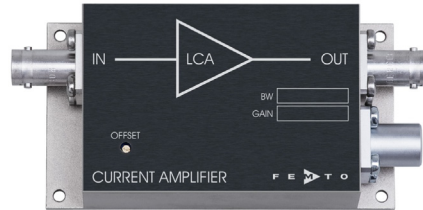


Datasheet

LCA-40K-100M

Ultra-Low-Noise Current Amplifier



Features

- **Bandwidth and Frequency Response Independent of Detector-Capacitance (up to 10 nF)**
- **Extremely Low Noise, 19 fA/√Hz Equivalent Input Noise Current**
- **Bandwidth DC ... 40 kHz**
- **Transimpedance (Gain) 1×10^8 V/A**

Applications

- **Photodiode- and Photomultiplier-Amplifier**
- **Spectroscopy**
- **Charge-Amplifier**
- **Ionisation Detectors**
- **Preamplifier for Lock-Ins, A/D-Converters, etc.**

Specifications

	Test Conditions	$V_s = \pm 15$ V, $T_a = 25^\circ$ C
Gain	Transimpedance Accuracy	1×10^8 V/A (>10 k Ω Load) $\pm 1\%$
Frequency Response	Lower Cut-Off Frequency Upper Cut-Off Frequency Rise- / Fall-Time Gain Flatness	DC 40 kHz (-3 dB) 10 μ s (10% - 90%) ± 0.1 dB
Input	Equ. Input Noise Current Equ. Input Noise Voltage Input Bias Current Input Bias Current Drift Offset Current Compensation Max. Input Current Input Offset Voltage DC Input Impedance	19 fA/√Hz (@ 10 kHz) 5 nV/√Hz (@ 10 kHz) 2 pA typ. Factor 1.7 / 10 K ± 30 nA, Adjustable by Offset-Trimpot ± 100 nA (Linear Amplification) < 1 mV 50 Ω (Virtual) // 5 pF
Output	Output Voltage Output Impedance Max. Output Current	± 10 V (>10 k Ω Load) 50 Ω (Terminate with >10 k Ω for best Performance) ± 10 mA (Linear Amplification)
Power Supply	Supply Voltage Supply Current	± 15 V ± 40 mA typ.
Case	Weight Material	210 gr. (0.5 lbs) AlMg4.5Mn, nickel-plated
Temperature Range	Storage Temperature Operating Temperature	-40 ... +100 $^\circ$ C 0 ... +60 $^\circ$ C

SOPHISTICATED TOOLS FOR SIGNAL RECOVERY



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Datasheet

LCA-40K-100M

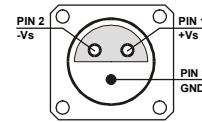
Ultra-Low-Noise Current Amplifier

Absolute Maximum Ratings

Input Voltage ± 5 V
Power Supply Voltage ± 22 V

Connectors

Input BNC
Output BNC
Power Supply LEMO Series 1S, 3-pin Fixed Socket
Pin 1: +15V
Pin 2: -15V
Pin 3: GND



Application Diagrams

Photo Detector Biasing in Photovoltaic Mode:
Use for Low Speed Applications and Minimum Dark Current.

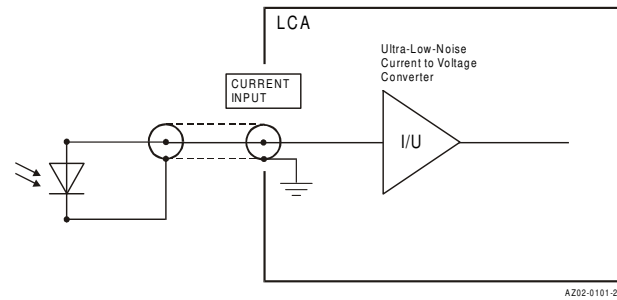
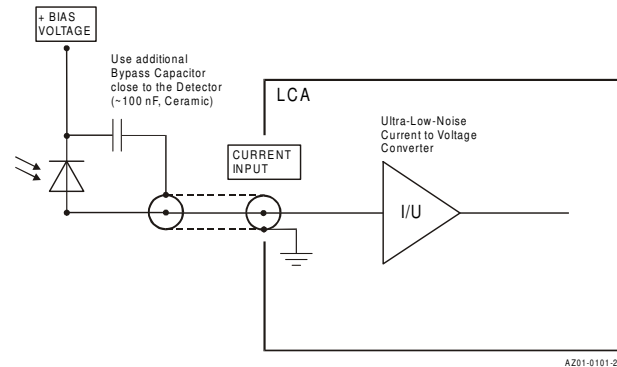


Photo Detector Biasing in Photoconductive Mode:
Use for Fast Applications and if More Dark Current is Tolerable.
Bias Voltage Decreases Detector Capacitance.



SOPHISTICATED TOOLS FOR SIGNAL RECOVERY

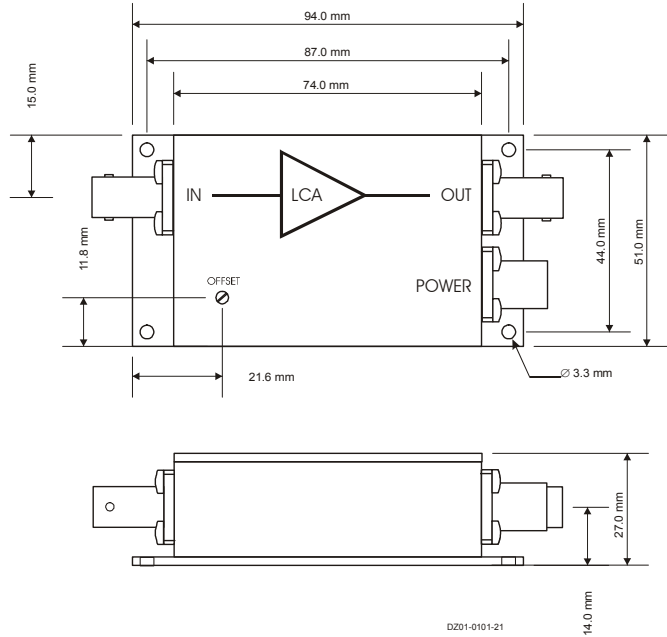


Datasheet

LCA-40K-100M

Ultra-Low-Noise Current Amplifier

Dimensions



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SOPHISTICATED TOOLS FOR SIGNAL RECOVERY

