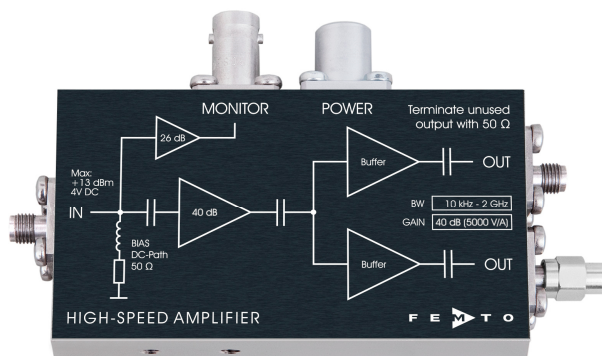


1 GHz High-Speed Amplifier



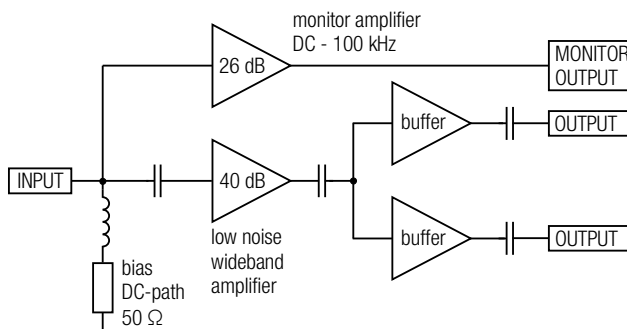
Features

- **Bandwidth 10 kHz – 1.9 GHz**
- **Exceptional low 10 kHz lower cut-off frequency for optimal pulse processing without shape distortion**
- **Rise time 185 ps**
- **Gain 40 dB**
- **Input return loss 20.8 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



BS-HSA-Y_23_R01

Intended Use

The HSA-Y-2-40 amplifier is a fixed gain wideband GHz amplifier. It is designed for ultra fast amplification of small voltage and current signals in the frequency range from 10 kHz to 1.9 GHz. Operation is mostly self-explanatory. If in doubt, consult this document or contact support@femto.de.


For safe operation, please refer to the damage thresholds specified in the "Absolute Maximum Ratings", "Temperature Range" and "Power Supply" sections of this document.

Application Notes

CAUTION! Do not exceed the maximum allowable input power of +13 dBm (20 mW). If in doubt, use attenuators on the amplifier input.

The HSA-Y-2-40 offers two identical RF outputs. For operation it is mandatory that both RF outputs are terminated with 50 Ω loads. If only one output is used, the unused SMA output socket must be terminated with a 50 Ω terminator which is included in delivery.

1 GHz High-Speed Amplifier

Available Accessories	PS-15-25-L  Power supply Input: AC 100 – 240 V Output: DC ±15 V																																																																																										
Related Models	<table> <tr> <td>HSA-Y-1-40</td><td>Gain 40 dB, 10 kHz – 1 GHz, noise figure 1.9 dB</td></tr> <tr> <td>HSA-Y-1-60</td><td>Gain 60 dB, 10 kHz – 1.1 GHz, noise figure 1.9 dB</td></tr> <tr> <td>HSA-Y-2-20</td><td>Gain 40 dB, 10 kHz – 2 GHz, noise figure 5.2 dB</td></tr> </table>	HSA-Y-1-40	Gain 40 dB, 10 kHz – 1 GHz, noise figure 1.9 dB	HSA-Y-1-60	Gain 60 dB, 10 kHz – 1.1 GHz, noise figure 1.9 dB	HSA-Y-2-20	Gain 40 dB, 10 kHz – 2 GHz, noise figure 5.2 dB																																																																																				
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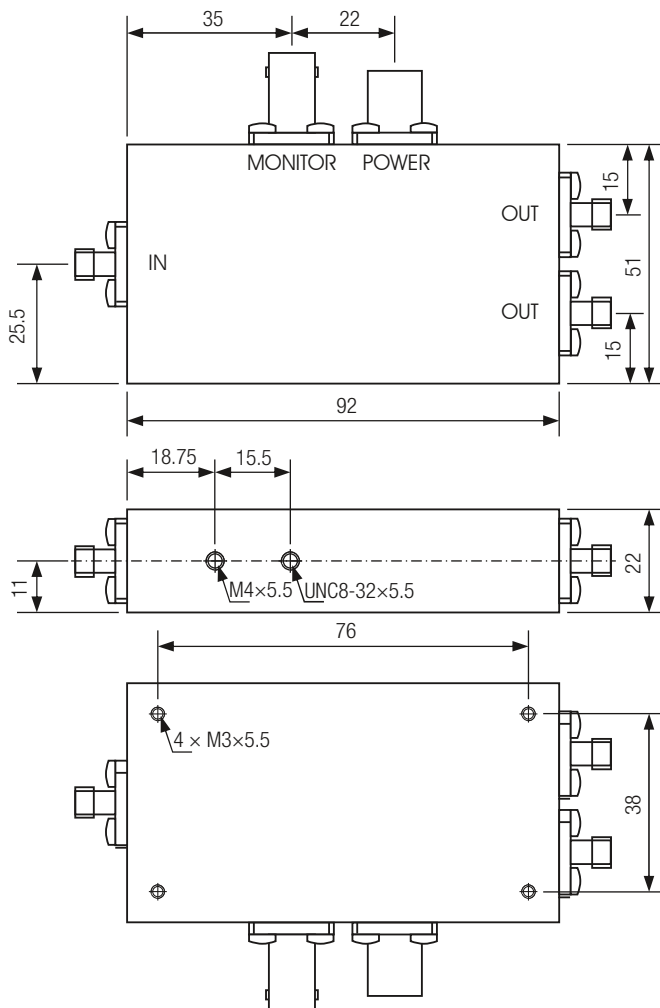
1 GHz High-Speed Amplifier

Connectors	<div>InputSMA jack (female)</div> <div>RF Output2 × SMA jack (female)</div> <div>Monitor outputBNC jack (female)</div> <div>Power supplyLEMO® series 1S, 3-pin fixed socket (mating plug type: FFA.1S.303.CLAC52)</div> <div><div><div><div>PIN 2</div><div>−V_s</div></div><div><div>PIN 1</div><div>+V_s</div></div><div><div>PIN 3</div><div>GND</div></div></div><div><div>Pin 1: +15 V</div><div>Pin 2: −15 V</div><div>Pin 3: GND</div></div></div>
Scope of Delivery	HSA-Y-2-40, 50 Ω SMA terminator, LEMO® 3-pin connector, datasheet, transport package
Ordering Information	<div>HSA-Y-2-40</div> <div>High-speed GHz amplifier</div>

1 GHz High-Speed Amplifier

Dimensions

HSA-Y-2-40



DZ-HSA-Y_23_R01

all dimensions in mm unless otherwise noted

FEMTO Messtechnik GmbH
Klosterstr. 64
10179 Berlin · Germany
Phone: +49 30 280 4711-0
Fax: +49 30 280 4711-11
Email: info@femto.de
www.femto.de

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