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Fiber Optic Components

50 Mbps Receiver for Plastic Optical Fiber (POF)

HFD7500-2xx

FEATURES

- Designed for plastic optical fiber (POF)
- Built-in discrimination circuit provides digital output
- DC to 50 Mbps data transmission
- Designed to be used with HFE7000-210
- Immunity from high noise environment
- Miniature size using a monolithic IC structure



WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices, or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.



WARNING

MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided with each product.

Failure to comply with these instructions could result in death or serious injury.

NOTICE

Stress greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational section of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods of time may affect reliability.



HFD7500-2xx

DESCRIPTION

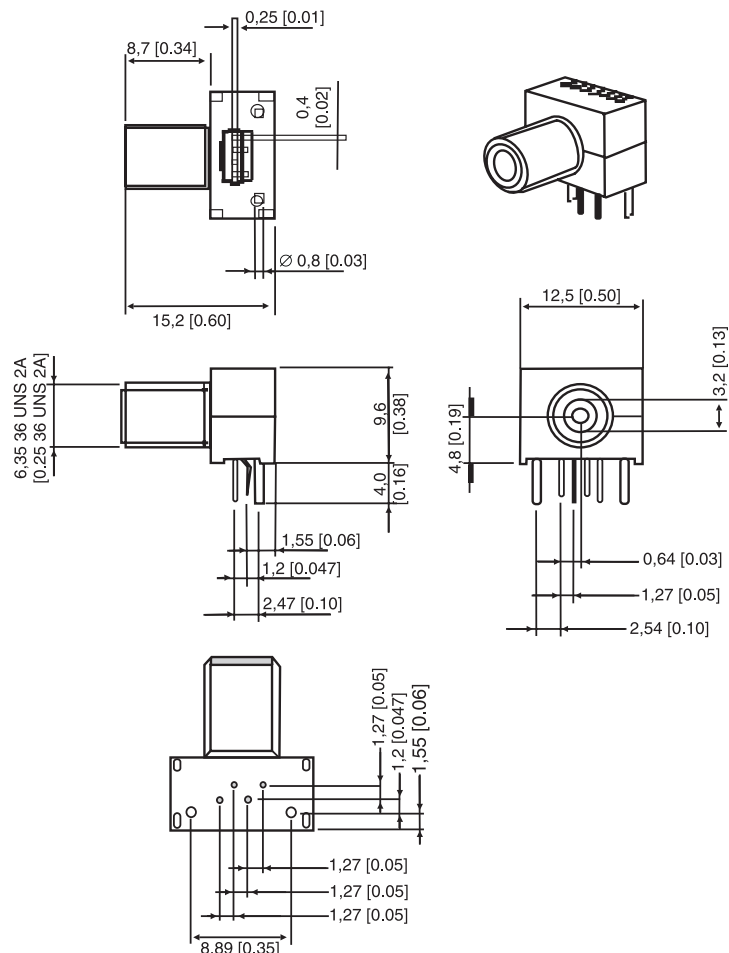
The HFD7500-2xx is a 50 Mbps receiver designed to meet data transmission requirements for factory and office automation. The plastic SMA housing delivers a cost-effective module that can be easily mounted on a PCB. The HFD7500-2xx is designed to work with Honeywell's high-speed 650 nm LED, HFE7000-210.

APPLICATIONS

Designed for data transmission in factory automation and office machines; The HFD7500-2xx is suitable for high speed and short distance links.

FIGURE 1. PACKAGE INFORMATION

Outline dimensions mm/in (for reference only)



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ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$ [77 °F])

Parameter	Symbol	Rating
Supply voltage	V _{cc} max	-0.5 V to 7.0 V
Output current	I _{oh} max.	10 mA
Soldering temperature	T _{Sold}	230 °C [446 °F] for 5 sec
Operating temperature	T _{Op}	-10 °C to 70 °C [14 °F to 158 °F]
Storage temperature	T _{Stor}	-40 °C to 85 °C [-40 °F to 185 °F]

ELECTRO-OPTICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ [77 °F])

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Data rate		f _D	dc		50.0	Mbps
Supply voltage		V _{cc}	4.75		5.25	V
Current consumption	No light input	I _{cc}			40.0	mA
Output voltage	I _{oh} = 20 μA	V _{oh}	2.0			V
	I _{ol} = -0.6 mA	V _{ol}			1.0	V
Pulse width distortion		ΔT	-6.0		6.0	ns
Maximum input power ^{1,2}		P _{imax}	-5.0			dBm
Minimum input power ^{1,2}		P _{imin}			-17.5	dBm
Rise time ²		t _r			7.0	ns
Fall time ²		t _f			7.0	ns

1 Output from a 1.0 m [39.37 in] long, 1.0 mm [0.04 in] diameter plastic fiber (GH4001 made by Mitsubishi Rayon) set close to the molded lens.

2 The rise and fall times are evaluated based on the input and output waveforms shown below. Measured with a low-capacitance FET probe (3 pF or less).

FIGURE 2. INPUT LIGHT WAVEFORM CONDITION

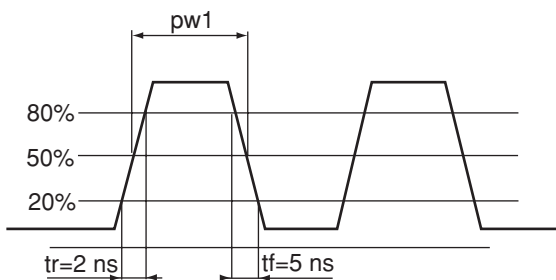
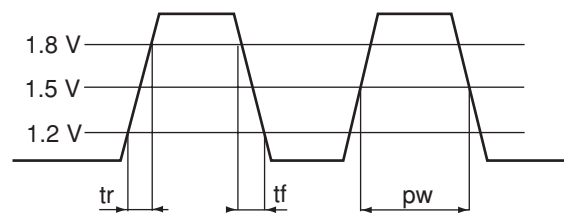


FIGURE 3. OUTPUT LIGHT WAVEFORM CONDITION



ORDER GUIDE

Catalog Listing	Description
HFD7500-212	50 Mbps receiver in plastic, non-conductive SMA housing
HFD7500-215	50 Mbps receiver in conductive, plastic SMA housing

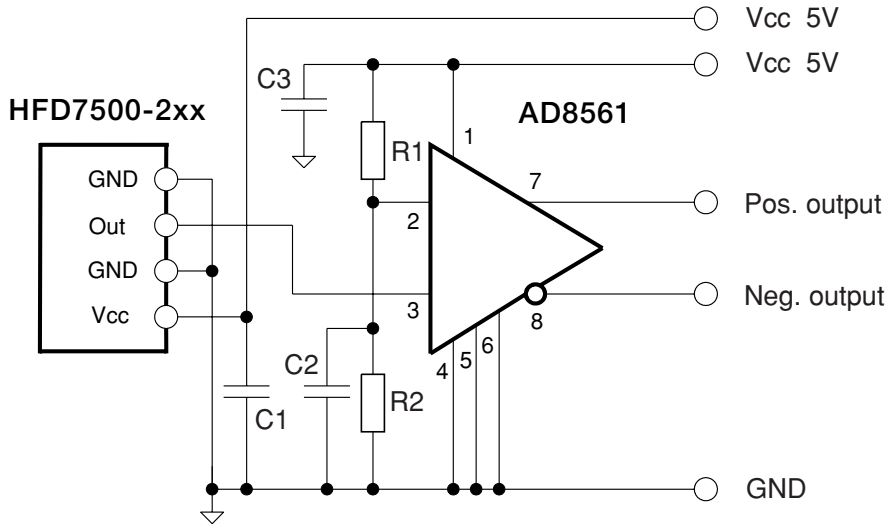
Fiber Optic Components

50 Mbps Receiver for Plastic Optical Fiber (POF)

HFD7500-2xx

FIGURE 4. TTL APPLICATION

Use external circuit if TTL output is required



C1, C2, C3 = 0.1 μ F
R1 = 35 k Ω , R2 = 15 k Ω

FIGURE 5. PINOUT

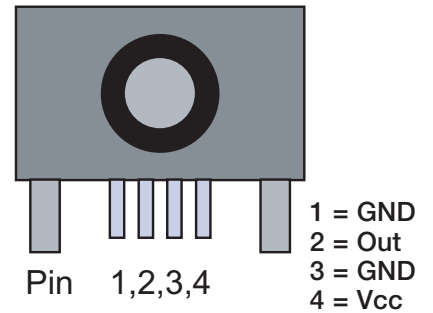
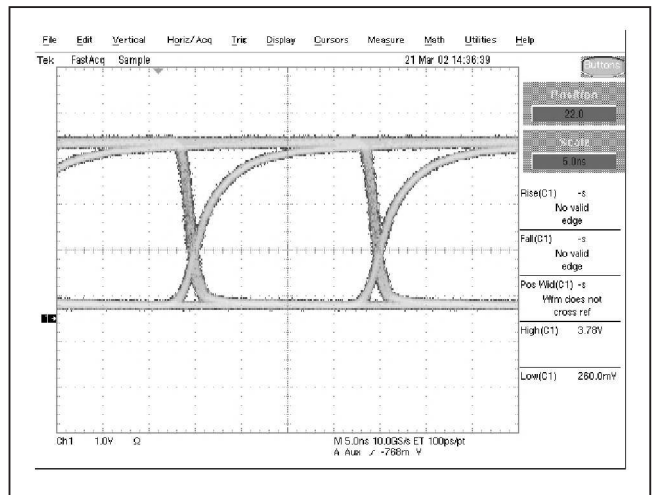
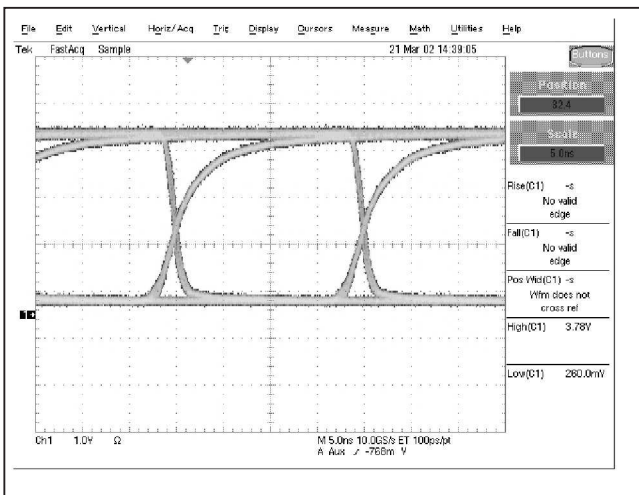


FIGURE 6. TYPICAL OUTPUT WAVEFORM

($T_A = 25^\circ\text{C}$ [77 $^\circ\text{F}$], $P_i = -16\text{ dBm}$, $V_{cc} = 5\text{ V}$, measured with drive circuit 74ACT08)



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Honeywell warrants goods of its manufacture as being free of defective material and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during that period of coverage, Honeywell will repair or replace without charge those items it finds defective. **The foregoing is Buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

While we provide application assistance, personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change at any time without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

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For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact a nearby sales office or call:

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UK	+44(0) 1698 481 481
USA & Canada	1-800-537-6945
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