

Low Noise 400 kHz 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 colspan="2"><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>(@ ≥ 1 MΩ 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="3">Input</td> <td>Input Offset Compensation Range</td> <td colspan="2">± 300 nA, adjustable by offset trimpot</td> </tr> <tr> <td>Optical Saturation Power</td> <td colspan="2">1.6 μW (for linear amplification, @ 900 nm)</td> </tr> <tr> <td>Min. NEP</td> <td>130 fW/√Hz</td> <td>(@ 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	(@ ≥ 1 MΩ 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 Range	± 300 nA, adjustable by offset trimpot		Optical Saturation Power	1.6 μW (for linear amplification, @ 900 nm)		Min. NEP	130 fW/√Hz	(@ 900 nm, 10 kHz)
<i>Test Conditions</i>		<i>V_s = ± 15 V, T_a = 25°C</i>																																											
Gain	Transimpedance	1.0 x 10 ⁷ V/A	(@ ≥ 1 MΩ 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 Range	± 300 nA, adjustable by offset trimpot																																											
	Optical Saturation Power	1.6 μW (for linear amplification, @ 900 nm)																																											
	Min. NEP	130 fW/√Hz	(@ 900 nm, 10 kHz)																																										

Low Noise 400 kHz Photoreceiver with Si PIN Photodiode

Specifications (continued)	
Output	Output Voltage Range $\pm 10\text{ V}$ (@ $\geq 1\text{ M}\Omega$ load) Max. Output Current $\pm 30\text{ mA}$ Output Impedance $50\ \Omega$ (designed for $\geq 1\text{ M}\Omega$ load) Output Noise ca. 10 mV peak-peak or 1.5 mV rms (@ $\geq 1\text{ M}\Omega$ load, no signal on detector)
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 $\text{AlMg4.5Mn, nickel-plated}$
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 $\pm 22\text{ V}$
--------------------------	--



