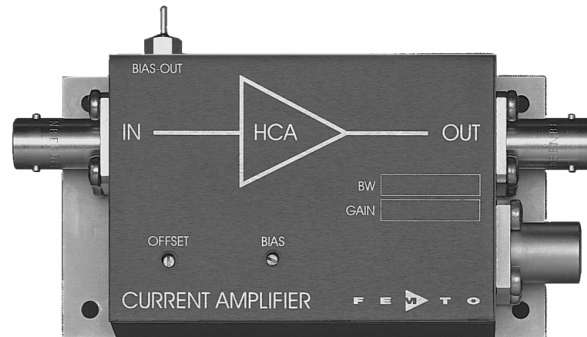




Datasheet

HCA-4M-500K

High Speed Current Amplifier

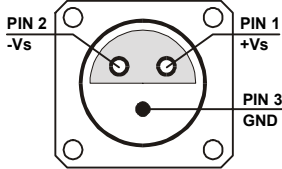


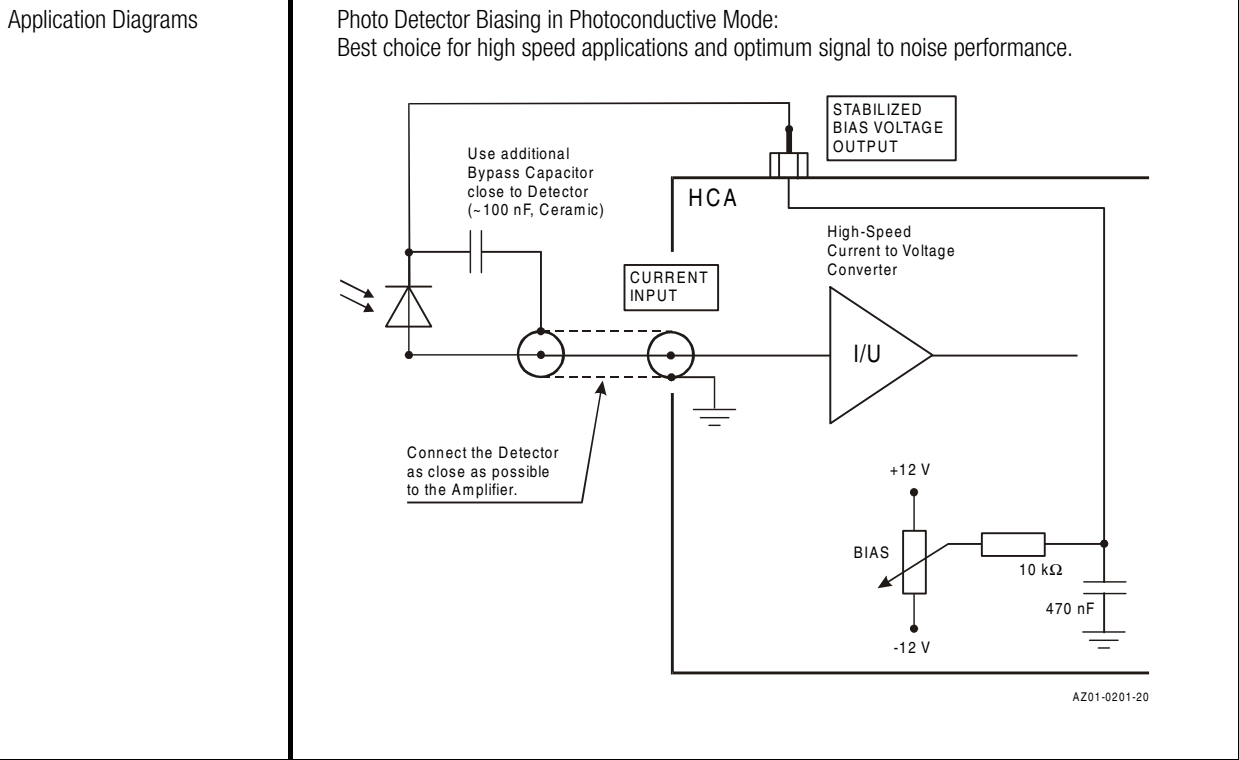
Features	<ul style="list-style-type: none"> • Bandwidth and Frequency Response Independent of Detector Capacitance (up to 15 pF) • Low Noise 490 fA/√Hz Equivalent Input Noise Current • Bandwidth DC ... 4 MHz • Transimpedance (Gain) 5 x 10⁵ V/A • Protection against ± 3.5 kV Transients 	
Applications	<ul style="list-style-type: none"> • Photodiode and Photomultiplier Amplifier • Spectroscopy • Charge Amplifier • Ionisation Detectors • Preamplifier for Lock-Ins, A/D Converters, etc. 	
Specifications	<i>Test Conditions</i>	<i>V_s = ± 15 V, T_a = 25°C</i>
Gain	Transimpedance	5 x 10 ⁵ V/A (@ 50 Ω load)
	Gain Accuracy	± 1 %
Frequency Response	Lower Cut-Off Frequency	DC
	Upper Cut-Off Frequency (- 3 dB)	4 MHz
	Rise / Fall Time (10 % - 90 %)	90 ns
	Gain Flatness	± 0.3 dB
Input	Equ. Input Noise Current	490 fA/√Hz (@ 100 kHz)
	Equ. Input Noise Voltage	6 nV/√Hz (@ 100 kHz)
	Input Bias Current	5 pA typ.
	Input Bias Current Drift	Factor 1.7 / 10 K
	Offset Current Compensation	± 4 μA adjustable by offset trimpot
	Input Current Range	± 3 μA (for linear amplification)
	Input Offset Voltage	2 mV
	DC Input Impedance	50 Ω (virtual) // 5 pF
Output	Output Voltage Range	± 1.5 V (@ 50 Ω load) for linear operation and low harmonic distortion
	Output Impedance	50 Ω (terminate with 50 Ω load for best performance)
Bias Output	Bias Output Voltage Range	± 12 V, adjustable by bias trimpot
	Bias Output Impedance	10 kΩ // 1 μF

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HCA-4M-500K

High Speed Current Amplifier

Specifications (continued)	<p>Power Supply</p> <p>Supply Voltage $\pm 15\text{ V}$ Supply Current $\pm 50\text{ mA typ.}$ (depends on operating conditions, recommended power supply capability minimum $\pm 150\text{ mA}$)</p> <p>Case</p> <p>Weight 210 g (0.5 lbs) Material AlMg4.5Mn, nickel-plated</p> <p>Temperature Range</p> <p>Storage Temperature $-40 \dots +100\text{ }^\circ\text{C}$ Operating Temperature $0 \dots +60\text{ }^\circ\text{C}$</p>
Absolute Maximum Ratings	<p>Input Voltage $\pm 5\text{ V}$ Input Voltage Transient $\pm 3.5\text{ kV}$ (pulsewidth 10 ns) Power Supply Voltage $\pm 22\text{ V}$</p>
Connectors	<p>Input BNC Output BNC Power Supply LEMO series 1S, 3-pin fixed socket Pin 1: + 15V Pin 2: - 15V Pin 3: GND</p> 

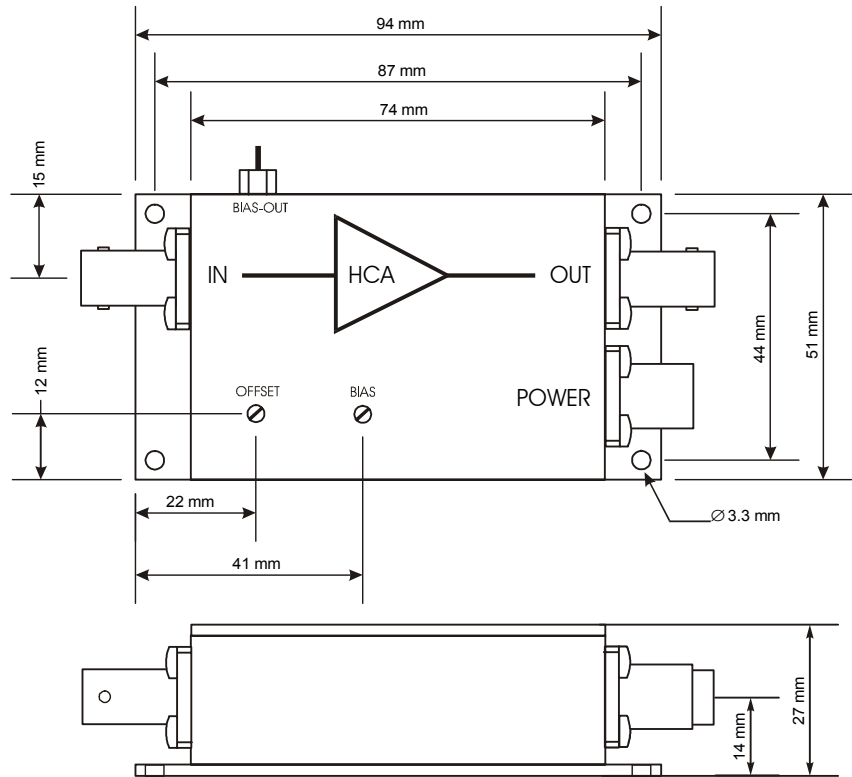


Datasheet

HCA-4M-500K

High Speed Current Amplifier

Dimensions



DZ01-0201-22

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SOPHISTICATED TOOLS FOR SIGNAL RECOVERY

