Laird
PERFORMANCE MATERIALS

Eccosorb® BSR / MFS

High Loss, Magnetically Loaded, Elastomeric Microwave Absorber



HIGH-LOSS ELASTOMERIC ABSORBER

Eccosorb BSR / MFS is a thin, flexible, high-loss, electrically non-conductive silicone absorber. It is designed for the frequency range from 1 GHz to mm wave. It has low outgassing properties and high temperature resistance. BSR / MFS is flexible and can be fitted to compound curves. BSR and MFS refer to the same product where BSR-1 is MFS-124 and BSR-2 is MFS-117.

FEATURES AND BENEFITS

- Flexible structure for improved fit
- High thermal stability
- Electrically non-conductive
- High magnetic loss
- Low outgassing
- Good adhesion to metals

MARKETS

- Mobile / Data Infrastructure
- Security and Defense
- Automotive Electronics
- Industrial Electronics

VALUE

- Simplified design due to mechanical and electrical properties
- Environmentally friendly solution meeting regulatory requirements of RoHS and REACH
- Improved reliability performance of electronics
    - Better signal integrity due to high reduction of EMI
    - Consistent electronics performance due to low outgassing properties
    - Reliable mechanical attachment

TYPICAL PROPERTIES	TYPICAL DATA
Frequency Range (GHz)	1 – 40
Service Temperature °C	160
Flame Rating	UL 94 V-0 (BSR-1)
Hardness (Shore A)	> 70
Elongation (%)	50
Tensile Strength (MPa)	5.0
Volume Resistivity (ohm-cm)	2×10^{8}
Thermal Expansion (per °C)	63×10^{-6}
Thermal Conductivity (W/mK)	0.865
Water Absorption (% 24 hours)	< 0.1
Dielectric Strength (v/mil)	> 10
Outgassing (%TML) (%CVCM)*	0.47 / 0.28

Data for design engineer guidance only. Observed performance varies in application. Engineers are reminded to test the material in application.

*** Outgassing data per ASTM E595-07; criteria for acceptability is 1.00% TML and 0.10% CVCM.**

APPLICATIONS

- Eccosorb BSR/MFS is engineered to reduce or eliminate surface currents, cavity resonance, coupling, and generally dampen reflections. It will significantly improve the operation of microwave devices by lowering the Q of cavities.
- Eccosorb BSR/MFS is recommended for use in high reliability aerospace, military, and space applications, exhibiting excellent thermal cycling, shock and vibration absorption characteristics.
- Some other applications include power amplifiers, oscillators and down/up converters.

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Hybrid Thermal/EMI Absorber

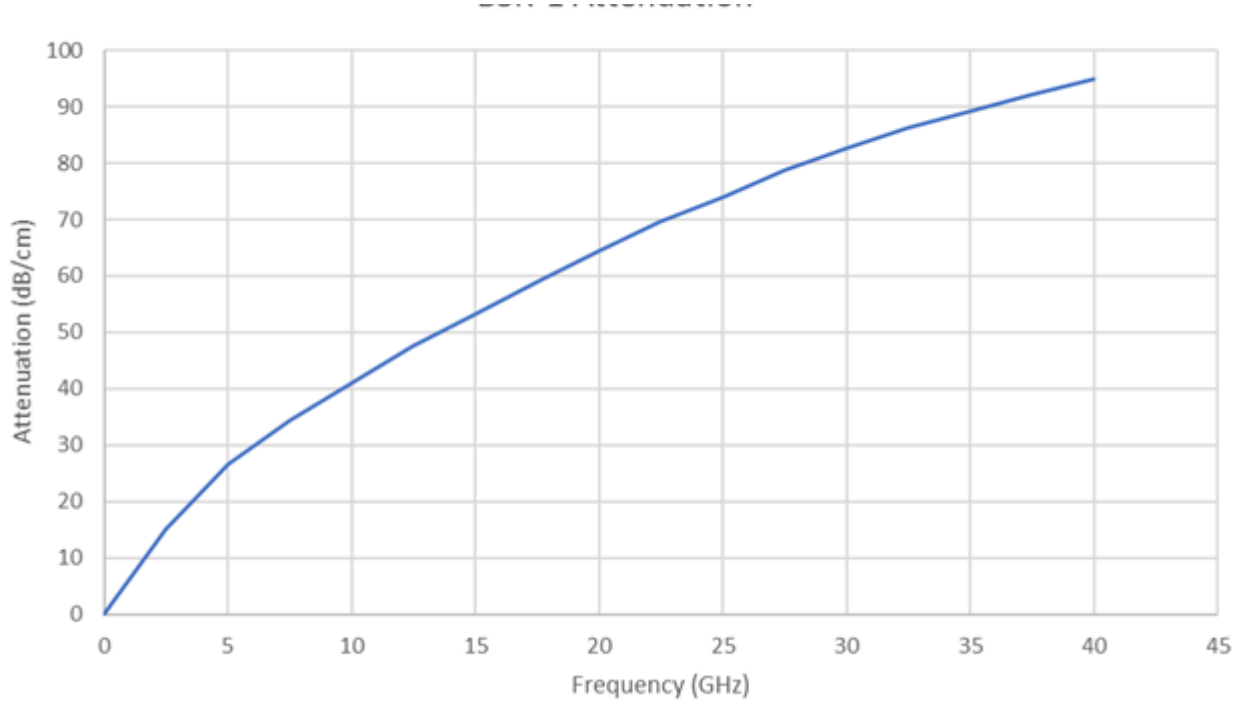
AVAILABILITY

- Standard sheets are 305 x 305mm (12”x12”).
- Standard thicknesses are 0.25mm (0.010”), 0.50mm (0.020”), 1.0mm (0.040”), 1.5mm (0.060”) and 2.54mm (0.100”)
- For most applications material is supplied with a pressure sensitive adhesive.
- It can be supplied with or without pressure sensitive adhesive (PSA).
- Available in other thicknesses, sizes, and customer specified shapes upon request.

INSTRUCTIONS FOR USE

- This material is designed to function directly in front of a metallic surface.
- For applications where the service temperature exceeds 121°C (250°F), the material can be bonded to most substrates by using an RTV silicone based adhesive in conjunction with a suitable primer.
- This material can be readily cut with a sharp knife and template. It is a very flexible material and conforms to contoured surfaces.

Typical Attenuation for BSR / MFS



RFP-DS-BSR MFS 012618

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