

Hybrid Thermal/EMI Absorber

CoolZorb 500 Series



HYBRID THERMAL/EMI ABSORBER

CoolZorb 500 is a 2nd generation hybrid absorber/thermal management material that is used for EMI mitigation. Product is used like a traditional thermal interface material between heat source such as an IC and heat sink or other heat transfer device or metal chassis. CoolZorb 500 also functions to suppress unwanted energy coupling, resonances or surface currents causing board level EMI issues.

FEATURES AND BENEFITS

- Designed using silicone gel binder that imparts inherent tack typical of standard thermal gap fillers
- Filler particle composition imparts both excellent thermal conductivity and good EMI suppression in the microwave frequency range with best attenuation performance at or above 5 GHz.
- CoolZorb 500 passes UL94V0 requirements
- Product does not require peel and stick adhesive when used like a traditional thermal interface material

VALUE

- Dual functional properties of thermal conductivity and EMI reduction provide two in one solution for easier design and assembly and lower cost of ownership
- Improved reliability performance of electronics
 - Better signal integrity due to reduction of EMI
 - Consistent performance of electronics due to temperature stability and low outgassing properties of product
- Improved EMC performance and resultant lower cost to meet compliance requirements
- Environmentally friendly solution that meets regulatory requirements including RoHS and REACH

TYPICAL PROPERTIES	DATA	TEST METHOD
Color	Dark gray	Visual
Thermal conductivity	4.0W/m-K	ASTM D5470
Density	3.4 g/cc	ASTM D792
Hardness	55 Shore 00	ASTM D2240
Tensile strength	45 psi	ASTM D638
Temperature Range	-40°C to 175°C	NA
UL Flammability	UL94V0	UL
Volume resistivity	$1 \times 10^{11} \Omega \cdot \text{cm}$	ASTM D257
Outgassing (TML)	0.093%	ASTM E595-07
Outgassing (CVCM)	0.011%	ASTM E595-07
Coefficient of Thermal Expansion (CTE)	118 $\mu\text{m/mC}$	IPC-TM-650 2.4.41
EMI Attenuation @ 5 GHz	9.4 dB/cm	
EMI Attenuation @ 15 GHz	17.3 dB/cm	
Standard Thickness range	.020"-.125" (0.5-3.1mm)	
Thickness Tolerance	+/- .005" (+/- .127mm)	

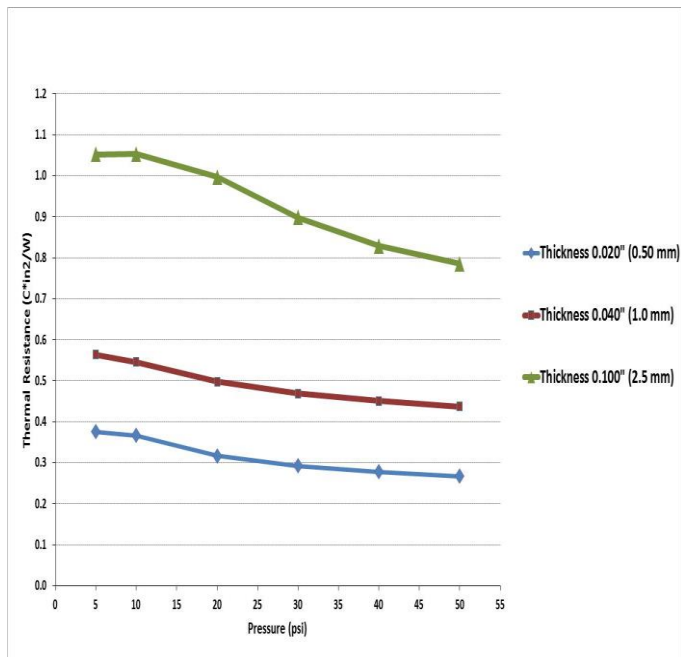
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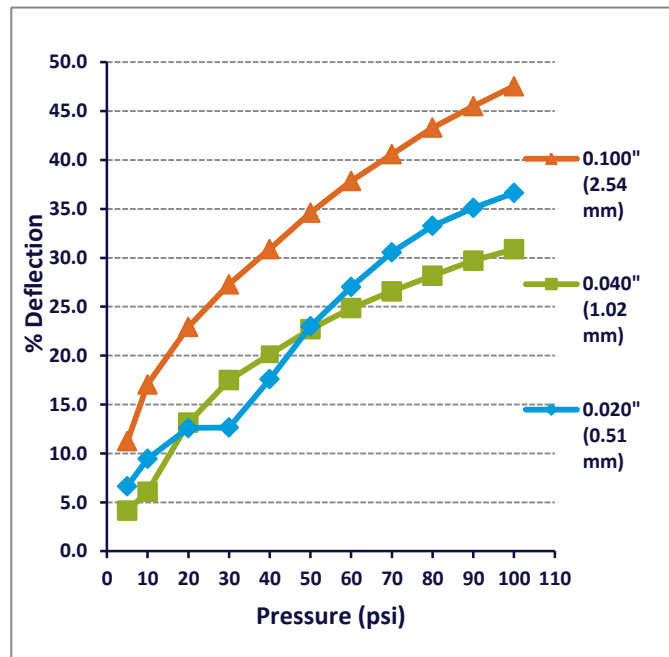
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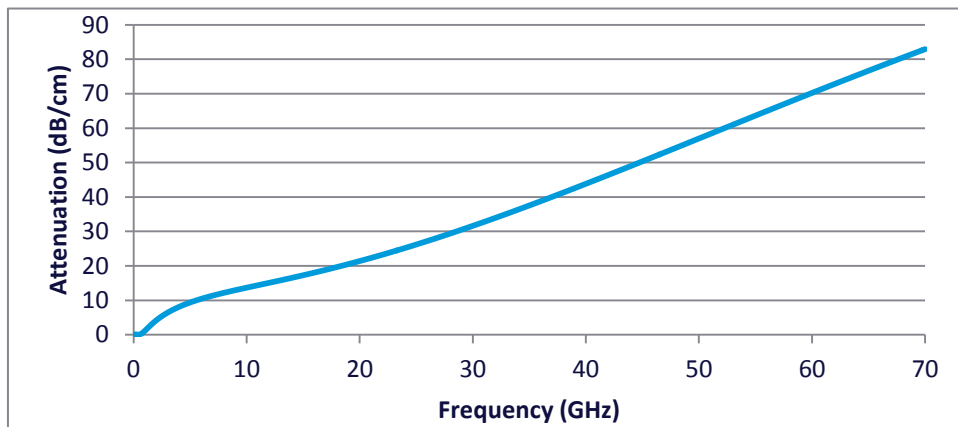
CoolZorb 500 Thermal resistance at 100C (ASTM D5470)



CoolZorb 500 Percent Deflection (ASTM D575)



CoolZorb 500 Attenuation (dB/cm)



AVAILABILITY

- Standard sheet size is 12" X 12"
- Thickness availability range is .020" - .125" (0.5mm- 3.1mm)
- Common standards for thickness are .020", .040", .060", .080", .100" and .125" thickness (0.5mm, 1.0mm, 1.5mm, 2.0mm, 2.5mm and 3.1mm)
- No charge samples are available in 4" X 4" size for each of the above common thicknesses

PART NUMBER SYSTEM

- CoolZorb 500 series absorber sheets (12"X12") use the following designation when ordering: CZ500-XXX where XXX is thickness of absorber in thousands of an inch
- CoolZorb 500 series no charge absorber samples (4"X4") use the following designation when ordering: CZ500S-XXX where XXX is thickness of absorber in thousands of an inch

RFP-DS-COOLZORB 500 110915

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- Example: CZ500-020 = CoolZorb 500, .020"X12"X12" sheet size; Example: CZ500S-040 = CoolZorb 500, .040"X4"X4 no charge sample size

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