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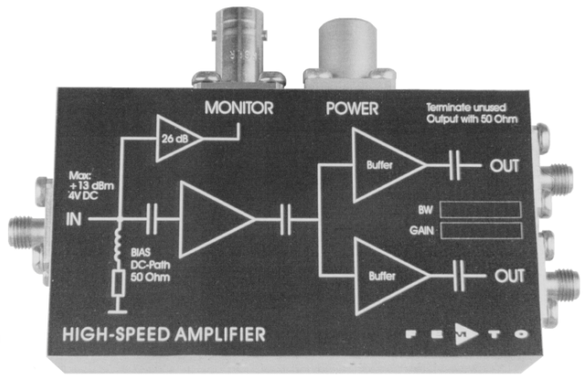
Datasheet HSA-Y-2-40

2 GHz High-Speed Amplifier



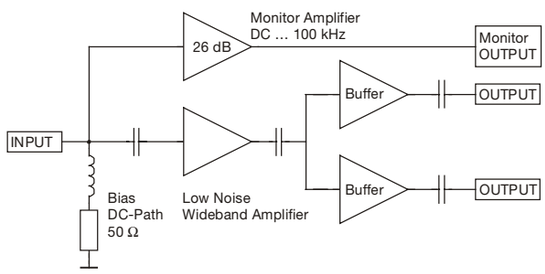
Features

- **Bandwidth 10 kHz ... 1.9 GHz**
- **Rise Time 185 ps**
- **Gain 40 dB (5 kV/A)**
- **Input VSWR 1 : 1.2**
- **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	**Vs = ±15 V, Ta = 25°C, System Impedance = 50 Ω**	
Gain	Gain	40 dB (5 kV/A)	
	Gain Accuracy	± 1 dB	
	Gain Flatness	± 0.2 dB	
Frequency Response	Lower Cut-Off Frequency	10 kHz	
	Upper Cut-Off Frequency	1.9 GHz	
Time Response	Rise / Fall Time (10% - 90%)	185 ps	
Input	DC Input Impedance	50 Ω	
	RF Input Impedance	50 Ω	
	50 Ω Noise Figure	4.9 dB	(@ f < 1 GHz)
	Equivalent Input Voltage Noise	650 pV/√Hz	(@ f < 1 GHz)
	Equivalent Input Current Noise	13 pA/√Hz	(@ f < 1 GHz)
	Input VSWR	1 : 1.2	(@ f < 1.5 GHz)
	Maximum Input VSWR	1 : 1.45	(@ f < 3 GHz)

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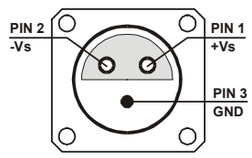
Output	Two identical Signal Outputs:		
	Output Impedance	50 Ω	
	Maximum Output VSWR	1 : 1.8	(@ f < 3 GHz)
	Output Power P_{1dB}	+ 12 dBm	(@ f < 1 GHz)
	Output Peak-Peak Voltage	1.7 Vpp	(@ f < 500 MHz, for linear Amplification)
	Isolation between Outputs	20 dB	(@ f < 3 GHz)
Monitor Amplifier	Gain	26 dB (1 kV/A)	
	Lower Cut-Off Frequency	DC	
	Upper Cut-Off Frequency	100 kHz	
	Output Voltage	± 10 V	(@ 10kΩ load)
Power Supply	Supply Voltage	± 15 V	
	Supply Current	+ 185 / -10 mA	
Case	Weight	180 gr. (0.41 lbs)	
	Material	AlMg4.5Mn, nickel-plated	
Temperature Range	Storage Temperature	- 40 ... + 100 °C	
	Operating Ambient Temperature	0 ... + 60 °C	
	Operating Case Temperature	40 °C	(@ Ta = 25 °C)
Absolute Maximum Ratings	Power Supply Voltage	± 20 V	
	DC and LF Input Voltage	± 4 V	
	RF Input Power	+ 13 dBm	
Connectors	Input	SMA	
	Signal Outputs	SMA	
	Monitor Output	BNC	
	Power Supply	LEMO Series 1S, 3-pin fixed Socket	
		Pin 1:	+ 15 V
		Pin 2:	– 15 V
		Pin 3:	GND



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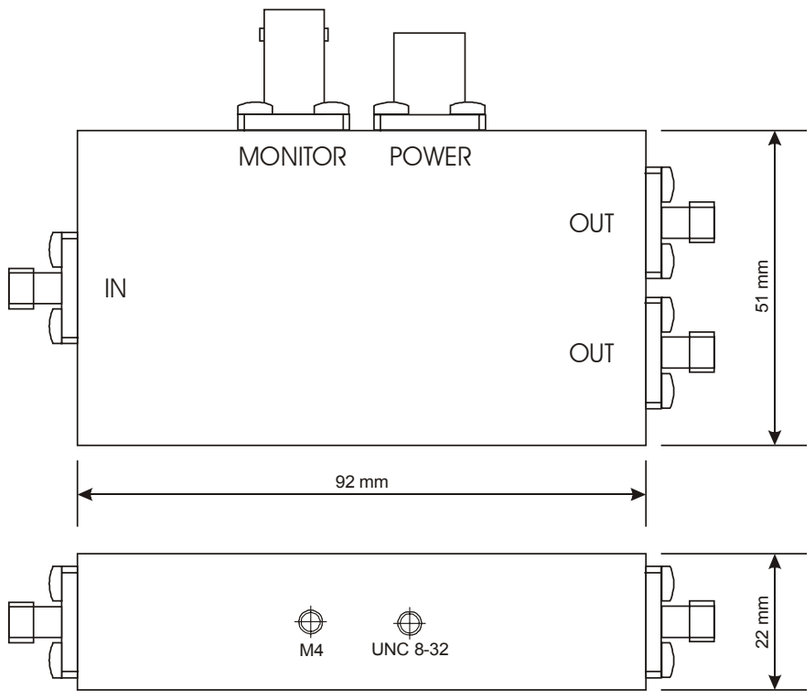
Dimensions



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