30 dB Fixed Attenuator N Male To N Female Up To 8.5 GHz Rated To 50 Watts With Black Aluminum Alloy Body

Fairview Microwave carries a broad selection of fixed attenuators with a wide range of attenuation levels, frequency ranges, and power dissipation ranges. Also known as RF pads, RF microwave attenuators lower the amplitude of a signal (or attenuate) a known amount. These attenuator pads can be used in a wide variety of applications including reducing a signal level to protect measurement equipment or other circuitry, extending the range of power meters and amplifiers, and impedance matching circuits by reducing the VSWR seen by adjacent components. RF attenuators can prevent signal overload in amplifiers, receivers and detectors, adjusting the signal level to a range that is optimal.

Few RF components are as commonly used as fixed coaxial attenuators, and Fairview Microwave carries one of the largest in-stock varieties and ships them same day. The SA8N50-30 is a 30 dB Fixed Attenuator that operates from DC to 8.5 GHz and is rated to 50 Watts. The versatile coaxial package uses type N male to type N female connectors and is also REACH and RoHS compliant.

### Electrical Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>DC</td>
<td></td>
<td>8.5</td>
<td>GHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>50</td>
<td></td>
<td>50</td>
<td>Ohms</td>
</tr>
<tr>
<td>Nominal Attenuation</td>
<td>30</td>
<td></td>
<td>30</td>
<td>dB</td>
</tr>
<tr>
<td>Attenuation Accuracy</td>
<td>±1</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>VSWR</td>
<td></td>
<td></td>
<td>1.3:1</td>
<td></td>
</tr>
<tr>
<td>Input Power, CW</td>
<td></td>
<td></td>
<td>50</td>
<td>Watts</td>
</tr>
<tr>
<td>Input Power, Peak 5µs pulse, 0.5% duty cycle</td>
<td></td>
<td></td>
<td>5</td>
<td>kWatts</td>
</tr>
</tbody>
</table>

Input Power, CW rated at +25°C, derated linearly to 5W at +125°C

#### Specifications by Frequency

<table>
<thead>
<tr>
<th>Description</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>DC to 4</td>
<td>4 to 8.5</td>
<td></td>
<td></td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>VSWR, Max</td>
<td>1.2:1</td>
<td>1.3:1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Electrical Specification Notes:
Values at +25°C, sea level.

### Mechanical Specifications

**Size**
- Length: 4.38 in [111.25 mm]
- Width/Diameter: 1.62 in [41.15 mm]
- Weight: 0.506 lbs [229.52 g]
- Body Material and Plating: Black Aluminum Alloy

**Configuration**
- Design: Fixed, Bidirectional
- Package Style: Connectorized Module

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1130 Junction Dr. #100
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sales@fairviewmicrowave.com

Features:
- Bidirectional
- DC to 8.5 GHz Frequency Range
- Attenuation 30±1 dB
- Max Power 50 Watts (CW)
- VSWR < 1.3:1

Applications:
- Instrumentation
- Precision measurements
- Prototyping and characterization
- Production systems
## Connectors

<table>
<thead>
<tr>
<th>Description</th>
<th>Connector 1</th>
<th>Connector 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>N Male</td>
<td>N Female</td>
</tr>
<tr>
<td>Connector Spec.</td>
<td>MIL-STD-348A</td>
<td>MIL-STD-348A</td>
</tr>
<tr>
<td>Body Material &amp; Plating</td>
<td>Passivated Stainless Steel</td>
<td>Passivated Stainless Steel</td>
</tr>
</tbody>
</table>

## Environmental Specifications

**Temperature**

- Operating Range: -55 to +125 deg C

## Compliance Certifications

(see product page for current document)

## Plotted and Other Data

**Notes:**

**Typical Performance Data**

![Return Loss Graph](image)

![Attenuation Graph](image)
30 dB Fixed Attenuator N Male To N Female Up To 8.5 GHz Rated To 50 Watts With Black Aluminum Alloy Body from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: 30 dB Fixed Attenuator N Male To N Female Up To 8.5 GHz Rated To 50 Watts With Black Aluminum Alloy Body SA8N50-30

### 30 dB Fixed Attenuator N Male To N Female Up To 8.5 GHz Rated To 50 Watts With Black Aluminum Alloy Body

#### Data Sheet

<table>
<thead>
<tr>
<th>P/N</th>
<th>Attenuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA8N50-03</td>
<td>3 dB</td>
</tr>
<tr>
<td>SA8N50-06</td>
<td>6 dB</td>
</tr>
<tr>
<td>SA8N50-10</td>
<td>10 dB</td>
</tr>
<tr>
<td>SA8N50-20</td>
<td>20 dB</td>
</tr>
<tr>
<td>SA8N50-30</td>
<td>30 dB</td>
</tr>
<tr>
<td>SA8N50-40</td>
<td>40 dB</td>
</tr>
</tbody>
</table>

#### Standard Tolerances

- .X ±0.2
- .XX ±0.1
- .XXX ±0.05

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES*

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**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

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**Fairview Microwave, Inc.**

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