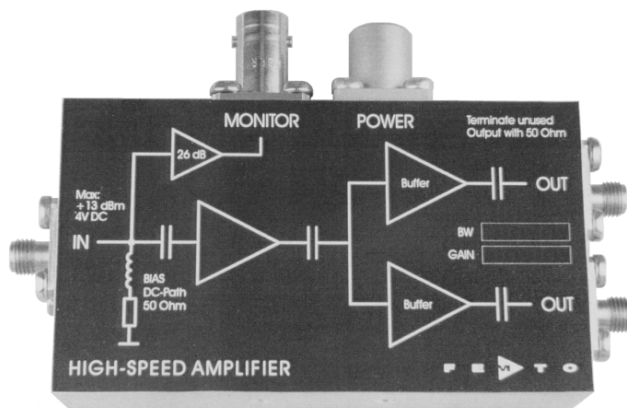


1 GHz High-Speed Amplifier



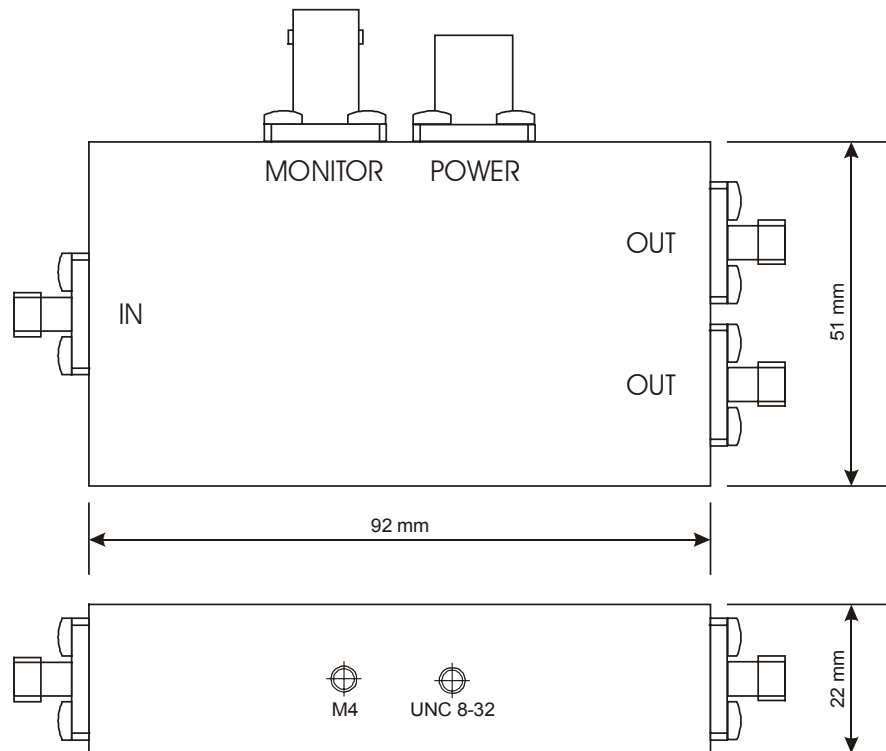
<p>Features</p>	<ul style="list-style-type: none"> • Bandwidth 10 kHz ... 1.1 GHz • Rise Time 320 ps • Gain 60 dB (50 kV/A) • Noise Figure 1.9 dB • Integrated Bias Circuit • Monitor Output • Two identical Signal Outputs 	
<p>Applications</p>	<ul style="list-style-type: none"> • Preamplifier for ultra-fast 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>Lower Cut-Off Frequency</p> <p>Upper Cut-Off Frequency</p> <p>Time Response</p> <p>Rise / Fall Time (10% - 90%)</p> <p>Input</p> <p>DC Input Impedance</p> <p>RF Input Impedance</p> <p>50 Ω Noise Figure</p> <p>Equivalent Input Voltage Noise</p> <p>Equivalent Input Current Noise</p> <p>Input VSWR</p> <p>Maximum Input VSWR</p>	<p>$V_s = \pm 15 \text{ V}$, $T_a = 25^\circ\text{C}$, System Impedance = 50Ω</p> <p>60 dB (50 kV/A)</p> <p>$\pm 1 \text{ dB}$</p> <p>$\pm 0.2 \text{ dB}$</p> <p>10 kHz</p> <p>1.1 GHz</p> <p>320 ps</p> <p>50Ω</p> <p>50Ω</p> <p>1.9 dB (@ $f < 700 \text{ MHz}$)</p> <p>$330 \text{ pV}/\sqrt{\text{Hz}}$ (@ $f < 700 \text{ MHz}$)</p> <p>$6.6 \text{ pA}/\sqrt{\text{Hz}}$ (@ $f < 700 \text{ MHz}$)</p> <p>1 : 1.4 (@ $f < 1.5 \text{ GHz}$)</p> <p>1 : 1.4 (@ $f < 3 \text{ GHz}$)</p>

1 GHz High-Speed Amplifier

<p>Output</p>	<p>Two identical Signal Outputs:</p> <p>Output Impedance 50 Ω</p> <p>Maximum Output VSWR 1 : 1.4 (@ f < 3 GHz)</p> <p>Output Power P_{1dB} + 13 dBm (@ f < 500 MHz)</p> <p>Output Peak-Peak Voltage 2.3 Vpp (@ f < 500 MHz, for linear Amplification)</p> <p>Isolation between Outputs 16 dB (@ f < 3 GHz)</p>
<p>Monitor Amplifier</p>	<p>Gain 26 dB (1 kV/A)</p> <p>Lower Cut-Off Frequency DC</p> <p>Upper Cut-Off Frequency 100 kHz</p> <p>Output Voltage ± 10 V (@ 10kΩ load)</p>
<p>Power Supply</p>	<p>Supply Voltage ± 15 V</p> <p>Supply Current + 180 / -10 mA</p>
<p>Case</p>	<p>Weight 180 gr. (0.41 lbs)</p> <p>Material AlMg4.5Mn, nickel-plated</p>
<p>Temperature Range</p>	<p>Storage Temperature - 40 ... + 100 °C</p> <p>Operating Ambient Temperature 0 ... + 60 °C</p> <p>Operating Case Temperature 39 °C (@ Ta = 25 °C)</p>
<p>Absolute Maximum Ratings</p>	<p>Power Supply Voltage ± 20 V</p> <p>DC and LF Input Voltage ± 4 V</p> <p>RF Input Power + 13 dBm</p>
<p>Connectors</p>	<p>Input SMA</p> <p>Signal Outputs SMA</p> <p>Monitor Output BNC</p> <p>Power Supply LEMO Series 1S, 3-pin fixed Socket</p> <p>Pin 1: + 15 V</p> <p>Pin 2: - 15 V</p> <p>Pin 3: GND</p> <div data-bbox="874 1467 1141 1624" style="text-align: center;"> </div>

1 GHz High-Speed Amplifier

Dimensions



DZ01-0611-10

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