High Power Flange Mount Attenuators

Style FA1

General Specifications

- **Frequency Range**: DC to 3 GHz
- **Input Power****: 150 Watts
- **Operating Temp Range**: -55 to +150°C
- **Attenuation Stability****: 0.0001 dB/dB/°C, Max.
- **Mounting Flange**: Copper, Pd over Ni; other platings available
- **Resistive Elements**: Tantalum Nitride
- **Substrate Material**: Aluminum Nitride
- **Tabs**: 99.99% Pure Silver, .004 inches thick, Cover: Alumina
- **RoHS Compliant**
- **Reliability**: MIL-PRF-55342

### Mechanical Tolerance: ±.010 inch unless otherwise specified

<table>
<thead>
<tr>
<th>ATC Part Number</th>
<th>Nominal Attenuation (dB)</th>
<th>Frequency Sensitivity (dB, max.)</th>
<th>Maximum Deviation from Nominal (dB)</th>
<th>VSWR (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA10975P01DBFBK</td>
<td>1</td>
<td>±.25</td>
<td>+.45 / -.15</td>
<td>1.55:1</td>
</tr>
<tr>
<td>FA10975P02DBFBK</td>
<td>2</td>
<td>±.30</td>
<td>+.50 / -.30</td>
<td>1.50:1</td>
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<tr>
<td>FA10975P03DBFBK</td>
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<td>±.30</td>
<td>+.60 / -.30</td>
<td>1.50:1</td>
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<tr>
<td>FA10975P06DBFBK</td>
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<td>±.45</td>
<td>+.80 / -.20</td>
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<tr>
<td>FA10975P09DBFBK</td>
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<td>±.35</td>
<td>+.70 / -.20</td>
<td>1.30:1</td>
</tr>
<tr>
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<td>10</td>
<td>±.20</td>
<td>+.40 / -.30</td>
<td>1.40:1</td>
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<tr>
<td>FA10975P17DBFBK</td>
<td>17</td>
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<td>+1.00 / -.20</td>
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<td>20</td>
<td>±.10</td>
<td>+1.00 / -.20</td>
<td>1.30:1</td>
</tr>
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<td>FA10975P30DBFBK</td>
<td>30</td>
<td>±.05</td>
<td>+1.75 / -.120</td>
<td>1.25:1</td>
</tr>
</tbody>
</table>

For Attenuator Power Handling vs. Mounting Surface Temperature, see following page.

**ATC Flange Mount Attenuators**

**Part Number Code**

- **Case Style**: FA1
- **Case Size**: 0975
- **Termination**: P 01DB F
- **Packaging**: BK - Plastic Carrier
- **Tolerance**: F ±1%
- **Value**: xx denotes attenuation

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**Attenuator Power Handling vs. Mounting Surface Temperature**

Notes:
1. Plot refers to incident continuous power of “P” Watts
2. Mounting surface is assumed an isotherm at $T_m$ °C
3. Actual testing done at $P = 100$ Watts, $T_m = 100$ °C
4. Plot based on 1-dimensional heat transfer formula: $T = T_m + PR$, where $T =$ area-average resistive film temperature, held to 150 °C, max. $R =$ thermal resistance, mounting surface to resistive film = 0.5 °C/W for 30- and 20- dB devices (other values will run cooler and therefore handle more power – consult factory)

* Test Condition: With mounting surface temperature = 75 °C, max. (see plot above). Actual test conditions are as follows: Flange attached to a large copper carrier whose surface, directly under the flange center, is held at 100 °C; power applied = 100 Watts. Specification: The attenuation shall change no more than 0.2 dB during and after a 100-hr. Burn-in per MIL-PRF-55342.

** Attenuation vs. frequency as a function of temperature, -55°C to +125°C

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