


3M™ EMI Absorber AB7000 Series

Data Sheet

February 2009

Description	<p>3M™ EMI Absorber AB7000 Series consists of a flexible polymer resin loaded with soft metal flakes. An acrylic pressure-sensitive adhesive allows for easy application.</p> <ul style="list-style-type: none"> • Flexible, high permeability magnetic sheets • One-sided acrylic pressure-sensitive adhesive • Easily die cut into complex shapes
Agency Approvals & Self Certifications	<p>RoHS 2002/95/EC </p> <p>RoHS Compliant 2002/95/EC" means that the product or part ("Product") does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2002/618/EC, unless the substance is in an application that is exempt under RoHS. This information represents 3M's knowledge and belief, which may be based in whole or in part on information provided by third party suppliers to 3M.</p>
Applications	<p>AB7000 absorber is typically used for applications requiring EMI control and signal integrity improvement in the 50MHz to 10 GHz range. It is a broadband EMI absorber designed to work in near-field applications inside and around electronic devices and assemblies. Common applications include reduction of noise and crosstalk inside mobile electronics, reduction of crosstalk and EMI on ribbon cables and flex cables, reduction of radiated IC noise (applying absorber directly to the noisy IC), damping of radiation and oscillations inside shields and cavities, and increasing signal integrity on high speed data lines through crosstalk reduction.</p>
Attenuation and Power Loss	<p>Many factors determine the true attenuation of an electromagnetic interference absorbing material, including shape and thickness, intimacy of substrate contact, smoothness of application surface, strength and frequency of the EMI signal, etc. Since AB7000 absorber is a near field absorber, attenuation characteristics tend to be very application specific. Power loss characteristics are measured using a 5cm x 5cm square of AB7000 placed on a 50Ω microstrip line. The attenuation and noise dampening attained generally increases as the thickness of the material increases.</p>
Typical Properties	<p>Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (~23°C) unless otherwise stated.</p>

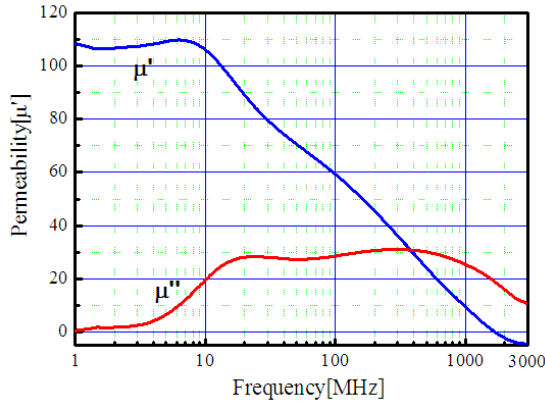
Physical	Property (Test Method)	Typical Value			
	Adhesive	Acrylic non-conductive pressure-sensitive adhesive (PSA)			
Type of Backing	Polymer resin with magnetic metal flake filler				
Product Number	AB7010	AB7020	AB7030	AB7050	
Backing Thickness	0.10mm	0.20mm	0.30mm	0.50mm	
Adhesive Thickness	0.03mm	0.05mm	0.05mm	0.05mm	
Standard packaging	210mm x 297mm				
Temperature Range	-25° to 85°C				
Surface resistivity (ASTM-257)	1x10 ⁶ Ω(min)				
Initial Permeability¹	110				
Typical Performance²	Refer to S ₁₁ attenuation and power loss graphs				

Notes: 1. This value measured at 1MHz 3M TM K RD-EMC-AB-02.

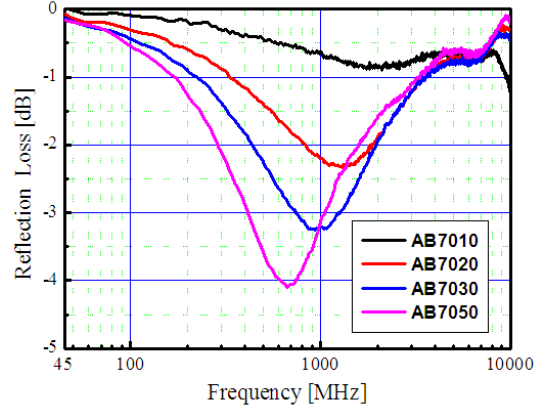
2. Attenuation is measured by 7mm coaxial verification kit under short fixed condition. Power loss is measured by a 50Ω microstrip line method. 3M TM K-RD-EMC-AB-01

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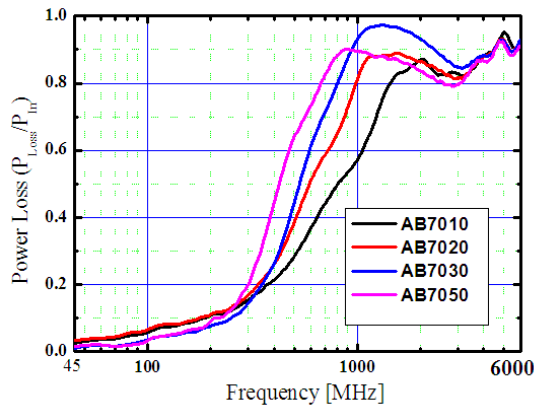
Permeability



Reflection Loss



Power Loss



Shelf Life & Storage

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

Availability

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1-800-676-8381.

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