

# 3M

# EMI Absorber

## AB-5000S

## Data Sheet

### Product Description

3M™ EMI Absorber AB-5000S Series consists of flexible, soft metal flakes filler in polymer resin with acrylic pressure sensitive adhesive. It is supplied on a removable liner for easy handling and die-cutting

3M EMI Absorber AB-5000S is available in sheets.

### Applications

3M EMI Absorber AB-5000S is typically used for applications requiring electromagnetic absorbing performance. It is designed to suppress radiated noise from electrical devices for broadband radio frequency range.

Common uses include mobile phone (SAR reduction), computer, digital still camera, RF block, military equipments for radar avoidance and stealth performance.

### 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.

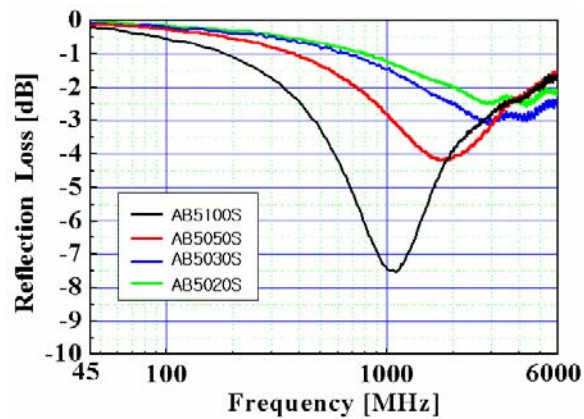
3M EMI Absorber AB-5000S typical attenuation range is dependent on thickness.

### 3M EMI Absorber AB 5000S Series — Typical Properties

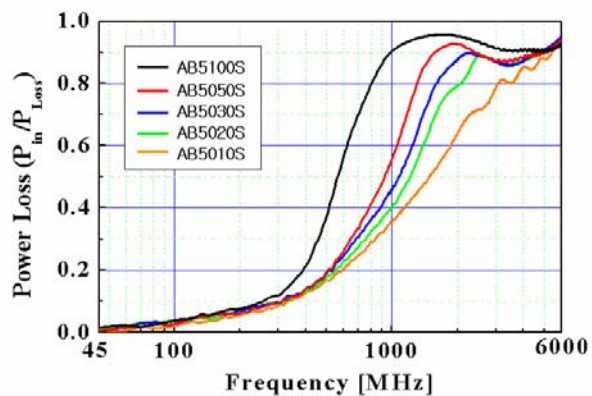
| Properties                                                    | Typical Value                                            |         |         |         |         |
|---------------------------------------------------------------|----------------------------------------------------------|---------|---------|---------|---------|
| Type of Backing                                               | Polymer resin with metal flake filler                    |         |         |         |         |
| Type of Adhesive                                              | Acrylic non-conductive pressure sensitive adhesive (PSA) |         |         |         |         |
| Product Number                                                | AB5010S                                                  | AB5020S | AB5030S | AB5050S | AB5100S |
| Thickness <sub>1</sub>                                        | 0.10mm                                                   | 0.20mm  | 0.30mm  | 0.50mm  | 1.00mm  |
| Standard packaging                                            | 210mm x 297mm                                            |         |         |         |         |
| Temperature range                                             | -25 ~ 85 °C                                              |         |         |         |         |
| Surface resistivity <sub>2</sub>                              | 1x10 <sup>6</sup> Ω (min)                                |         |         |         |         |
| Thermal conductivity                                          | 0.7 W/mK                                                 |         |         |         |         |
| Tensile strength <sub>3</sub>                                 | 6.0MPa(min)                                              |         |         |         |         |
| Attenuation (S11 Reflection Loss) and Power Loss <sub>4</sub> | Refer to attached chart                                  |         |         |         |         |

1. This value does not contain a double side adhesive tape thickness. Typical adhesive tape thickness is 50 $\mu$ m (AB5010S contains 30 adhesive)
2. Test method : ASTM D257
3. Test method : JIS K 6251
4. Attenuation measured by 7mm coaxial verification kit under short fixed condition. Power loss measured by 50 Ω microstrip line.

## Reflection



## Power Loss



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