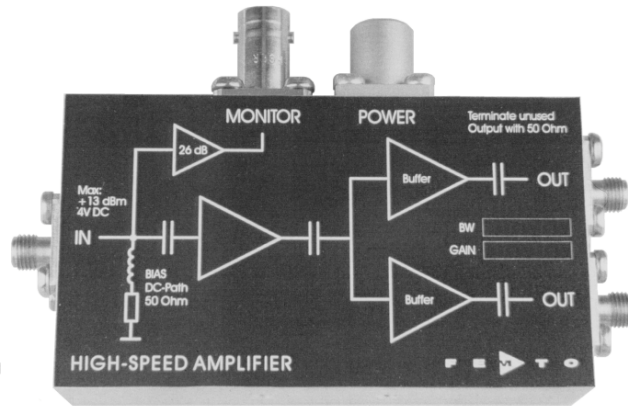




Datasheet

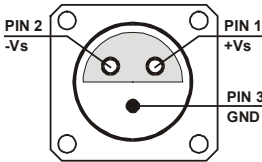
HSA-Y-2-20

2 GHz High-Speed Amplifier



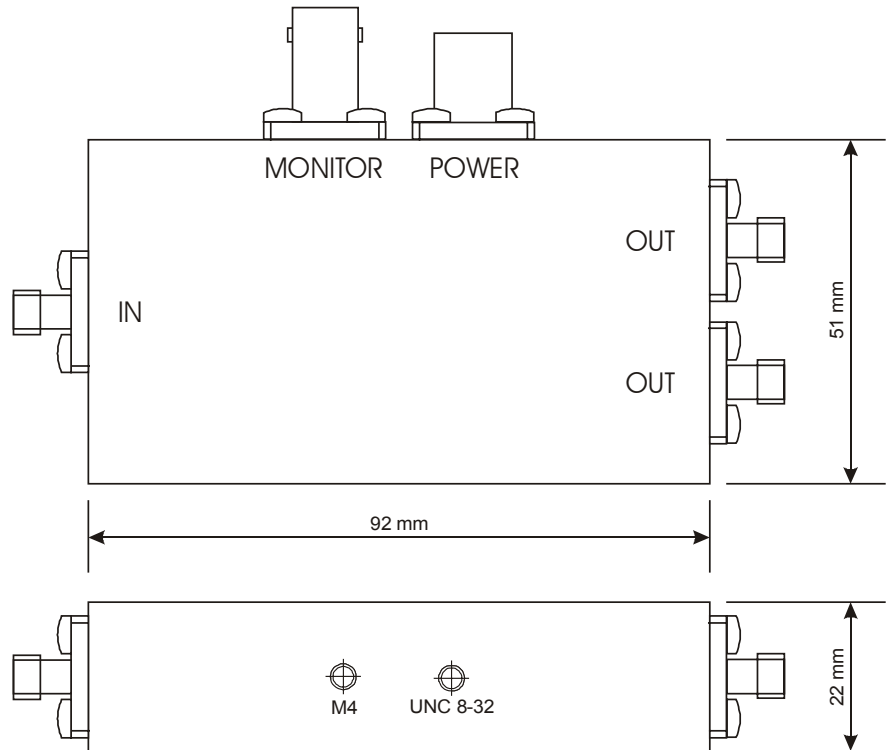
<p>Features</p>	<ul style="list-style-type: none"> • Bandwidth 10 kHz ... 2 GHz • Rise Time 175 ps • Gain 20 dB (500 V/A) • Input VSWR 1 : 1.15 • Integrated Bias Circuit • Monitor Output • Two identical Signal Outputs 	
<p>Applications</p>	<ul style="list-style-type: none"> • Preamplifier for ultra-fast Detectors (Microchannel-Plates, Photomultipliers, Avalanche-Photodiodes, PIN-Photodiodes etc.) • Oscilloscope and Transient-Recorder Preamplifier • Time-Resolved Pulse and Transient Measurements 	
<p>Block Diagram</p>		
<p>Specifications</p>	<p>Test Conditions</p> <p>Gain</p> <p>Gain Accuracy</p> <p>Gain Flatness</p> <p>Frequency Response</p> <p>Time Response</p> <p>Input</p>	<p>$V_s = \pm 15 \text{ V}$, $T_a = 25^\circ\text{C}$, System Impedance = $50 \ \Omega$</p> <p>20 dB (500 V/A)</p> <p>$\pm 1 \text{ dB}$</p> <p>$\pm 0.2 \text{ dB}$</p> <p>Lower Cut-Off Frequency 10 kHz</p> <p>Upper Cut-Off Frequency 2 GHz</p> <p>Rise / Fall Time (10% - 90%) 175 ps</p> <p>DC Input Impedance $50 \ \Omega$</p> <p>RF Input Impedance $50 \ \Omega$</p> <p>50 Ω Noise Figure 5.2 dB (@ $f < 1 \text{ GHz}$)</p> <p>Equivalent Input Voltage Noise 680 pV/$\sqrt{\text{Hz}}$ (@ $f < 1 \text{ GHz}$)</p> <p>Equivalent Input Current Noise 13.6 pA/$\sqrt{\text{Hz}}$ (@ $f < 1 \text{ GHz}$)</p> <p>Input VSWR 1 : 1.15 (@ $f < 1.5 \text{ GHz}$)</p> <p>Maximum Input VSWR 1 : 1.35 (@ $f < 3 \text{ GHz}$)</p>

2 GHz High-Speed Amplifier

Output	Two identical Signal Outputs: Output Impedance 50 Ω Maximum Output VSWR 1 : 2.5 (@ f < 3 GHz) Output Power P _{1dB} + 12.5 dBm (@ f < 1 GHz) Output Peak-Peak Voltage 2.5 Vpp (@ f < 500 MHz, for linear Amplification) Isolation between Outputs 15 dB (@ f < 3 GHz)
Monitor Amplifier	Gain 26 dB (1 kV/A) Lower Cut-Off Frequency DC Upper Cut-Off Frequency 100 kHz Output Voltage ± 10 V (@ 10kΩ load)
Power Supply	Supply Voltage ± 15 V Supply Current + 160 / -10 mA
Case	Weight 180 gr. (0.41 lbs) Material AlMg4.5Mn, nickel-plated
Temperature Range	Storage Temperature - 40 ... + 100 °C Operating Ambient Temperature 0 ... + 60 °C Operating Case Temperature 37 °C (@ Ta = 25 °C)
Absolute Maximum Ratings	Power Supply Voltage ± 20 V DC and LF Input Voltage ± 4 V RF Input Power + 13 dBm
Connectors	Input SMA Signal Outputs SMA Monitor Output BNC Power Supply LEMO Series 1S, 3-pin fixed Socket Pin 1: + 15 V Pin 2: - 15 V Pin 3: GND
	

2 GHz High-Speed Amplifier

Dimensions



DZ01-0611-10

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