

# 3M™ EMI Absorber AB5000HF Series (Halogen Free)\*

## Product Description

3M™ EMI Absorbers AB5000HF Series are halogen free\* and consists of flexible soft metal flakes filler loaded polymer resin and acrylic non-conductive pressure sensitive adhesive.

## Features and Benefits

- Supplied on a removable liner for easy handling and die-cutting
- Non-conductive acrylics adhesive
- Halogen Free\*

## Applications

3M absorber AB5000HF series is typically used for applications requiring electromagnetic absorbing performance.

3M absorber AB5000HF series helps suppress radiated noise from electrical devices for broadband radio frequency range.

Common uses include mobile phone, computer, digital still camera, RF block, and general EMI absorbing.

## 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 typical value for the signal attenuation.

3M absorber AB5000HF series typical attenuation range is dependent on thickness.

## 3M™ EMI Absorber AB5000HF 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	AB5010HF	AB5020HF	AB5030HF	AB5050HF	AB5100HF
Thickness <sup>1</sup>	0.10mm	0.20mm	0.30mm	0.50mm	1.00mm
Standard Packaging	210mm x 15M for AB5010HF, AB5030HF and AB5050HF but AB5020HF has the following package size: 300mm x 15M				210mm x 10M
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 (AB5010HF 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.

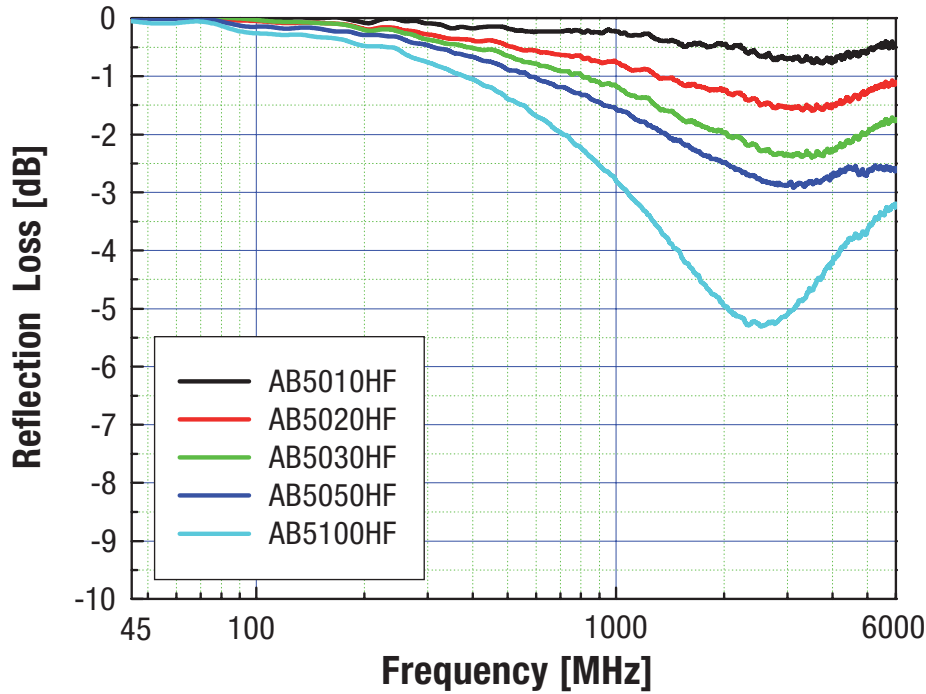
\*Halogen Free is defined as having maximum 900 ppm bromine, maximum 900 ppm chlorine, and/or maximum 1500 ppm total bromine and chlorine, per IEC 61249-2-21.



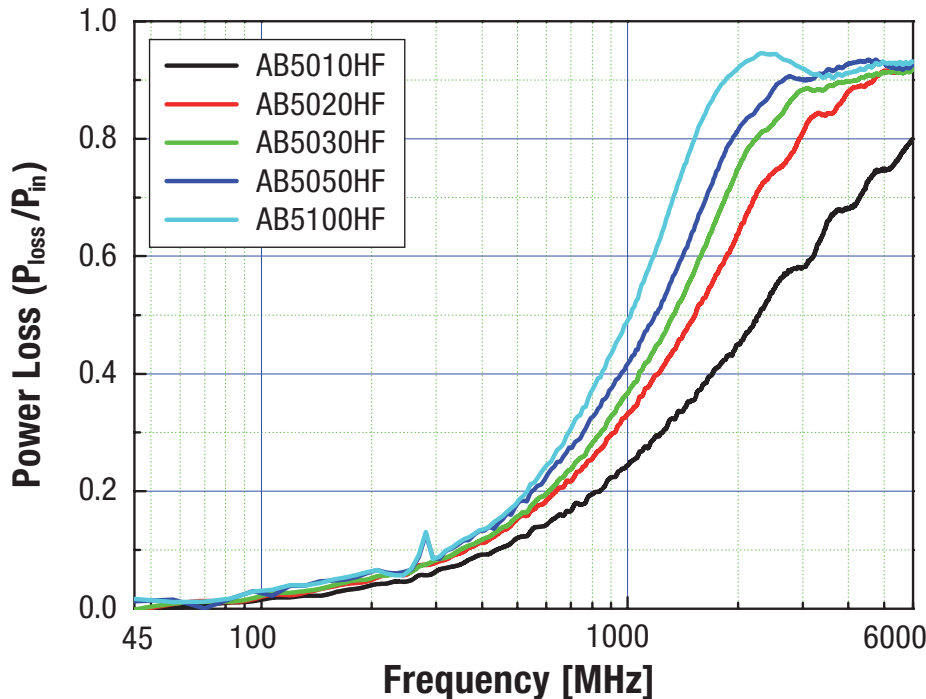
**3M™ EMI Absorber AB5000HF Series Typical Properties (continued)**

**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 absorber AB5000HF series products is 12 months from the shipment date from the manufacturing location when stored in original cartons at 21°C (71°F) and 50% relative humidity.

## Safety Data Sheet

Consult 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.

## 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

3M is a trademark of 3M Company.  
Please recycle.  
©3M 2014. All rights reserved.  
60-5002-0722-4

