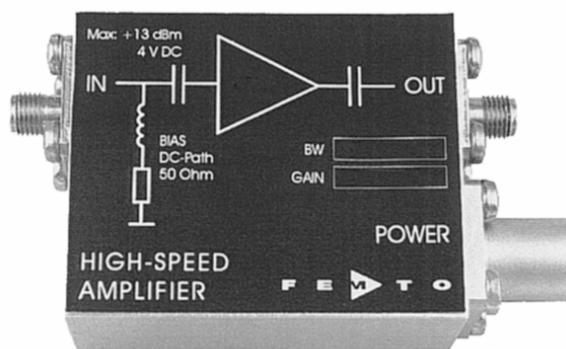
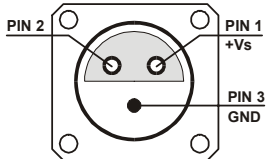
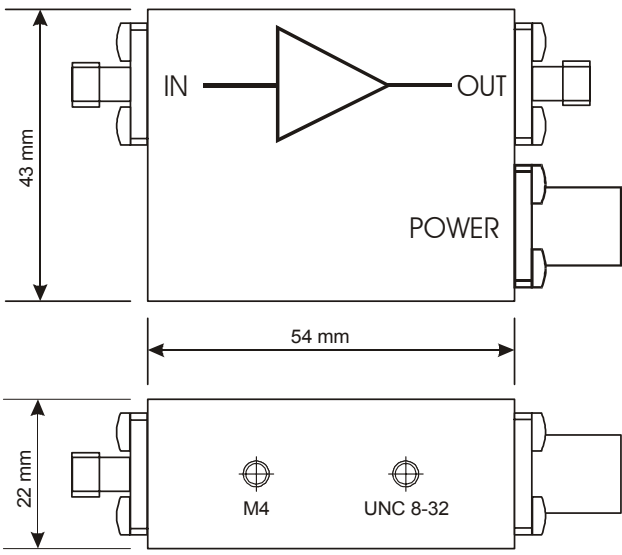


## 2 GHz High-Speed Amplifier



<p>Features</p>	<ul style="list-style-type: none"> <li>• <b>Bandwidth 10 kHz ... 2 GHz</b></li> <li>• <b>Rise Time 180 ps</b></li> <li>• <b>Gain 40 dB</b></li> <li>• <b>Input VSWR 1 : 1.1</b></li> <li>• <b>Integrated Bias Circuit</b></li> </ul>																																																													
<p>Applications</p>	<ul style="list-style-type: none"> <li>• <b>Preamplifier for ultra-fast Detectors (Microchannel-Plates, Photomultipliers, Avalanche-Photodiodes and PIN-Photodiodes)</b></li> <li>• <b>Oscilloscope and Transient-Recorder Preamplifier</b></li> <li>• <b>Time-Resolved Pulse and Transient Measurements</b></li> </ul>																																																													
<p>Block Diagram</p>																																																														
<p>Specifications</p>	<p><i>Test Conditions</i> <math>V_s = + 15 V, T_a = 25^\circ C, System Impedance = 50 \Omega</math></p> <table border="0"> <tr> <td data-bbox="272 1429 320 1458">Gain</td> <td data-bbox="560 1429 608 1458">Gain</td> <td data-bbox="874 1429 938 1458">40 dB</td> <td></td> </tr> <tr> <td></td> <td data-bbox="560 1458 695 1487">Gain Accuracy</td> <td data-bbox="874 1458 938 1487"><math>\pm 1</math> dB</td> <td></td> </tr> <tr> <td></td> <td data-bbox="560 1487 762 1516">Gain Flatness (overall)</td> <td data-bbox="874 1487 959 1516"><math>\pm 0.3</math> dB</td> <td></td> </tr> <tr> <td data-bbox="272 1554 464 1583">Frequency Response</td> <td data-bbox="560 1554 791 1583">Lower Cut-Off Frequency</td> <td data-bbox="874 1554 938 1583">10 kHz</td> <td></td> </tr> <tr> <td></td> <td data-bbox="560 1583 791 1612">Upper Cut-Off Frequency</td> <td data-bbox="874 1583 938 1612">2 GHz</td> <td></td> </tr> <tr> <td data-bbox="272 1644 416 1673">Time Response</td> <td data-bbox="560 1644 826 1673">Rise / Fall Time (10% - 90%)</td> <td data-bbox="874 1644 938 1673">180 ps</td> <td></td> </tr> <tr> <td data-bbox="272 1704 320 1733">Input</td> <td data-bbox="560 1704 746 1733">DC Input Impedance</td> <td data-bbox="874 1704 938 1733">50 <math>\Omega</math></td> <td></td> </tr> <tr> <td></td> <td data-bbox="560 1733 746 1762">RF Input Impedance</td> <td data-bbox="874 1733 938 1762">50 <math>\Omega</math></td> <td></td> </tr> <tr> <td></td> <td data-bbox="560 1762 730 1792">50 <math>\Omega</math> Noise Figure</td> <td data-bbox="874 1762 938 1792">5.1 dB</td> <td data-bbox="1007 1762 1134 1792">(@ f &lt; 1 GHz)</td> </tr> <tr> <td></td> <td data-bbox="560 1792 831 1821">Equivalent Input Voltage Noise</td> <td data-bbox="874 1792 986 1821">670 pV/<math>\sqrt{Hz}</math></td> <td data-bbox="1007 1792 1134 1821">(@ f &lt; 1 GHz)</td> </tr> <tr> <td></td> <td data-bbox="560 1821 667 1850">Input VSWR</td> <td data-bbox="874 1821 938 1850">1 : 1.1</td> <td data-bbox="1007 1821 1134 1850">(@ f &lt; 1 GHz)</td> </tr> <tr> <td></td> <td data-bbox="560 1850 762 1879">Maximum Input VSWR</td> <td data-bbox="874 1850 938 1879">1 : 1.3</td> <td data-bbox="1007 1850 1134 1879">(@ f &lt; 3 GHz)</td> </tr> <tr> <td data-bbox="272 1921 336 1951">Output</td> <td data-bbox="560 1921 730 1951">Output Impedance</td> <td data-bbox="874 1921 938 1951">50 <math>\Omega</math></td> <td></td> </tr> <tr> <td></td> <td data-bbox="560 1951 730 1980">Output Power <math>P_{1dB}</math></td> <td data-bbox="874 1951 986 1980">+ 10.5 dBm</td> <td data-bbox="1007 1951 1134 1980">(@ f &lt; 1 GHz)</td> </tr> <tr> <td></td> <td data-bbox="560 1980 799 2009">Output Peak-Peak Voltage</td> <td data-bbox="874 1980 938 2009">1.9 Vpp</td> <td data-bbox="1007 1980 1374 2009">(@ f &lt; 500 MHz, for linear Amplification)</td> </tr> </table>		Gain	Gain	40 dB			Gain Accuracy	$\pm 1$ dB			Gain Flatness (overall)	$\pm 0.3$ dB		Frequency Response	Lower Cut-Off Frequency	10 kHz			Upper Cut-Off Frequency	2 GHz		Time Response	Rise / Fall Time (10% - 90%)	180 ps		Input	DC Input Impedance	50 $\Omega$			RF Input Impedance	50 $\Omega$			50 $\Omega$ Noise Figure	5.1 dB	(@ f < 1 GHz)		Equivalent Input Voltage Noise	670 pV/ $\sqrt{Hz}$	(@ f < 1 GHz)		Input VSWR	1 : 1.1	(@ f < 1 GHz)		Maximum Input VSWR	1 : 1.3	(@ f < 3 GHz)	Output	Output Impedance	50 $\Omega$			Output Power $P_{1dB}$	+ 10.5 dBm	(@ f < 1 GHz)		Output Peak-Peak Voltage	1.9 Vpp	(@ f < 500 MHz, for linear Amplification)
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## 2 GHz High-Speed Amplifier

Power Supply	Supply Voltage Supply Current	+ 15 V + 125 mA
Case	Weight Material	100 gr. (0.23 lbs) AlMg4.5Mn, nickel-plated
Temperature Range	Storage Temperature Operating Ambient Temperature Operating Case Temperature	- 40 ... + 100 °C 0 ... + 60 °C 40 °C
Absolute Maximum Ratings	Power Supply Voltage DC and LF Input Voltage RF Input Power	+ 20 V ± 4 V + 13 dBm
Connectors	Input Output Power Supply	SMA SMA LEMO Series 1S, 3-pin fixed Socket Pin 1: + 15 V Pin 2: n.c. Pin 3: GND
		
Dimensions	 <p style="text-align: right;">DZ01-0601-10</p>	

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