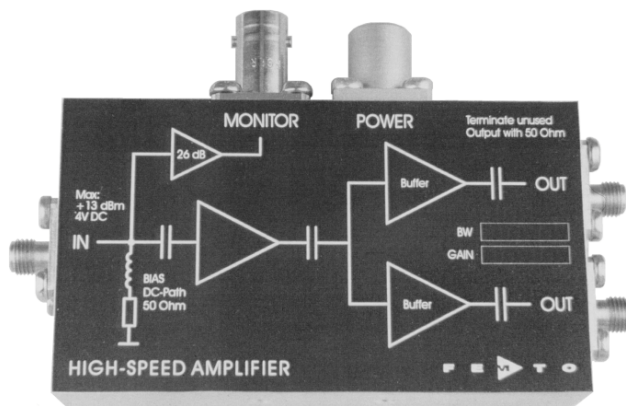




Datasheet

HSA-Y-1-60

1 GHz High-Speed Amplifier



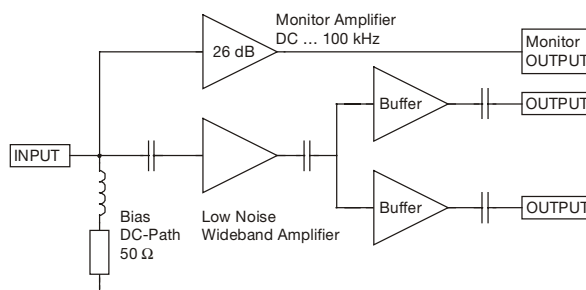
Features

- **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**

Applications

- **Preamplifier for ultra-fast Detectors (Microchannel-Plates, Photomultipliers, Avalanche-Photodiodes, PIN-Photodiodes etc.)**
- **Oscilloscope and Transient-Recorder Preamplifier**
- **Time-Resolved Pulse and Transient Measurements**

Block Diagram



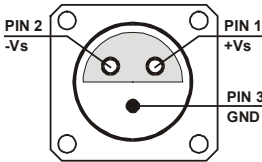
Specifications

	Test Conditions	$V_s = \pm 15\text{ V}$, $T_a = 25^\circ\text{C}$, System Impedance = $50\ \Omega$
Gain	Gain	60 dB (50 kV/A)
	Gain Accuracy	$\pm 1\text{ dB}$
	Gain Flatness	$\pm 0.2\text{ dB}$
Frequency Response	Lower Cut-Off Frequency	10 kHz
	Upper Cut-Off Frequency	1.1 GHz
Time Response	Rise / Fall Time (10% - 90%)	320 ps
Input	DC Input Impedance	$50\ \Omega$
	RF Input Impedance	$50\ \Omega$
	$50\ \Omega$ Noise Figure	1.9 dB (@ $f < 700\text{ MHz}$)
	Equivalent Input Voltage Noise	$330\text{ pV}/\sqrt{\text{Hz}}$ (@ $f < 700\text{ MHz}$)
	Equivalent Input Current Noise	$6.6\text{ pA}/\sqrt{\text{Hz}}$ (@ $f < 700\text{ MHz}$)
	Input VSWR	1 : 1.4 (@ $f < 1.5\text{ GHz}$)
	Maximum Input VSWR	1 : 1.4 (@ $f < 3\text{ GHz}$)

SOPHISTICATED TOOLS FOR SIGNAL RECOVERY

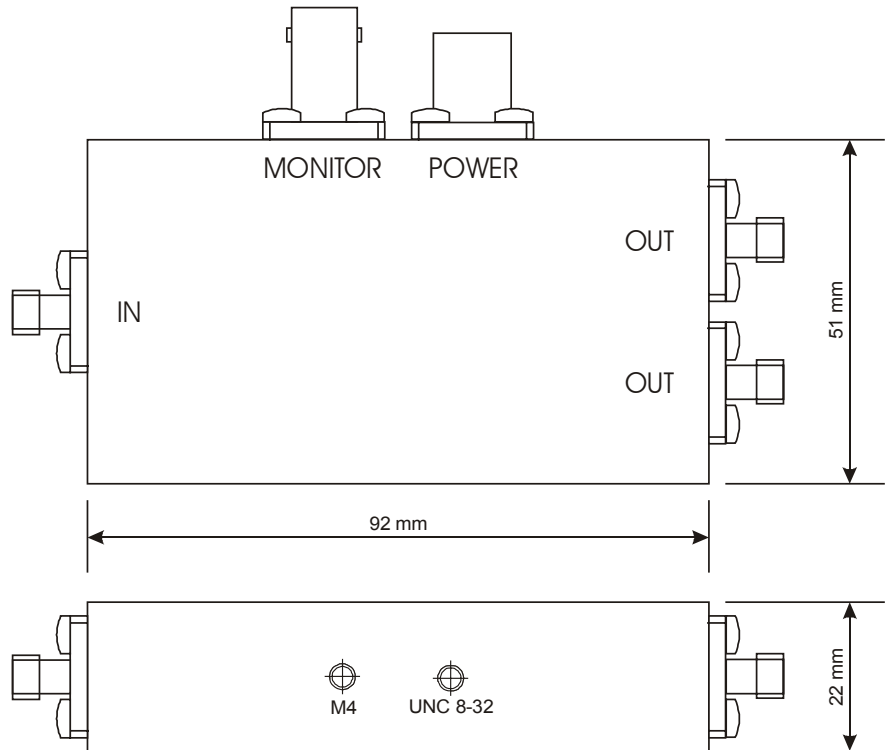


1 GHz High-Speed Amplifier

<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 Pin 1: + 15 V Pin 2: - 15 V Pin 3: GND</p> 

1 GHz High-Speed Amplifier

Dimensions



DZ01-0611-10

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