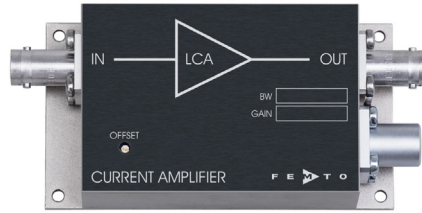


Datasheet

LCA-2K-2G

Ultra-Low-Noise Current Amplifier



Features

- **Bandwidth and Frequency Response Independent of Detector-Capacitance (up to 10 nF)**
- **Extremely Low Noise, 4.5 fA/√Hz Equivalent Input Noise Current**
- **Bandwidth DC ... 2 kHz**
- **Transimpedance (Gain) 2×10^9 V/A**

Applications

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

Specifications

	Test Conditions	$V_s = \pm 15$ V, $T_a = 25^\circ$ C
Gain	Transimpedance	2×10^9 V/A (>10 k Ω Load)
	Accuracy	$\pm 1\%$
Frequency Response	Lower Cut-Off Frequency	DC
	Upper Cut-Off Frequency	2 kHz (-3 dB)
	Rise- / Fall-Time	200 μ s (10% - 90%)
	Gain Flatness	± 0.1 dB
Input	Equ. Input Noise Current	4.5 fA/√Hz (@ 300 Hz)
	Equ. Input Noise Voltage	8 nV/√Hz (@ 300 Hz)
	Input Bias Current	2 pA typ.
	Input Bias Current Drift	Factor 2.3 / 10 K
	Offset Current Compensation	± 1.5 nA, Adjustable by Offset-Trimpot
	Max. Input Current	± 5 nA (Linear Amplification)
	Input Offset Voltage	< 1 mV
	DC Input Impedance	50 Ω (Virtual) // 5 pF
Output	Output Voltage	± 10 V (>10 k Ω Load)
	Output Impedance	50 Ω (Terminate with >10 k Ω for best Performance)
	Max. Output Current	± 10 mA (Linear Amplification)
Power Supply	Supply Voltage	± 15 V
	Supply Current	± 45 mA typ.
Case	Weight	210 gr. (0.5 lbs)
	Material	AlMg4.5Mn, nickel-plated
Temperature Range	Storage Temperature	-40 ... +100 $^\circ$ C
	Operating Temperature	0 ... +60 $^\circ$ C

SOPHISTICATED TOOLS FOR SIGNAL RECOVERY



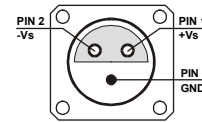
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LCA-2K-2G

Ultra-Low-Noise Current Amplifier

Absolute Maximum Ratings	Input Voltage	$\pm 7\text{ V}$
	Power Supply Voltage	$\pm 22\text{ V}$
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.

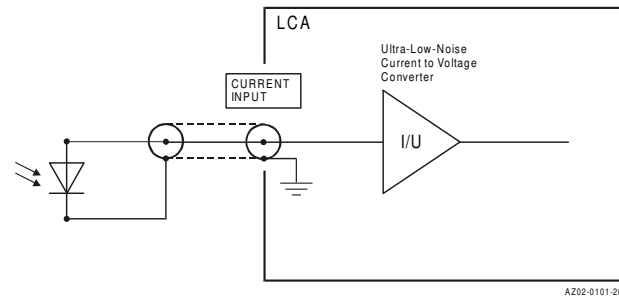
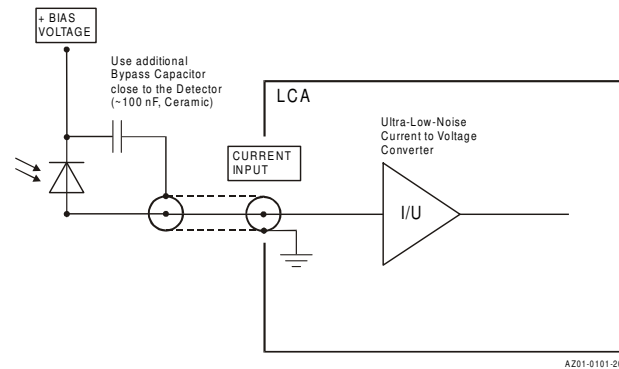


Photo Detector Biasing in Photoconductive Mode:
Use for Fast Applications and if More Dark Current is Tolerable.
Bias Voltage Decreases Detector Capacitance.



SOPHISTICATED TOOLS FOR SIGNAL RECOVERY

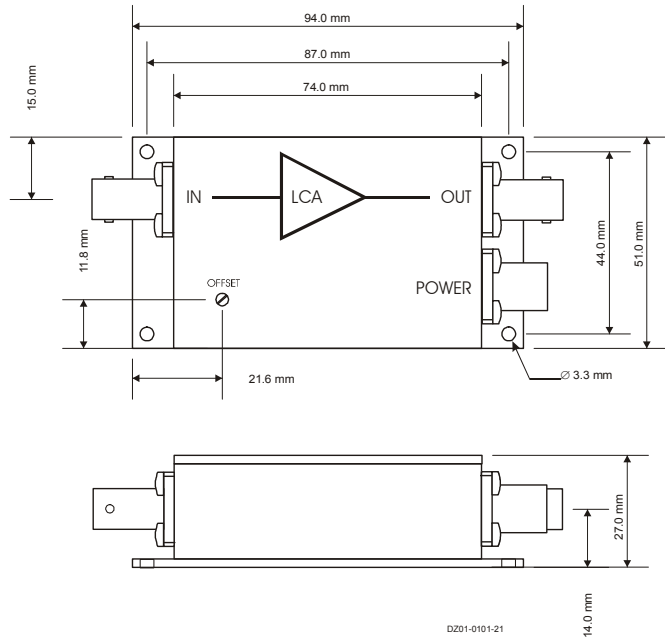


Datasheet

LCA-2K-2G

Ultra-Low-Noise Current Amplifier

Dimensions



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SOPHISTICATED TOOLS FOR SIGNAL RECOVERY

