

Low-Noise Photoreceiver with Si PIN Photodiode

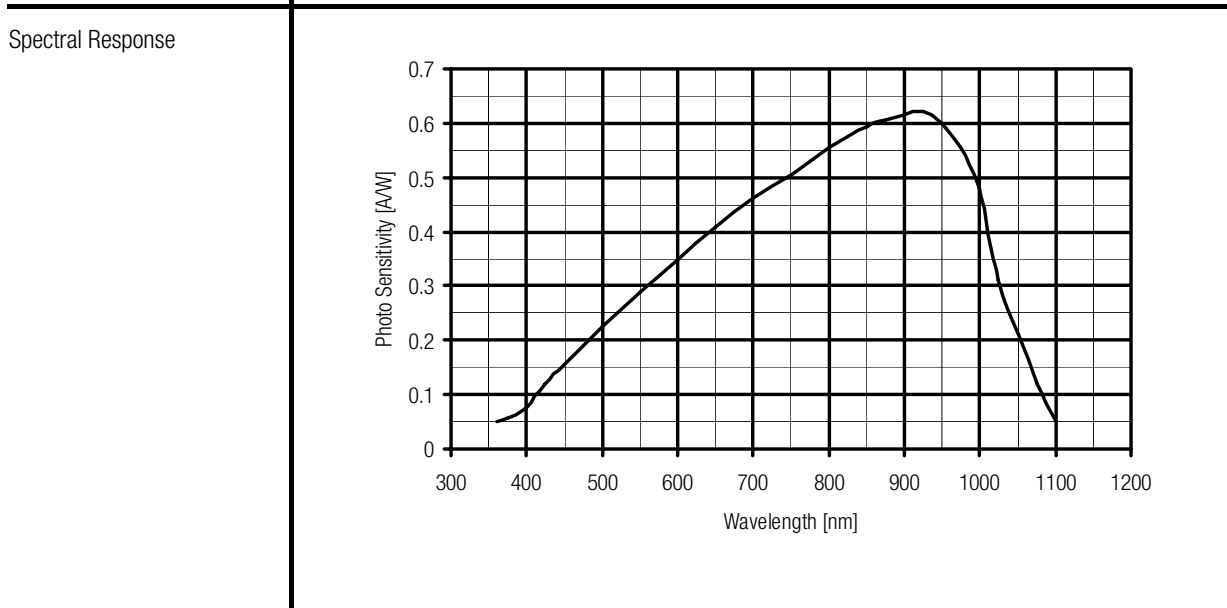


The photoreceiver will be delivered without post holder and post

Features	<ul style="list-style-type: none"> • Large Area Si PIN Detector, 2.5 mm Active Diameter • Spectral Range 400 ... 1100 nm • Amplifier Transimpedance (Gain) 1.0 x 10⁷ V/A • Max. Conversion Gain 6.2 x 10⁶ V/W @ 900 nm • Bandwidth DC ... 400 kHz 																																													
Applications	<ul style="list-style-type: none"> • Spectroscopy • General Purpose Opto-Electronic Measurements • Optical Front-End for Oscilloscopes, A/D Converters and Lock-In Amplifiers 																																													
Specifications	<table border="0"> <tr> <td></td> <td><i>Test Conditions</i></td> <td colspan="2"><i>V_s = ± 15 V, T_a = 25°C</i></td> </tr> <tr> <td rowspan="2">Gain</td> <td>Transimpedance</td> <td>1.0 x 10⁷ V/A</td> <td>(@ >10 kΩ load)</td> </tr> <tr> <td>Max. Conversion Gain</td> <td>6.2 x 10⁶ V/W</td> <td>(@ 900 nm)</td> </tr> <tr> <td rowspan="4">Frequency Response</td> <td>Lower Cut-Off Frequency</td> <td colspan="2">DC</td> </tr> <tr> <td>Upper Cut-Off Frequency (- 3 dB)</td> <td colspan="2">400 kHz</td> </tr> <tr> <td>Rise- / Fall-Time (10% - 90%)</td> <td colspan="2">1 μs</td> </tr> <tr> <td>Gain Flatness</td> <td colspan="2">± 0.5 dB</td> </tr> <tr> <td rowspan="3">Detector</td> <td>Detector Material</td> <td colspan="2">Si PIN photodiode</td> </tr> <tr> <td>Active Area</td> <td colspan="2">Ø 2.5 mm</td> </tr> <tr> <td>Spectral Response</td> <td colspan="2">400 ... 1100 nm</td> </tr> <tr> <td rowspan="2">Input</td> <td>Input Offset Compensation</td> <td colspan="2">± 300 nA, adjustable by offset trimpot</td> </tr> <tr> <td>Max. Optical Input Power</td> <td colspan="2">1.6 μW (for linear amplification @ 900 nm)</td> </tr> <tr> <td>Noise</td> <td>Min. NEP</td> <td colspan="2">130 fW/√Hz (@ 900 nm, 10 kHz)</td> </tr> </table>		<i>Test Conditions</i>	<i>V_s = ± 15 V, T_a = 25°C</i>		Gain	Transimpedance	1.0 x 10 ⁷ V/A	(@ >10 kΩ load)	Max. Conversion Gain	6.2 x 10 ⁶ V/W	(@ 900 nm)	Frequency Response	Lower Cut-Off Frequency	DC		Upper Cut-Off Frequency (- 3 dB)	400 kHz		Rise- / Fall-Time (10% - 90%)	1 μs		Gain Flatness	± 0.5 dB		Detector	Detector Material	Si PIN photodiode		Active Area	Ø 2.5 mm		Spectral Response	400 ... 1100 nm		Input	Input Offset Compensation	± 300 nA, adjustable by offset trimpot		Max. Optical Input Power	1.6 μW (for linear amplification @ 900 nm)		Noise	Min. NEP	130 fW/√Hz (@ 900 nm, 10 kHz)	
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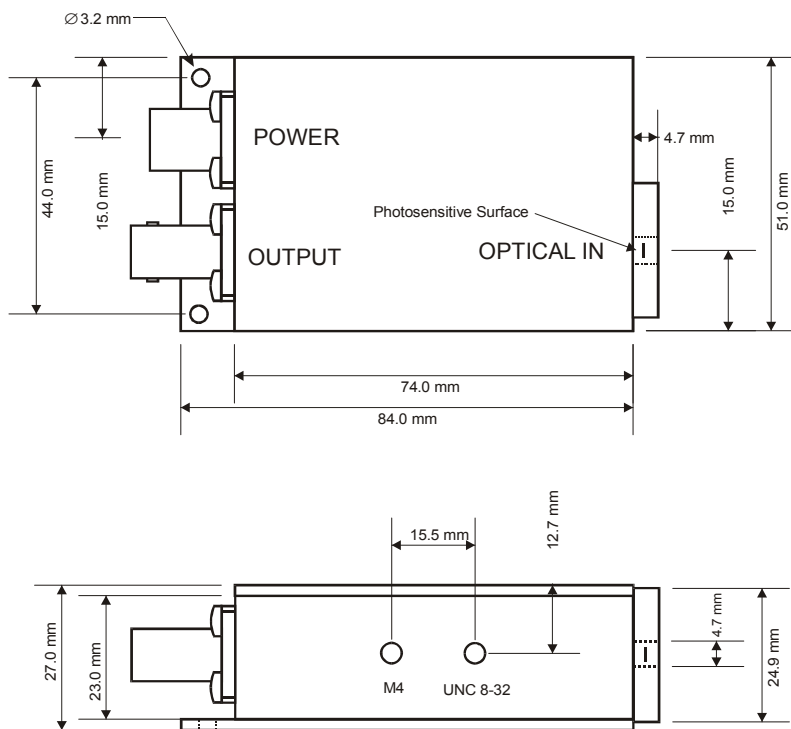
Output	Output Voltage Range $\pm 10\text{ V}$ (@ $\geq 10\text{ k}\Omega$ load) Max. Output Current $\pm 30\text{ mA}$ Output Impedance $50\ \Omega$ (terminate with $\geq 10\text{ k}\Omega$ load for best performance) Output Noise 10 mV peak-peak (@ $1\text{ M}\Omega$ load, no signal on photodiode)
Power Supply	Supply Voltage $\pm 15\text{ V}$ Supply Current $\pm 40\text{ mA}$ typ. (depends on operating conditions, recommended power supply capability minimum $\pm 150\text{ mA}$)
Case	Weight 210 g (0.5 lbs) Material AlMg4.5Mn, nickel-plated
Temperature Range	Storage Temperature $-40 \dots +100\text{ }^\circ\text{C}$ Operating Temperature $0 \dots +60\text{ }^\circ\text{C}$
Absolute Maximum Ratings	Optical Input Power 10 mW Power Supply Voltage $\pm 22\text{ V}$



Connectors	Input optical, free space, 25 mm \varnothing round flange compatible with microbench systems Output BNC Power Supply LEMO series 1S, 3-pin fixed socket Pin 1: + 15V Pin 2: - 15V Pin 3: GND
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Low-Noise Photoreceiver with Si-PIN-Photodiode

Dimensions



DZ-FWPR_1.cdr

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