3M™ EMI Absorber AB5000 Series

Product Description
3M™ EMI Absorber AB5000 Series consists of flexible soft metal flakes filler loaded polymer resin and acrylic pressure sensitive adhesive.

3M absorber AB5000 series is available in standard A4 size and 210mm (width) x 15 meters length) in roll.

Features and Benefits
- Polymer resin and metal flakes filler
- Acrylic pressure sensitive adhesive
- Supplied on a removable liner for easy handling and die-cutting

Applications
3M absorber AB5000 series is typically used for applications requiring electromagnetic absorbing performance.

3M absorber AB5000 series suppresses radiated noise from electrical devices for broadband radio frequency range.

Common uses include mobile phone, computer, digital still camera, military equipment and associated electronic equipment.

Attenuation and Power Loss
Many factors determine the true attenuation of an electromagnetic absorbing material, including shape and thickness, intimacy of substrate contact, smoothness of application surface, strength and frequency of the EMI signal, etc. However, using standard tests and fixtures, it is possible to determine a value for the signal attenuation.

3M absorber AB5000 series' typical attenuation range is dependent on thickness.
### 3M™ EMI Absorber AB5000 Series Typical Properties

**Note:** The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

<table>
<thead>
<tr>
<th>Properties</th>
<th>Typical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Backing</strong></td>
<td>Polymeric resin with magnetic metal flake filler</td>
</tr>
<tr>
<td><strong>Type of Adhesive</strong></td>
<td>Acrylic non-conductive pressure sensitive adhesive (PSA)</td>
</tr>
<tr>
<td><strong>Product Number</strong></td>
<td>AB5010    AB5020    AB5030    AB5050    AB5100</td>
</tr>
<tr>
<td><strong>Thickness</strong></td>
<td>0.10mm    0.20mm    0.30mm    0.50mm    1.00mm</td>
</tr>
<tr>
<td><strong>Standard Packaging</strong></td>
<td>210mm x 15mm</td>
</tr>
<tr>
<td><strong>Temperature Range</strong></td>
<td>-25 ~ 85°C</td>
</tr>
<tr>
<td><strong>Surface Resistivity</strong></td>
<td>$1 \times 10^6 , \Omega$ (min)</td>
</tr>
<tr>
<td><strong>Thermal Conductivity</strong></td>
<td>0.7 W/mK</td>
</tr>
<tr>
<td><strong>Tensile Strength</strong></td>
<td>6.0 MPa (min)</td>
</tr>
<tr>
<td><strong>Attenuation (S11 Reflection Loss) and Power Loss</strong></td>
<td>Refer to attached chart</td>
</tr>
</tbody>
</table>

1 This value does not contain a double side adhesive tape thickness. Typical adhesive tape thickness is 50 µm (AB5010 contains 30 µm adhesive)
2 Test method: ASTM D257.
3 Test method: JIS K 6521.
4 Attenuation measured by 7mm coaxial verification kit under short fixed condition. Power loss measured by 50 Ω microstrip line.

### Attenuation

![Attenuation Chart](image)

**Reflection Loss (dB)**

**Frequency [MHz]**

<table>
<thead>
<tr>
<th>AB5010</th>
<th>AB5020</th>
<th>AB5030</th>
<th>AB5050</th>
<th>AB5100</th>
</tr>
</thead>
<tbody>
<tr>
<td>-8</td>
<td>-6</td>
<td>-4</td>
<td>-2</td>
<td>0</td>
</tr>
</tbody>
</table>
3M™ EMI Absorber AB5000 Series Typical Properties (continued)

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Power Loss

![Power Loss Graph]

Power Loss (only AB5005)

![Power Loss Graph (only AB5005)]
Storage and Shelf Life
The shelf life of 3M™ EMI Absorber AB5000 Series is 12 months from the shipment date from the manufacturing location when stored in original packaging at 21°C (70°F) and 50% relative humidity.

Safety Data Sheet
Please consult Safety Data Sheet prior to use.

Regulatory
For regulatory information about this product, contact your 3M representative.

Technical Information
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