Datasheet LCA-S-400K-SI

## 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.

Features	<ul> <li>Large Area Si PIN Detector, 3.0 mm Active Diameter</li> <li>Spectral Range 320 1060 nm</li> <li>Amplifier Transimpedance Gain 1.0 x 10<sup>7</sup> V/A</li> <li>Max. Conversion Gain 5.9 x 10<sup>6</sup> V/W @ 920 nm</li> <li>Bandwidth DC 400 kHz</li> <li>Spectroscopy</li> <li>General Purpose Opto-Electronic Measurements</li> <li>Optical Front-End for Oscilloscopes, A/D Converters and Lock-In Amplifiers</li> </ul>		
Applications			
Specifications	Test Conditions	$Vs = \pm 15 \text{ V}, \text{ Ta} = 25^{\circ}\text{C}, \text{ load impedance} \geq 100 \text{ k}\Omega$	
Gain	Transimpedance Max. Conversion Gain	$1.0 \times 10^{7} \text{ V/A}$ $5.9 \times 10^{6} \text{ V/W}$	(@ 920 nm)
Frequency Response	Lower Cut-Off Frequency Upper Cut-Off Frequency (- 3 dB) Rise/Fall Time (10 % - 90 %)	DC 400 kHz 900 ns	
Detector	Detector Material Active Area Spectral Response	Si PIN photodiode Ø 3.0 mm 320 1060 nm	
Input	Input Offset Compensation Range Optical Saturation Power NEP	± 300 nA 1.6 µW 120 fW/√Hz	adjustable by offset trim-pot (@ 920 nm) (@ 920 nm, 10 kHz)

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Specifications (continued)
Output
Output
Output Voltage Range

Output Voltage Range  $\pm$  10 V Max. Output Current  $\pm$  30 mA

Output Impedance 50  $\Omega$  (terminate with  $\geq$  100  $k\Omega$  for best

performance)

Output Noise ca. 10 mV<sub>PP</sub> (1.6 mV<sub>RMS</sub>) (no signal on detector)

Power Supply Voltage ± 15 V

Supply Current  $\pm$  40 mA typ.

(depends on operating conditions, recommended power

supply capability minimum  $\pm$  150 mA)

Case Weight 210 g (0.5 lbs)

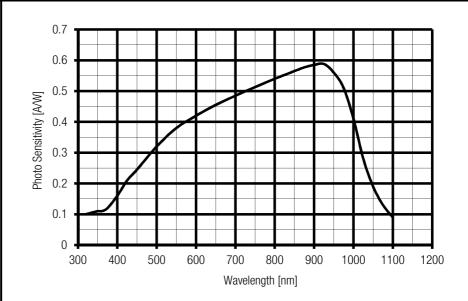
Material AlMg4.5Mn, nickel-plated

Temperature Range Storage Temperature - 40 ... + 100 °C

Operating Temperature  $0 \dots + 60 \, ^{\circ}\text{C}$ 

Absolute Maximum Ratings Optical Input Power 10 mW Power Supply Voltage  $\pm$  22 V

Spectral Response



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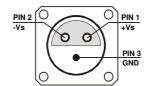
Connectors Input 25 mm round flange for free space applications

(fiber optic input available as customized unit)

Output BNC

Power Supply LEMO series 1S, 3-pin fixed socket

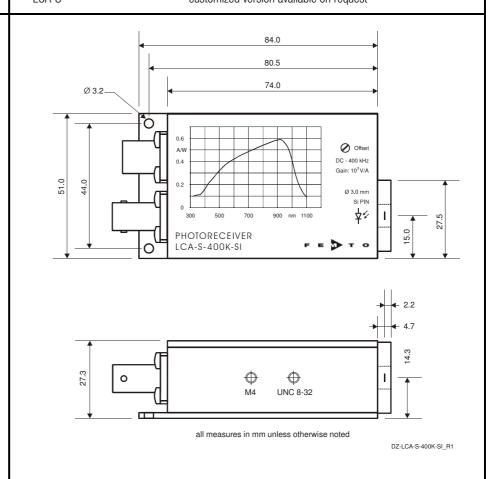
Pin 1: + 15V Pin 2: - 15V Pin 3: GND



Available Models LC

LCA-S-400K-SI-FS LCA-S free space input customized version available on request

**Dimensions** 



FEMTO Messtechnik GmbH Klosterstr. 64 10179 Berlin • Germany Tel.: +49-(0)30-280 4711-0 Fax: +49-(0)30-280 4711-11 e-mail: info@femto.de www.femto.de Specifications are subject to change without notice. Information furnished herein is believed to be accurate and reliable. However, no responsibility is assumed by FEMTO Messtechnik GmbH for its use, nor for any infringement of patents or other rights granted by implication or otherwise under any patent rights of FEMTO Messtechnik GmbH. Product names mentioned may also be trademarks used here for identification purposes only.

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