

Low Noise 400 kHz Photoreceiver with Si PIN Photodiode



Picture is similar to actual device. The photoreceiver will be delivered without post holder and post.

<p>Features</p>	<ul style="list-style-type: none"> • Large Area Si PIN Detector, 3.0 mm Active Diameter • Spectral Range 320 ... 1060 nm • Amplifier Transimpedance Gain 1.0×10^7 V/A • Max. Conversion Gain 5.9×10^6 V/W @ 920 nm • Bandwidth DC ... 400 kHz 																																												
<p>Applications</p>	<ul style="list-style-type: none"> • Spectroscopy • General Purpose Opto-Electronic Measurements • Optical Front-End for Oscilloscopes, A/D Converters and Lock-In Amplifiers 																																												
<p>Specifications</p>	<p><i>Test Conditions</i> $V_s = \pm 15$ V, $T_a = 25^\circ$C, load impedance ≥ 100 kΩ</p> <table border="0"> <tr> <td style="vertical-align: top;">Gain</td> <td>Transimpedance</td> <td>1.0×10^7 V/A</td> <td></td> </tr> <tr> <td></td> <td>Max. Conversion Gain</td> <td>5.9×10^6 V/W</td> <td>(@ 920 nm)</td> </tr> <tr> <td style="vertical-align: top;">Frequency Response</td> <td>Lower Cut-Off Frequency</td> <td>DC</td> <td></td> </tr> <tr> <td></td> <td>Upper Cut-Off Frequency (- 3 dB)</td> <td>400 kHz</td> <td></td> </tr> <tr> <td></td> <td>Rise/Fall Time (10 % - 90 %)</td> <td>900 ns</td> <td></td> </tr> <tr> <td style="vertical-align: top;">Detector</td> <td>Detector Material</td> <td>Si PIN photodiode</td> <td></td> </tr> <tr> <td></td> <td>Active Area</td> <td>\varnothing 3.0 mm</td> <td></td> </tr> <tr> <td></td> <td>Spectral Response</td> <td>320 ... 1060 nm</td> <td></td> </tr> <tr> <td style="vertical-align: top;">Input</td> <td>Input Offset Compensation Range</td> <td>± 300 nA</td> <td>adjustable by offset trim-pot</td> </tr> <tr> <td></td> <td>Optical Saturation Power</td> <td>1.6 μW</td> <td>(@ 920 nm)</td> </tr> <tr> <td></td> <td>NEP</td> <td>120 fW/\sqrtHz</td> <td>(@ 920 nm, 10 kHz)</td> </tr> </table>	Gain	Transimpedance	1.0×10^7 V/A			Max. Conversion Gain	5.9×10^6 V/W	(@ 920 nm)	Frequency Response	Lower Cut-Off Frequency	DC			Upper Cut-Off Frequency (- 3 dB)	400 kHz			Rise/Fall Time (10 % - 90 %)	900 ns		Detector	Detector Material	Si PIN photodiode			Active Area	\varnothing 3.0 mm			Spectral Response	320 ... 1060 nm		Input	Input Offset Compensation Range	± 300 nA	adjustable by offset trim-pot		Optical Saturation Power	1.6 μ W	(@ 920 nm)		NEP	120 fW/ \sqrt Hz	(@ 920 nm, 10 kHz)
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Specifications (continued)	
Output	Output Voltage Range ± 10 V Max. Output Current ± 30 mA Output Impedance 50Ω (terminate with ≥ 100 k Ω for best performance) Output Noise ca. 10 mV _{pp} (1.6 mV _{RMS}) (no signal on detector)
Power Supply	Supply Voltage ± 15 V Supply Current ± 40 mA typ. (depends on operating conditions, recommended power supply capability minimum ± 150 mA)
Case	Weight 210 g (0.5 lbs) Material AlMg4.5Mn, nickel-plated
Temperature Range	Storage Temperature $- 40 \dots + 100$ °C Operating Temperature $0 \dots + 60$ °C

Absolute Maximum Ratings	Optical Input Power 10 mW Power Supply Voltage ± 22 V
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