True DC-Coupled 500 MHz Low-Noise Voltage Amplifier

Features
- Gain 20 dB (x10)
- Bandwidth DC ... 500 MHz
- True DC-Coupling, Adjustable Output Offset Voltage
- 3.0 nV/√Hz Input Noise

Applications
- Oscilloscope and Transient Recorder Preamplifier
- Ideal for Analyzing Digital Signals (No Baseline Shift at any Digital Code)
- Photomultiplier and Microchannel Plate Amplifier
- Signal Booster for Optical Receivers and Current Amplifiers
- Time-Resolved Pulse and Transient Measurements

Specifications

<table>
<thead>
<tr>
<th>Test Conditions</th>
<th>Vs = ±15 V, Ta = 25°C</th>
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</thead>
</table>

Gain
- Gain 20 dB (@ 50 Ω load)
- Gain Accuracy ±0.2 dB

Frequency Response
- Lower Cut-Off Frequency DC
- Upper Cut-Off Frequency (-3 dB) 500 MHz (±10 %)
- Rise/Fall Time (10% - 90%) 750 ps

Input
- Input Impedance 50 Ω || 3 pF
- Input Voltage Noise 3.0 nV/√Hz (@ 200 MHz)
- Integrated Input Noise 0.5 mV peak-peak
- Input Bias Current 15 µA typ.
- Input Offset Voltage 1 mV typ.
- Input Voltage Drift 10 µV / °C

Output
- Output Impedance 50 Ω (terminate with 50 Ω load for best performance)
- Output Voltage ±1 V (@ 50 Ω load, for linear amplification)
- Max. Output Current 100 mA
- Output Offset Trimmer Range ±100 mV
- Slew Rate 2,600 V/µs (@ 50 Ω load)

Power Supply
- Supply Voltage ±15 V
- Supply Current ±40 mA typ.
- (depends on operating conditions, recommended power supply capability minimum ±150 mA)

Case
- Weight 200 g (0.5 lbs)
- Material AlMg4.5Mn, nickel-plated
## True DC-Coupled 500 MHz Low-Noise Voltage Amplifier

### Specifications (continued)

<table>
<thead>
<tr>
<th>Temperature Range</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Storage Temperature</td>
<td>- 40 ... + 100 °C</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 ... + 60 °C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Absolute Maximum Ratings</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply Voltage</td>
<td>± 20 V</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>± 5 V</td>
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</tbody>
</table>

### Connectors

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<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Input</td>
<td>BNC</td>
</tr>
<tr>
<td>Output</td>
<td>BNC</td>
</tr>
<tr>
<td>Power Supply</td>
<td>LEMO series 1S, 3-pin fixed socket</td>
</tr>
<tr>
<td></td>
<td>Pin 1: + 15V</td>
</tr>
<tr>
<td></td>
<td>Pin 2: - 15V</td>
</tr>
<tr>
<td></td>
<td>Pin 3: GND</td>
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</tbody>
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### Dimensions

- All measures in mm unless otherwise noted.

![Dimensions Diagram](image)

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