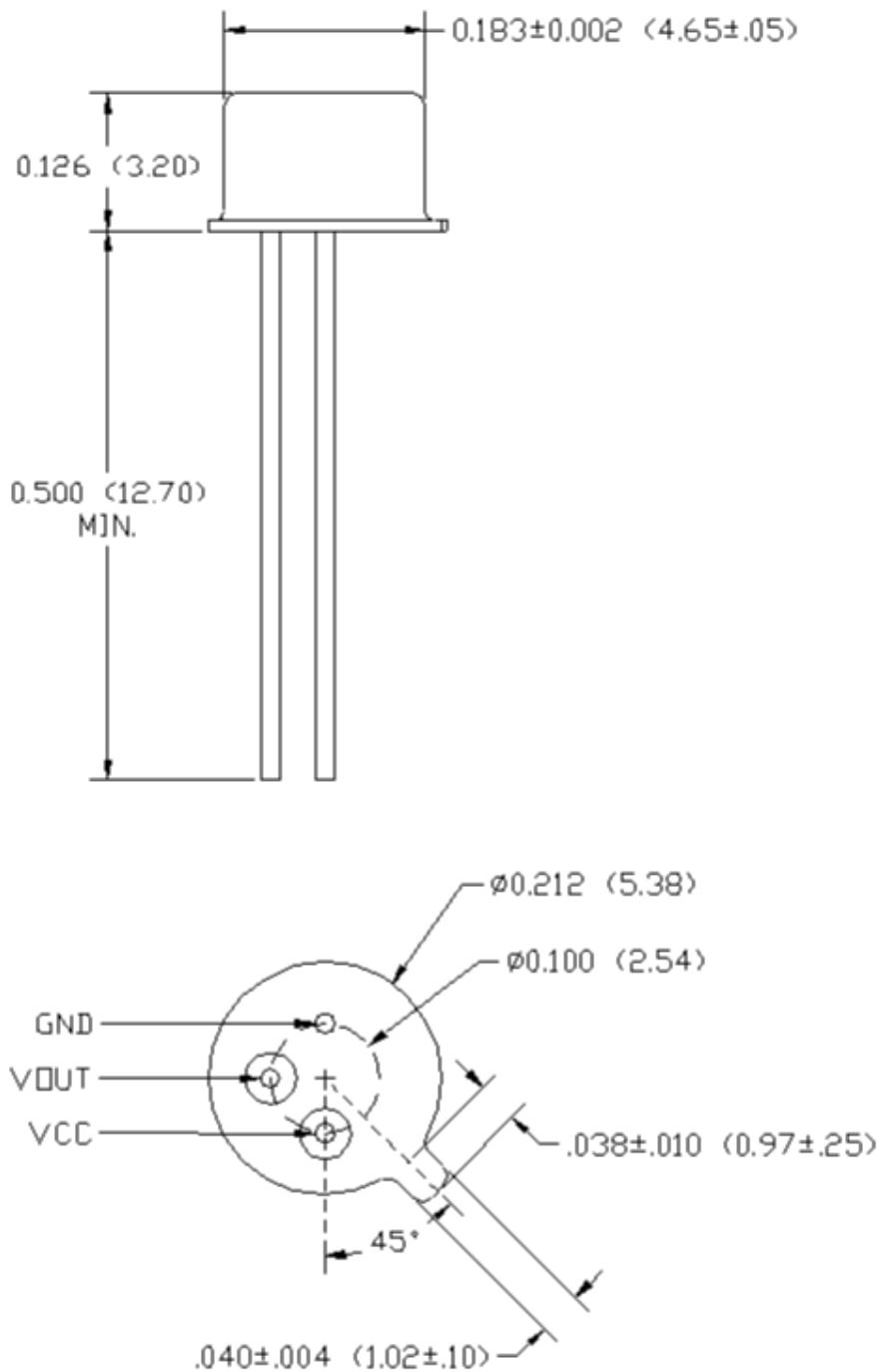


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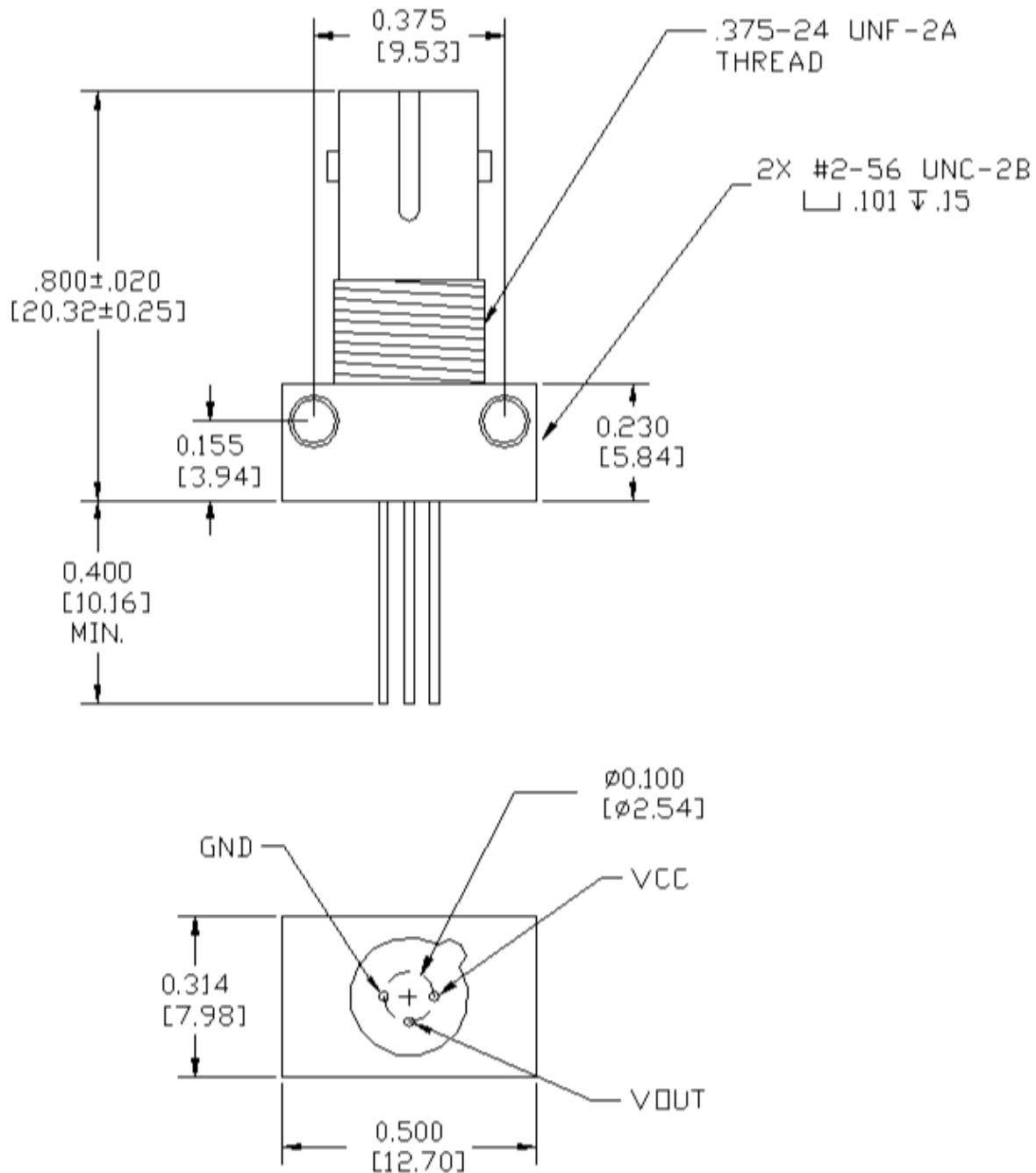
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Mechanical Outline – OPF505



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Mechanical Outline – OPF507



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Electrical Specifications

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

Storage Temperature	-65° C to +100° C
Operating Temperature	-40° C to +85° C
Lead Soldering Temperature (for 10 seconds) ⁽¹⁾	260° C
Supply Voltage	18 V
Power Dissipation ⁽²⁾	200 mW

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
V_{CC}	Supply Voltage	4.5	-	16.0	V	
V_{OL}	Low Level Output Voltage	-	-	0.4	V	$P_{IN} < 0.1 \mu\text{W}$
I_{CC}	Supply Current	-	5.0	12.0	mA	No output load
P_{IN}	Input Sensitivity	-	-	2.0	μW	$\lambda_p = 850 \text{ nm}$
t_r, t_f	Rise and Fall Time	-	-	300	ns	Buffer: $P_{IN} = 1.5 \mu\text{W}$ (peak), $V_{CC} = 5.0 \text{ V}$
BW	Bandwidth	100	-	-	kHz	$P_{IN} > 2.0 \mu\text{W}$, 50% duty cycle
PWD	Pulse Width Distortion	-	± 10	-	%	$1 \mu\text{W} < P_{IN} < 100 \mu\text{W}$, $f = 20 \text{ kHz}$ 50% duty cycle

Notes:

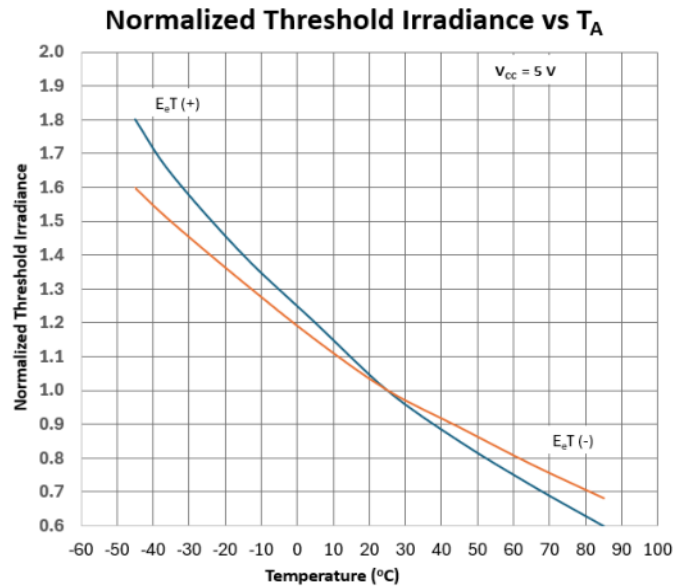
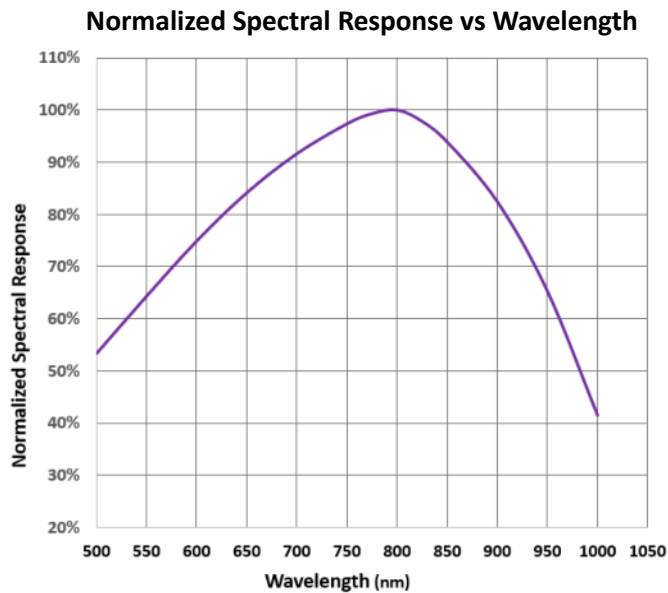
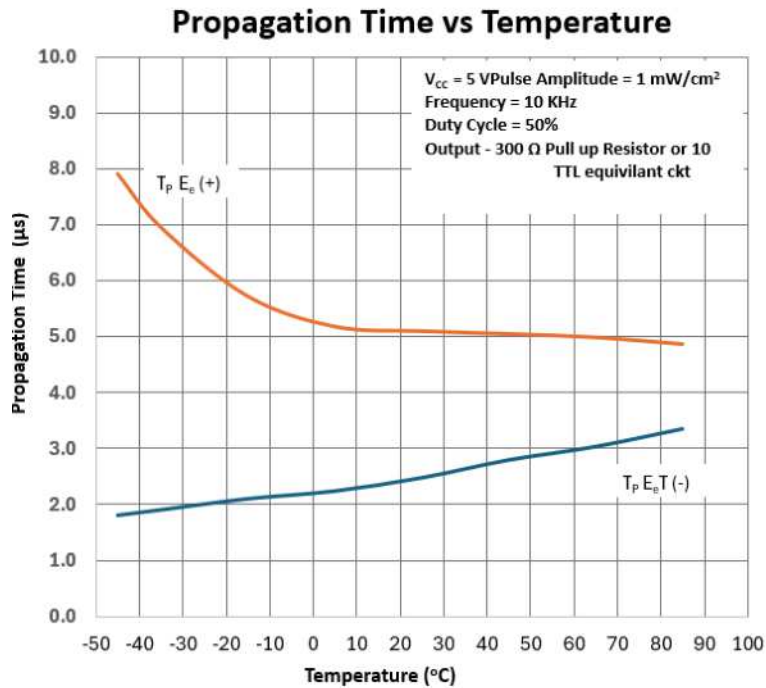
- (1) Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
- (2) Derate linearly at $2.67 \text{ mW}/^\circ \text{C}$ above 25°C .

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Typical Performance



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