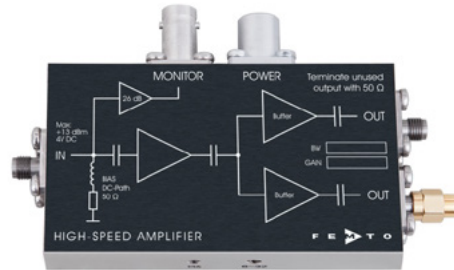


Datasheet

HSA-Y-2-20

2 GHz High-Speed Amplifier



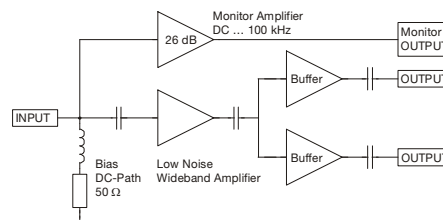
Features

- 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

Applications

- Pre-amplifier for ultra-fast Detectors (Microchannel-Plates, Photomultipliers, Avalanche-Photodiodes, PIN-Photodiodes etc.)
- Oscilloscope and Transient-Recorder Pre-amplifier
- 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	20 dB (500 V/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	2 GHz
Time Response	Rise / Fall Time (10% - 90%)	175 ps
Input	DC Input Impedance	$50\ \Omega$
	RF Input Impedance	$50\ \Omega$
	$50\ \Omega$ Noise Figure	5.2 dB (@ $f < 1\text{ GHz}$)
	Equivalent Input Voltage Noise	680 pV/ $\sqrt{\text{Hz}}$ (@ $f < 1\text{ GHz}$)
	Equivalent Input Current Noise	13.6 pA/ $\sqrt{\text{Hz}}$ (@ $f < 1\text{ GHz}$)
	Input VSWR	1 : 1.15 (@ $f < 1.5\text{ GHz}$)
	Maximum Input VSWR	1 : 1.35 (@ $f < 3\text{ GHz}$)

SOPHISTICATED TOOLS FOR SIGNAL RECOVERY



DE-HSA-Y-2-20_R3/M/18MAR2019

Datasheet

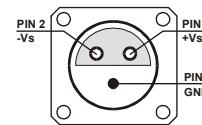
HSA-Y-2-20

2 GHz High-Speed Amplifier

Specifications (continued)	
Output	<p>Two identical Signal Outputs:</p> <p>Output Impedance 50 Ω</p> <p>Maximum Output VSWR 1 : 2.5 (@ f < 3 GHz)</p> <p>Output Power P_{1dB} + 12.5 dBm (@ f < 1 GHz)</p> <p>Output Peak-Peak Voltage 2.5 V_{pp} (@ f < 500 MHz, for linear Amplification)</p> <p>Isolation between Outputs 15 dB (@ f < 3 GHz)</p>
Monitor Amplifier	<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>
Power Supply	<p>Supply Voltage ± 15 V</p> <p>Supply Current + 160 / -10 mA</p>
Case	<p>Weight 180 gr. (0.41 lbs)</p> <p>Material AlMg4.5Mn, nickel-plated</p>
Temperature Range	<p>Storage Temperature - 40 ... + 100 °C</p> <p>Operating Ambient Temperature 0 ... + 60 °C</p> <p>Operating Case Temperature 37 °C (@ Ta = 25 °C)</p>

Absolute Maximum Ratings	<p>Power Supply Voltage ± 20 V</p> <p>DC and LF Input Voltage ± 4 V</p> <p>RF Input Power + 13 dBm</p>
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Connectors	<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>
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SOPHISTICATED TOOLS FOR SIGNAL RECOVERY

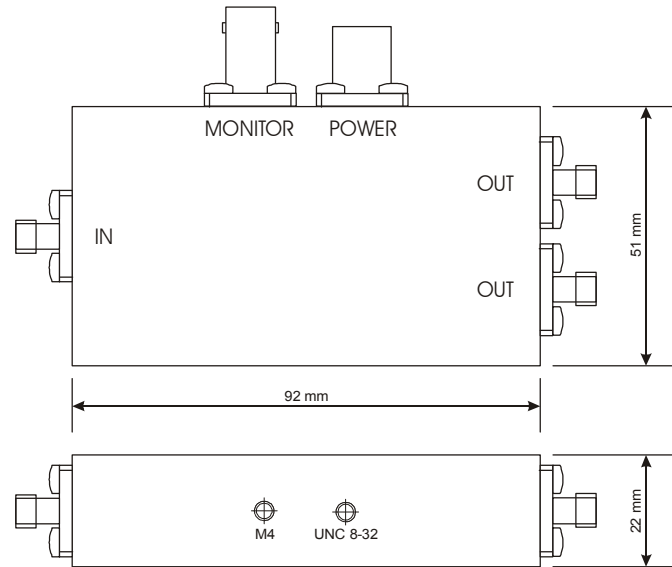


Datasheet

HSA-Y-2-20

2 GHz High-Speed Amplifier

Dimensions



DZ01-0611-10

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SOPHISTICATED TOOLS FOR SIGNAL RECOVERY

