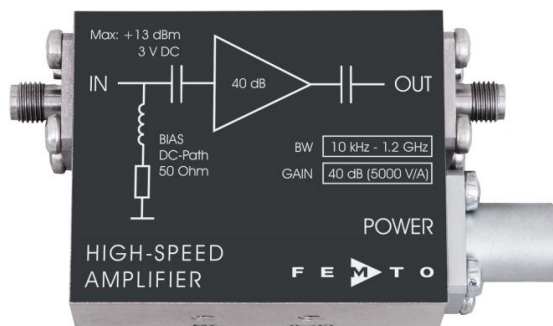
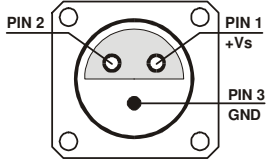


1.2 GHz High-Speed Amplifier



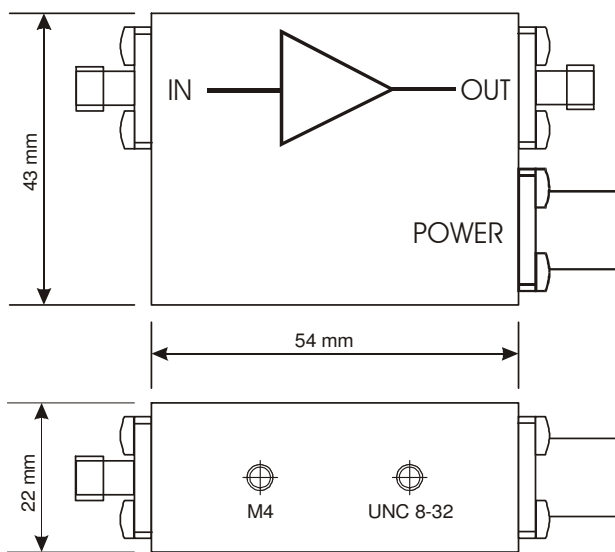
<p>Features</p>	<ul style="list-style-type: none"> • Bandwidth 10 kHz ... 1.2 GHz • Rise time 290 ps • Gain 40 dB • Noise figure 1.7 dB • Integrated bias circuit 		
<p>Applications</p>	<ul style="list-style-type: none"> • Preamplifier for ultra-fast detectors (microchannel-plates, photomultipliers, avalanche-photodiodes and PIN-photodiodes) • 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>Frequency Response</p> <p>Input</p>	<p>$V_s = + 15 \text{ V}$, $T_A = 25^\circ\text{C}$, system impedance = 50Ω</p> <p>Gain</p> <p>Transimpedance gain</p> <p>Gain accuracy</p> <p>Lower cut-off frequency (-3 dB)</p> <p>Upper cut-off frequency (-3 dB)</p> <p>Rise/fall time (10 % - 90 %)</p> <p>DC input impedance</p> <p>RF input impedance</p> <p>50Ω noise figure</p> <p>Equivalent input voltage noise</p> <p>Input VSWR</p> <p>Input return loss</p>	<p>40 dB (x 100)</p> <p>5,000 V/A (40 dB x 50Ω)</p> <p>$\pm 1 \text{ dB}$</p> <p>10 kHz ($\pm 20 \%$)</p> <p>1.2 GHz ($\pm 15 \%$)</p> <p>290 ps</p> <p>50Ω</p> <p>50Ω</p> <p>1.7 dB (@ $f < 700 \text{ MHz}$)</p> <p>310 pV/$\sqrt{\text{Hz}}$ (@ $f < 700 \text{ MHz}$)</p> <p>1.6 : 1 (@ $f < 2 \text{ GHz}$)</p> <p>13 dB (@ $f < 2 \text{ GHz}$)</p>

1.2 GHz High-Speed Amplifier

<p>Output</p>	<p>Output impedance 50 Ω</p> <p>Output VSWR 1.35 : 1 (@ f < 1.2 GHz)</p> <p>Output return loss 16.5 dB (@ f < 1.2 GHz)</p> <p>Output power P_{1dB} +12.5 dBm (@ f < 500 MHz)</p> <p>Output peak-to-peak voltage 2.0 V_{pp} (@ f < 500 MHz, for linear amplification)</p> <p>Output noise typ. 2.1 mV_{RMS} or 14 mV_{pp}* (measurement BW: 4 GHz)</p> <p>* The peak-to-peak output noise is derived from the RMS noise as follows: V_{pp} = V_{RMS} x 6.6 (99.9% of the time the output noise voltage will be within the specified peak-to-peak value.)</p>
<p>Power Supply</p>	<p>Supply voltage +15 V</p> <p>Supply current +140 mA</p>
<p>Case</p>	<p>Weight 100 g (0.23 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>Absolute Maximum Ratings</p>	<p>Power supply voltage +18.5 V</p> <p>DC and LF input voltage ±3 V</p> <p>RF input power +13 dBm</p>
<p>Connectors</p>	<p>Input SMA, jack (female)</p> <p>Output SMA, jack (female)</p> <p>Power supply Lemo® series 1S, 3-pin fixed socket (mating plug type: FFA.1S.303.CLAC52)</p> <p>Pin 1: +15 V</p> <p>Pin 2: NC</p> <p>Pin 3: GND</p> 

1.2 GHz High-Speed Amplifier

Dimensions



DZ01-0601-10

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