

# 3M™ EMI Absorber with Shielding

## AB6000 Series, AB6000S Series, and AB6000G Series

Data Sheet

October 2008

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

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**Specifications**

- 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

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**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/SAR), and electric/ electronic/ RF components (IC/LSL, PCB, FPC, cable, oscillators, RF modules), mechanical bodies (metal can, fame, body, enclosure).

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**Shielding Effectiveness** 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.

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**3M**

# 3M™ EMI Absorber with Shielding AB6000 Series, AB 6000S Series, and AB6000G Series

## Typical Properties

Technical information provided consists of typical product data and should not be used for specification purposes. Unless otherwise noted, all tests are performed at room temperature.

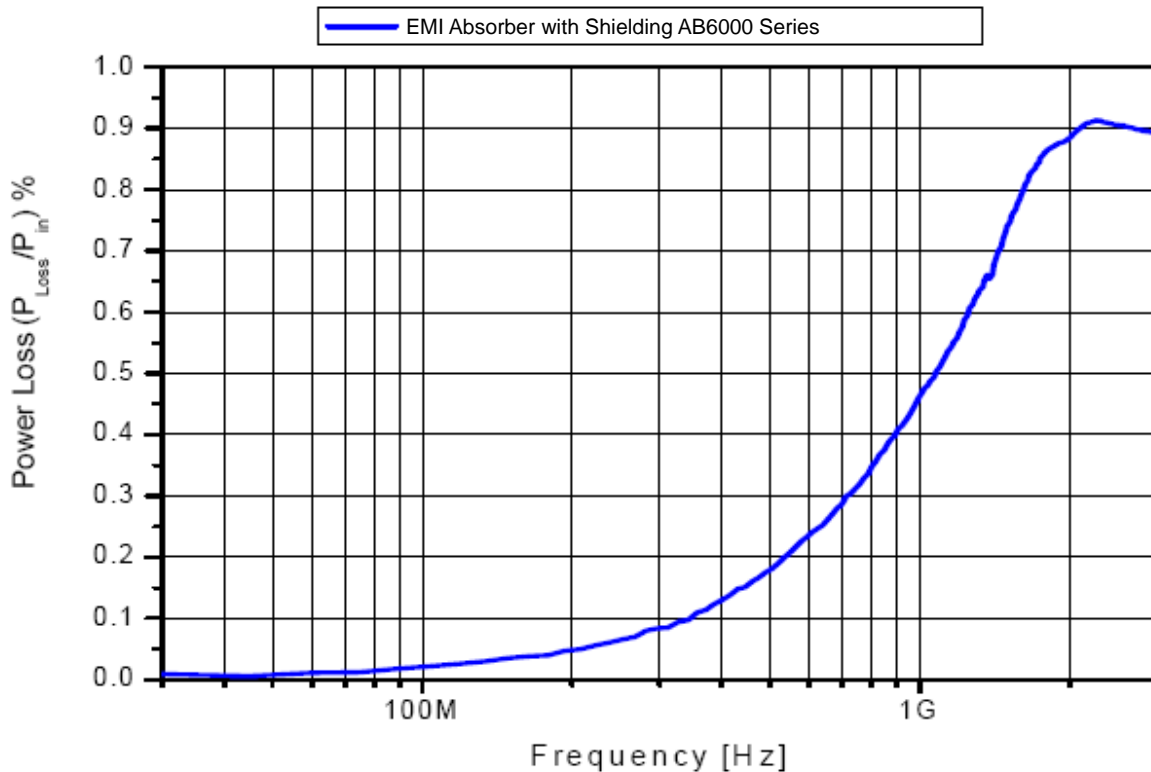
### Physical

Property (Test Method)	Typical Value US units (metric)										
<b>Color</b>	AB6000G – Grey AB6000S - Silver										
<b>Adhesive</b>	Acrylic non-conductive pressure-sensitive										
<b>Type of Backing</b>	Metal shielding layer and Absorption layer										
<b>Thickness</b>	<table border="1"> <thead> <tr> <th></th> <th>AB6005</th> <th>AB6005S</th> </tr> </thead> <tbody> <tr> <td>Total Thickness</td> <td>4.13 mil (0.105 mm)</td> <td>4.13 mil (0.105 mm)</td> </tr> <tr> <td>Absorber Thickness</td> <td>1.97 mil (0.050 mm)</td> <td>1.97 mil (0.050 mm)</td> </tr> </tbody> </table>			AB6005	AB6005S	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)
	AB6005	AB6005S									
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)									
<b>Frequency Range</b>	10MHz – 18 GHz										
<b>Operating Temperature</b>	-22 - 221°F (-30 – 105°C)										
<b>Shielding Effectiveness<sup>1</sup></b>	Min 40db (30MHz – 1GHz)										
<b>Adhesion Strength<sup>2</sup></b>	8.8 oz/in (250gf/25 mm)										

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

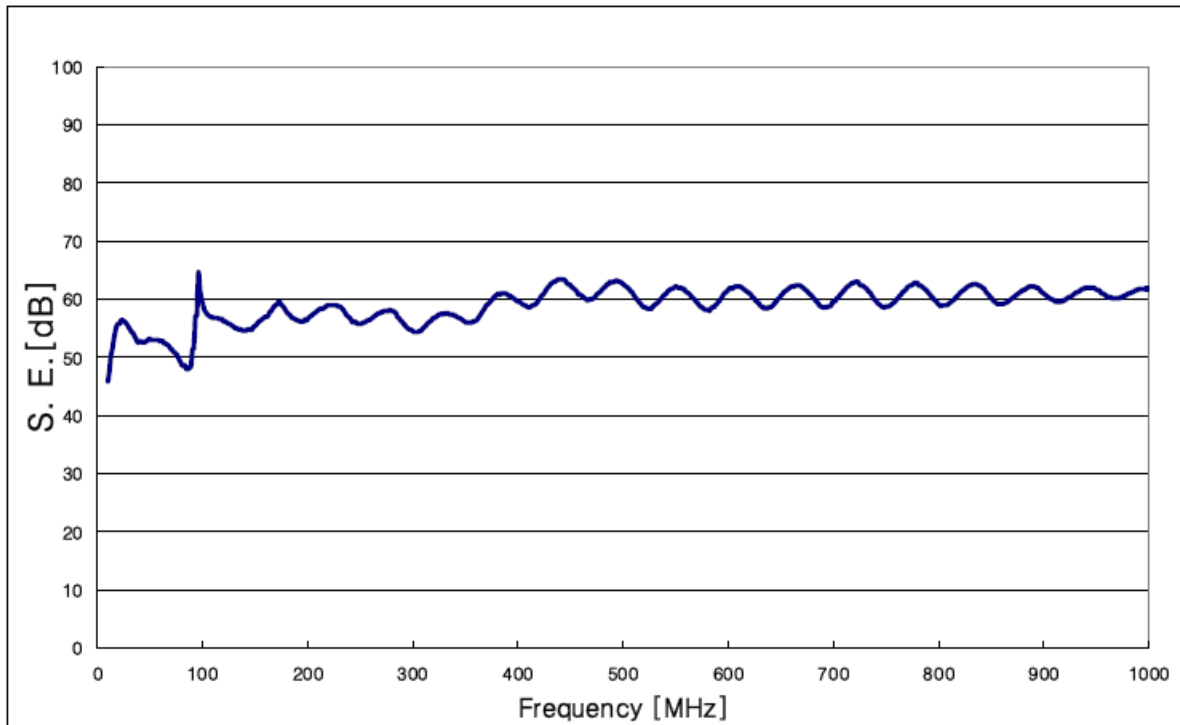
<sup>2</sup> MIL-STD-202 Method 307 maintained at 5 psi (3,4 N/cm<sup>2</sup>) measured over in<sup>2</sup> surface area. Conductive particles in the adhesive provide the electrical path between the application substrate and foil backing.

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



3M™ EMI Absorber with Shielding AB6000 Series, AB 6000S Series, and AB6000G Series

**Shielding Effectiveness (SE)**



**Structure**



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**Shelf Life &  
Storage**

This product has a 5-year shelf life from date of manufacture when stored in a humidity controlled storage (50°F/10°C to 80°F/27°C and <75% relative humidity).

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**Availability**

Please contact your local distributor, available from [3M.com/electrical](http://3M.com/electrical) [Where to Buy] or call 1-800-245-3573.

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