

# 3M™ EMI Absorber AB6000, AB6000S, and AB6000G Series

## Product Description

3M™ EMI Absorber AB6000, AB6000S, and AB6000G Series consists of an insulation layer, shielding layer, absorbing layer and non-conductive pressure-sensitive adhesive.

## Features and Benefits

- Insulation Layer
- EMI Shielding Layer
- EMI Absorption Layer
- Pressure-sensitive Adhesive (PSA) Layer
- Supplied on a removable release liner for easy handling and die-cutting

## Applications

The absorber is typically used for applications requiring both electromagnetic shielding performance and absorption function. It is useful for electrical devices for broadband radio frequency range (mobile phone, PDA, PC, BS/CS tuner, LAN, medical and military devices).

Common applications include attenuation of conduction and radiation noise suppression and filtering (FPCB and chips on circuit, high speed microprocessor) and resonant peak of enclosed cavities (EMI/ESD), and electric/ electronic/ RF components (IC/LSL, PCB, FPC, cable, oscillators, RF modules), mechanical bodies (metal can, frame, body, enclosure).

## Attenuation and Power Loss

Many factors determine the true attenuation of electromagnetic shielding and absorbing material, including type and thickness of polymer, adhesive type, 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 attenuation.



## Typical Physical Properties

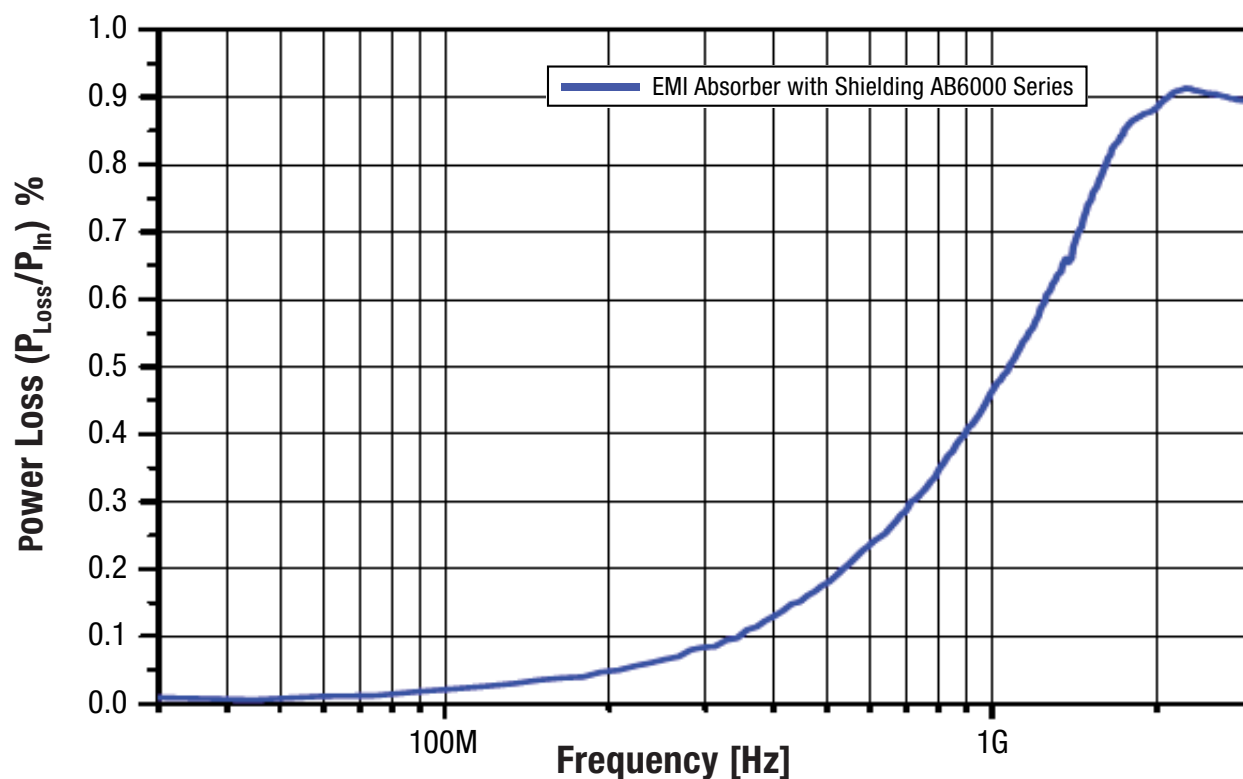
**Note:** The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

| Property (Test Method)               | Typical Value<br>US units (metric)         |                     |
|--------------------------------------|--------------------------------------------|---------------------|
| Color                                | AB6000G – Grey<br>AB6000S – Silver         |                     |
| Adhesive                             | Acrylic non-conductive pressure-sensitive  |                     |
| Type of Backing                      | Metal shielding layer and Absorption layer |                     |
| Thickness                            | <u>AB6000S</u>                             | <u>AB6000G</u>      |
| Total Thickness                      | 4.13 mil (0.105 mm)                        | 4.13 mil (0.105 mm) |
| Absorber Thickness                   | 1.97 mil (0.050 mm)                        | 1.97 mil (0.050 mm) |
| Frequency Range                      | 10MHz – 18GHz                              |                     |
| Operating Temperature                | -22 - 221°F (-30 - 105°C)                  |                     |
| Shielding Effectiveness <sup>1</sup> | Min 40db (30MHz – 1GHz)                    |                     |
| Adhesion Strength <sup>2</sup>       | 8.8 oz/in (250gf/25mm)                     |                     |

<sup>1</sup>Test method ASTM D-4935.

<sup>2</sup>MIL-STD-202 Method 307 maintained at 5 psi (3,4 N/cm<sup>2</sup>) measured over in<sup>2</sup> surface area. Conductive particles in the adhesive provide the electrical path between the application substrate and foil backing.

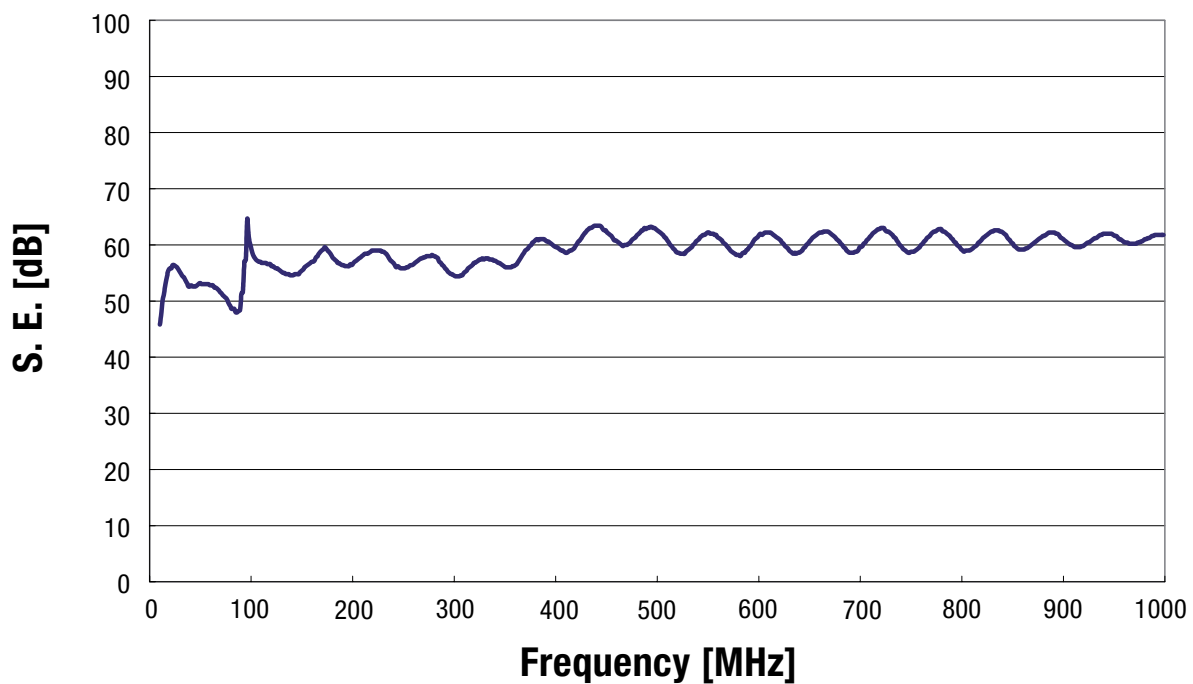
### • Power Loss Property on Microstrip Line (50Ω)



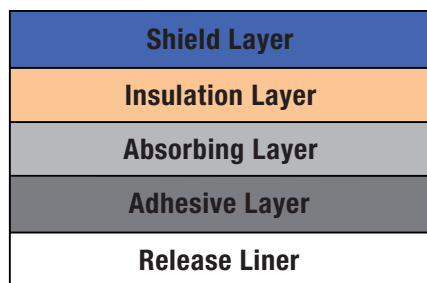
## Typical Physical Properties (continued)

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

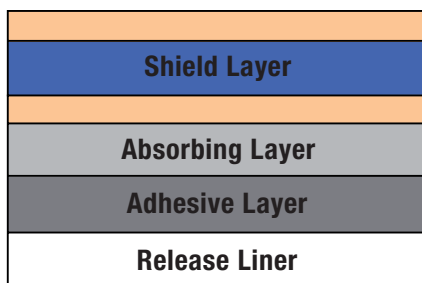
- **Shielding Effectiveness (SE)**



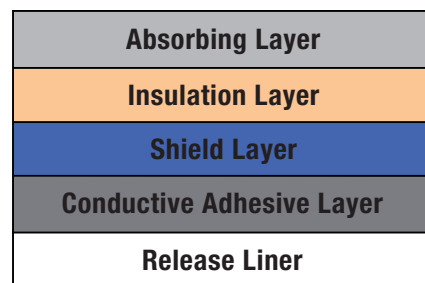
- **Structure**



**AB6000 Series**



**AB6000S Series**



**AB6000G Series**

## Storage and Shelf Life

The shelf life of 3M™ EMI Absorber AB6000, AB6000S, and AB6000G 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

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

## Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

## Warranty, Limited Remedy, and Disclaimer

Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

## Limitation of Liability

Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.



### Electronics Materials Solutions Division

3M Center, Building 225-3S-06  
St. Paul, MN 55144-1000  
1-800-251-8634 phone  
651-778-4244 fax  
[www.3M.com/electronics](http://www.3M.com/electronics)

3M is a trademark of 3M Company.  
Please recycle.  
©3M 2014. All rights reserved.  
78-8127-7018-4

