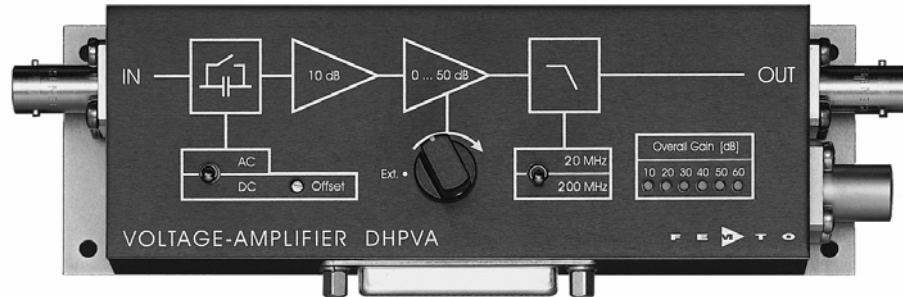


Variable Gain 200 MHz Wideband Voltage Amplifier



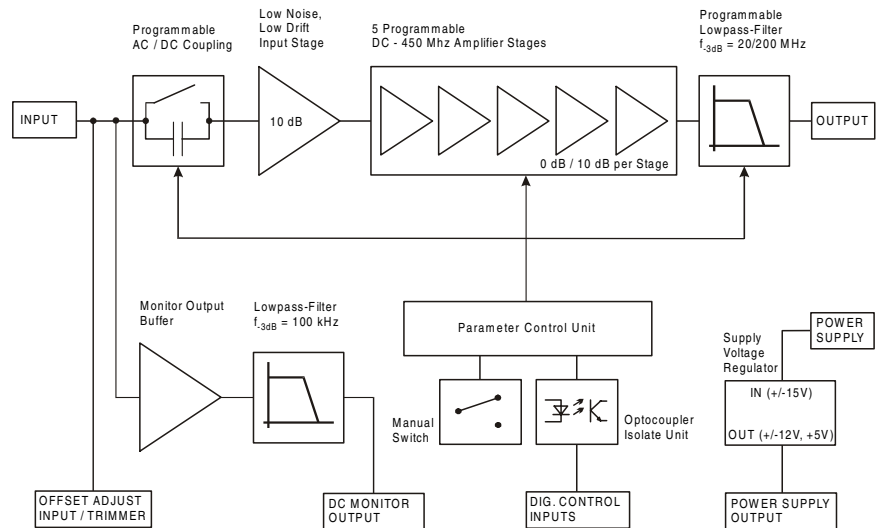
Features

- **Variable Gain 10 to 60 dB, Switchable in 10 dB Steps**
- **Bandwidth DC ... 200 MHz, Switchable to 20 MHz**
- **Built-In Temperature Compensation for Low Drift of 0.6 μ V/K**
- **2.5 nV/ $\sqrt{\text{Hz}}$ Input Noise**
- **Switchable AC/DC-Coupling**
- **Bandwidth, Frequency- and Pulse Response Independent of Gain Setting**
- **Local and Remote Control**
- **DC Monitor Output**

Applications

- **Oscilloscope and Transient-Recorder Preamplifier**
- **Photomultiplier and Microchannel-Plate Amplifier**
- **Signal-Booster for Optical Receivers and Current Amplifiers**
- **Time-Resolved Pulse and Transient Measurements**
- **Automated Measurement Systems**
- **Integration in Compact Systems**

Block Diagram

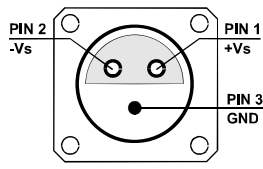
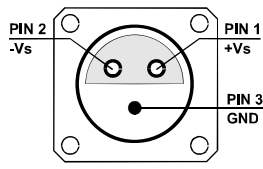
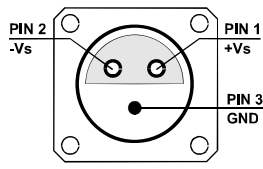
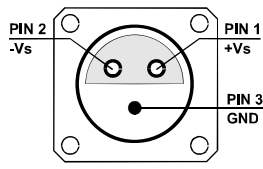
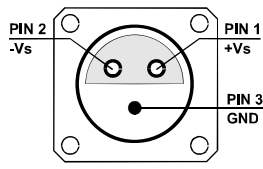
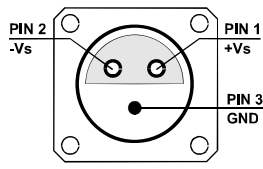


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Variable Gain 200 MHz Wideband Voltage Amplifier

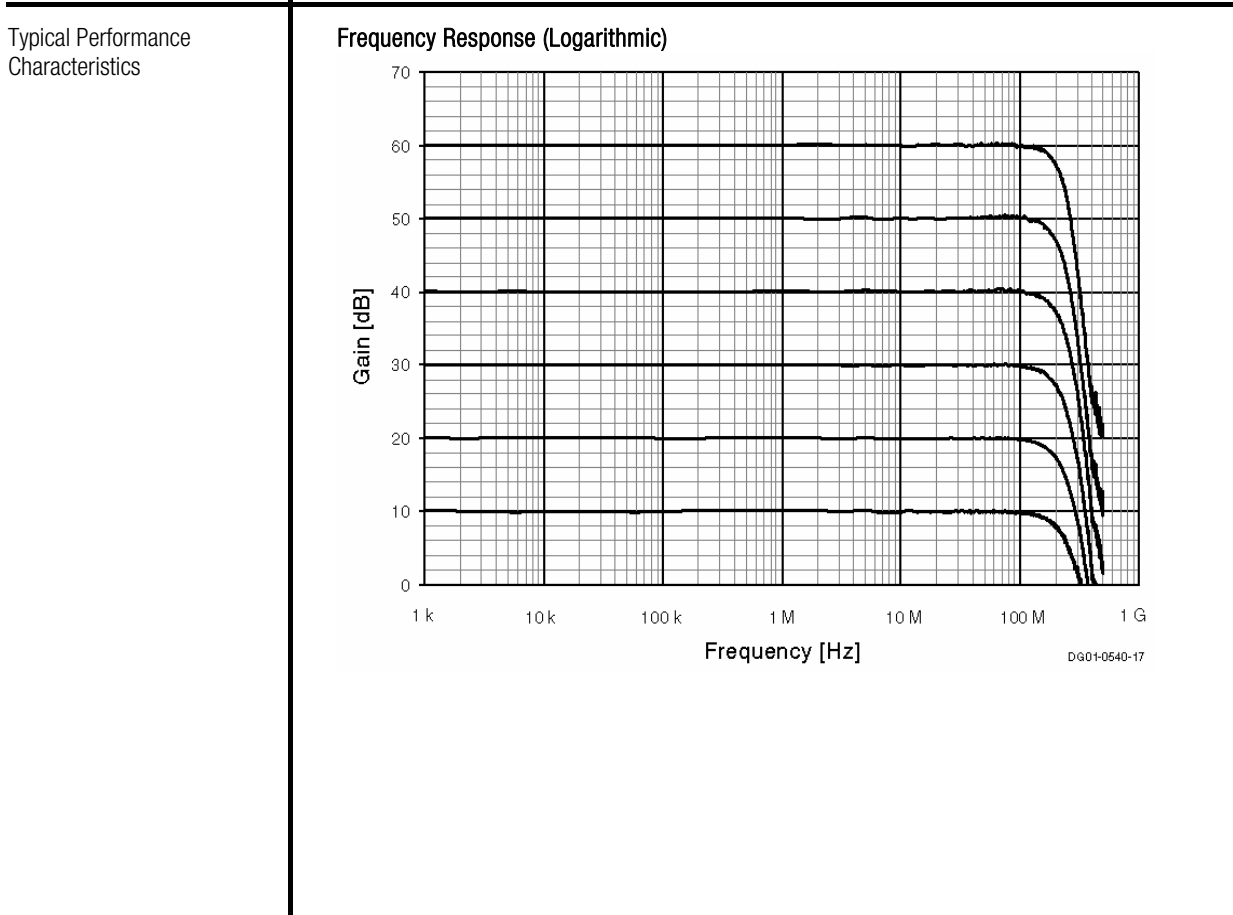
Specifications	<i>Test Conditions</i>	<i>V_s = ± 15 V, T_a = 25°C, System Impedance = 50 Ω</i>
Gain	Gain Values Gain Accuracy	10, 20, 30, 40, 50, 60 dB ± 0.15 dB (between settings) ± 0.3 dB (overall)
Frequency Response	Lower Cut-Off Frequency Upper Cut-Off Frequency Upper Cut-Off Frequency Roll-off	DC / 10 Hz 200 MHz, switchable to 20 MHz (approx. Bessel filter characteristic for clear pulse response) 40 dB/Oct.
Time Response	Rise / Fall Time (10% - 90%)	1.8 ns (@ 200 MHz) 18 ns (@ 20 MHz)
Input	Input Impedance Input Voltage Drift Equivalent Input Voltage Noise Equivalent Input Current Noise 1/f-Noise Corner Input BIAS Current Input Offset Voltage	50 Ω // 5 pF 0.6 μV/K 2.5 nV/√Hz (@ 30 – 60 dB Gain) 3.0 pA/√Hz 15 kHz < 200 nA - 10 mV ... + 10 mV, adjustable by offset-trimmer and external control voltage
Output	Output Impedance Output Voltage Range Output Power (max.) Output Current (max.) THD	50 Ω (terminate with 50 Ω load for best performance) 2 V _{pp} (for linear amplification) + 10 dBm 70 mA < 0.5 % (@ 20 MHz, 1 V _{pp})
Monitor Output	Monitor Output Gain Monitor Output Voltage Range Monitor Output Current Monitor Output Bandwidth	1 ± 5 V ± 10 mA DC ... 100 kHz
Indicator LED	Function	gain setting
Digital Control	Control Input Voltage Range Control Input Current Gain Control Switching Time	Low: - 0.8 ... + 0.8 V High: + 1.8 ... + 12 V, TTL / CMOS compatible 0 mA @ 0V, 1.5 mA @ + 5 V, 4.5 mA @ + 12V 5 ms
Ext. Offset Control	Control Voltage Range Offset Control Input Impedance	± 10 V, corresponds to ± 10 mV input offset 200 kΩ
Power Supply	Supply Voltage Supply Current Stabilized Power Supply Output	± 15 V ± 120 mA typ. (depends on operating conditions recommended power supply capability minimum 250 mA) ± 12 V / max. 100 mA, + 5V / max. 50 mA
Case	Weight Material	350 g (0.81 lbs) AlMg4.5Mn, nickel-plated
Temperature Range	Storage Temperature Operating Temperature	- 40 °C ... + 100 °C 0 °C ... + 60 °C

Variable Gain 200 MHz Wideband Voltage Amplifier

Absolute Maximum Ratings	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Power Supply Voltage</td> <td style="text-align: right;">± 20 V</td> </tr> <tr> <td>Signal Input Voltage</td> <td style="text-align: right;">± 5 V</td> </tr> <tr> <td>Digital Control Input Voltage</td> <td style="text-align: right;">+ 16 V / - 5 V</td> </tr> </table>	Power Supply Voltage	± 20 V	Signal Input Voltage	± 5 V	Digital Control Input Voltage	+ 16 V / - 5 V																																
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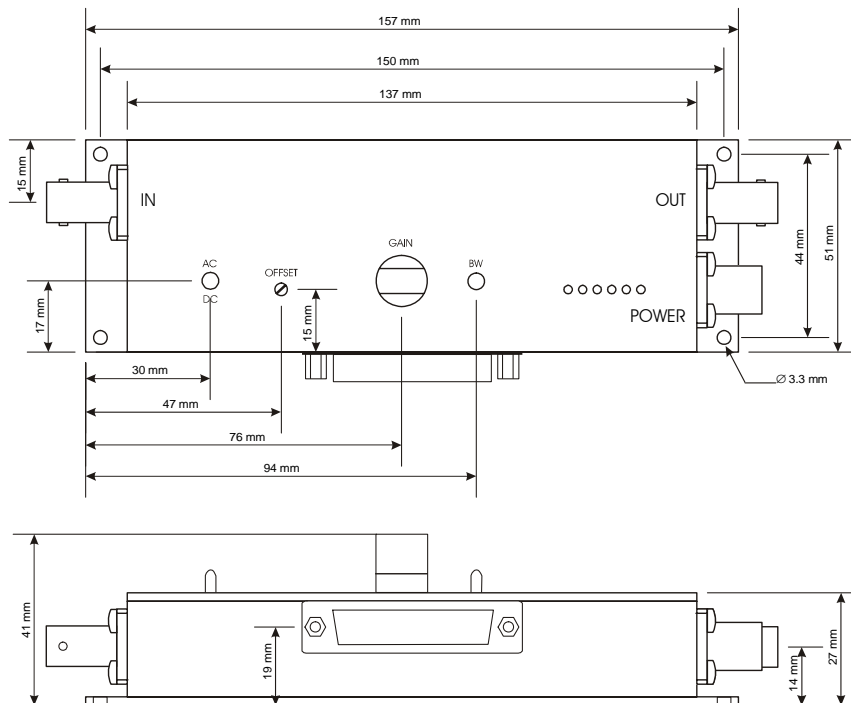
Variable Gain 200 MHz Wideband Voltage Amplifier

Remote Control Operation	<p>General</p> <p>Remote control input bits are opto-isolated and connected by logical OR to local switch setting. For remote control a switch setting, set the corresponding local switch to "Ext.", "AC" or "20 MHz" and select the wanted setting via a bit-code at the corresponding digital inputs. Mixed operation, e.g. local gain setting and remote controlled bandwidth setting is also possible.</p>																																			
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Variable Gain 200 MHz Wideband Voltage Amplifier

Dimensions



D201-0540-17

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