

# 3M™ EMI Absorber AB5000SHF Series (Halogen Free)

## Product Description

3M™ EMI Absorber AB5000SHF Series (Halogen Free)\* consists of flexible soft metal flakes filler loaded polymer resin and acrylic pressure sensitive adhesive.

3M absorber AB5000SHF series is available in sheet type.

## 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 AB5000SHF series is typically used for applications requiring electromagnetic absorbing performance. These absorbers are useful for electrical devices for broad-band radio frequency range (mobile phone, PDA, PC, BS/CS tuner, LAN, medical and military devices).

This absorber series suppresses 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 absorber AB5000SHF series' typical attenuation range is dependent on thickness.

**\* Halogen Free is defined as having maximum 900 ppm bromine, maximum 900 ppm chlorine, and/or maximum 1500 ppm total bromine and chlorine, per IEC 61249-2-21.**



### 3M™ EMI Absorber AB5000SHF 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.

Properties	Typical Value				
Type of Backing	Polymeric resin with magnetic metal flake filler				
Type of Adhesive	Acrylic non-conductive pressure sensitive adhesive (PSA)				
Product Number	AB5010SHF	AB5020SHF	AB5030SHF	AB5050SHF	AB5100SHF
Thickness <sup>1</sup>	0.10mm	0.20mm	0.30mm	0.50mm	1.00mm
Standard Packaging	210mm x 297mm				
Temperature Range	-25 ~ 85°C				
Surface Resistivity <sup>2</sup>	1 x 10 <sup>6</sup> Ω (min)				
Thermal Conductivity	0.7 W/mK				
Tensile Strength <sup>3</sup>	6.0 MPa (min)				
Attenuation (S11 Reflection Loss) and Power Loss <sup>4</sup>	Refer to attached chart				

<sup>1</sup>This value does not contain a double side adhesive tape thickness. Typical adhesive tape thickness is 50 μm (AB5010S contains 30 μm adhesive).

<sup>2</sup>Test method: ASTM D257.

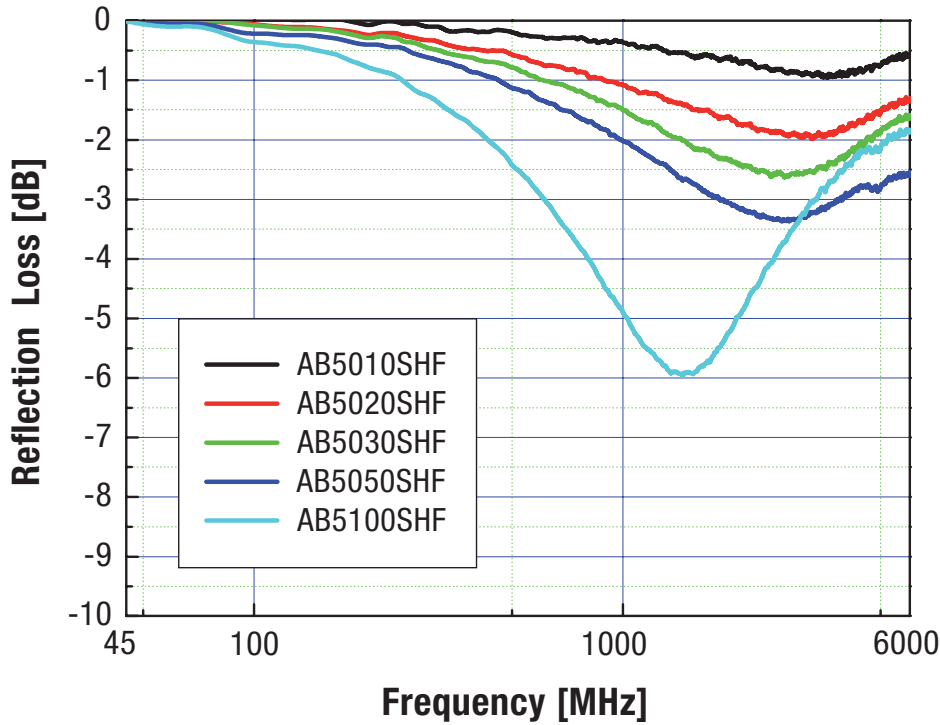
<sup>3</sup>Test method: JIS K 6521.

<sup>4</sup>Attenuation measured by 7mm coaxial verification kit under short fixed condition. Power loss measured by 50 Ω microstrip line.

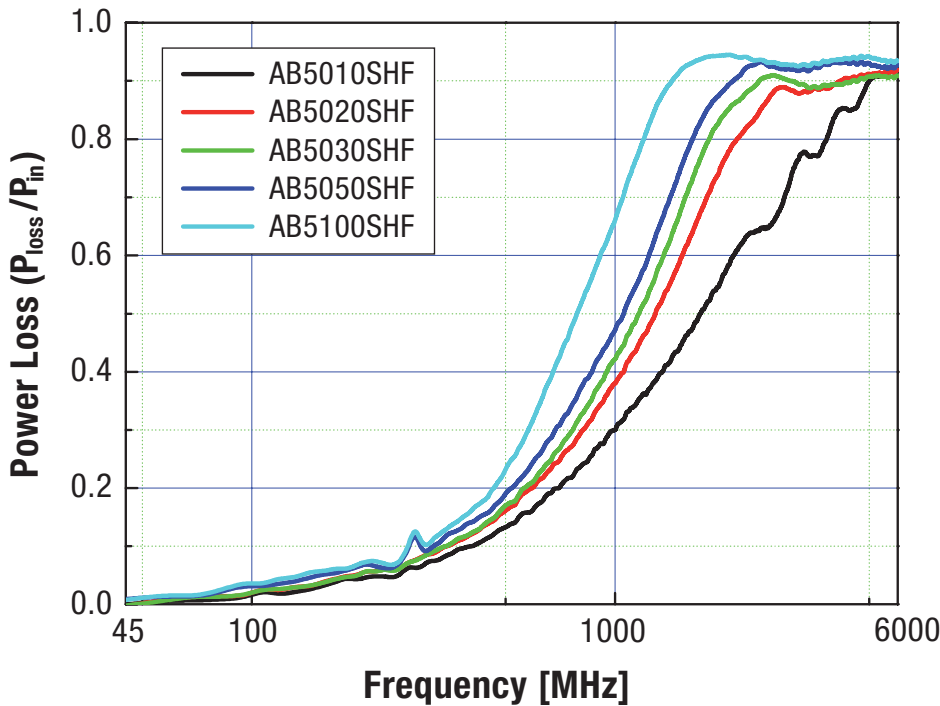
**3M™ EMI Absorber AB5000SHF Series Typical Properties (continued)**

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

**Attenuation**



**Power Loss**



## Storage and Shelf Life

The shelf life of 3M™ EMI Absorber AB5000SHF 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 the product Safety Data Sheet before 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.

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### 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

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