50 MHz to 40 GHz, Broadband Amplifier using USB Control with 10 dBm, 12 dB Gain and 2.92mm

SBUA-400-12-010-K is a broadband amplifier covering 50 MHz to 40 GHz. The amplifier has a 12 dB of Typical Gain, a Gain Flatness of +/- 2.5 dB typ and a P1dB of +10 dBm typ. The unit uses a USB connector for power.

**Electrical Specifications** (TA = +25°C)

<table>
<thead>
<tr>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>0.05</td>
<td>12</td>
<td>40</td>
<td>GHz</td>
</tr>
<tr>
<td>Gain</td>
<td></td>
<td>12</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td></td>
<td>±2.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>P1dB</td>
<td></td>
<td>+10</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>Noise Figure at 0.05 to 20 GHz</td>
<td></td>
<td>4.5</td>
<td>5.5</td>
<td>dB</td>
</tr>
<tr>
<td>Noise Figure at 20 to 40 GHz</td>
<td></td>
<td>5.5</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Input VSWR</td>
<td></td>
<td>2.3:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output VSWR</td>
<td></td>
<td>2.3:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range (OTR)</td>
<td>-40</td>
<td></td>
<td>85</td>
<td>°C</td>
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</tbody>
</table>

**Configuration**
- Connector 1
- Connector 2

**Environmental Specifications**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Operating Range</th>
<th>Storage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-40 to +85 deg C</td>
<td>-55 to +125 deg C</td>
</tr>
</tbody>
</table>

**Features:**
- 0.05 GHz to 40 GHz Frequency Range
- P1dB: 10 dBm typ
- Small Signal Gain: 12 dB typ
- Gain Flatness: ±2.5 dB typ
- Noise Figure: 4.5 dB typ to 20 GHz, 5.5 dB typ to 40 GHz
- 50 Ohm Input and Output Matched
- Unconditionally Stable
- USB type a plug DC Positive Supply
- Built-in Voltage Regulator

**Applications:**
- Laboratory Applications
- R&D Labs
- Military Radio
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Wireless Communication
- Microwave Radio Systems
- Cellular Base Stations
- Low Noise Amplifier
- General Purpose Amplification
- General Purpose Wireless
- Wideband Gain Block
- IF Amplifier/RF Driver Amplifier
- RF Wideband Front Ends
- RF Pre-amplification

**Compliance Certifications** (visit www.FairviewMicrowave.com for current document)

**Plotted and Other Data**

Notes:
- Values at 25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
Typical Performance Data

Gain & Return Loss

![Graph showing Gain & Return Loss data](image)

<table>
<thead>
<tr>
<th>File</th>
<th>Trace/Chan</th>
<th>Response</th>
<th>Marker/Analysis</th>
<th>Stimulus</th>
<th>Utility</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tr 1</td>
<td>S11 LogM 5.000dB/ 0.000dB</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Tr 2</td>
<td>S21 LogM 2.0000dB/ 14.00dB</td>
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<tr>
<td>Tr 3</td>
<td>S22 LogM 5.000dB/ 0.000dB</td>
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<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

- Frequency: 40.000 GHz
- Gain: 8.21 dB
- Return Loss: 1.71 dB
- Bandwidth: 7.041 GHz
- Return Loss: 13.63 dB
- Frequency: 36.404 GHz
- Return Loss: 8.32 dB

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For additional information on this product, please click the following link: 50 MHz to 40 GHz, Broadband Amplifier using USB Control with 10 dBm, 12 dB Gain and 2.92mm SBUA-400-12-010-K


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