



HYBRID THERMAL/EMI ABSORBER

CoolZorb-Ultra series is a higher performance and silicone free hybrid absorber/thermal management material with ultra-high thermal conductivity of 11.5W/m.K. CoolZorb-Ultra is designed to be used like a traditional thermal interface material between heat source such as a high-power IC and heat sink or other heat transfer device or metal chassis. CoolZorb-Ultra also functions to suppress unwanted energy coupling, resonances or surface currents causing board level EMI issues.

FEATURES AND BENEFITS

- Very high thermal conductivity to meet industry trend of increasing IC power
- Good EMI suppression over wide frequency range, particularly over 60GHz
- Silicone free formulation make it suitable for silicone sensitive application
- Inherent surface tack typical of standard thermal gap fillers
- Compliant with minimal component stress during assembly
- CoolZorb Ultra passes UL94V0 requirements

VALUE

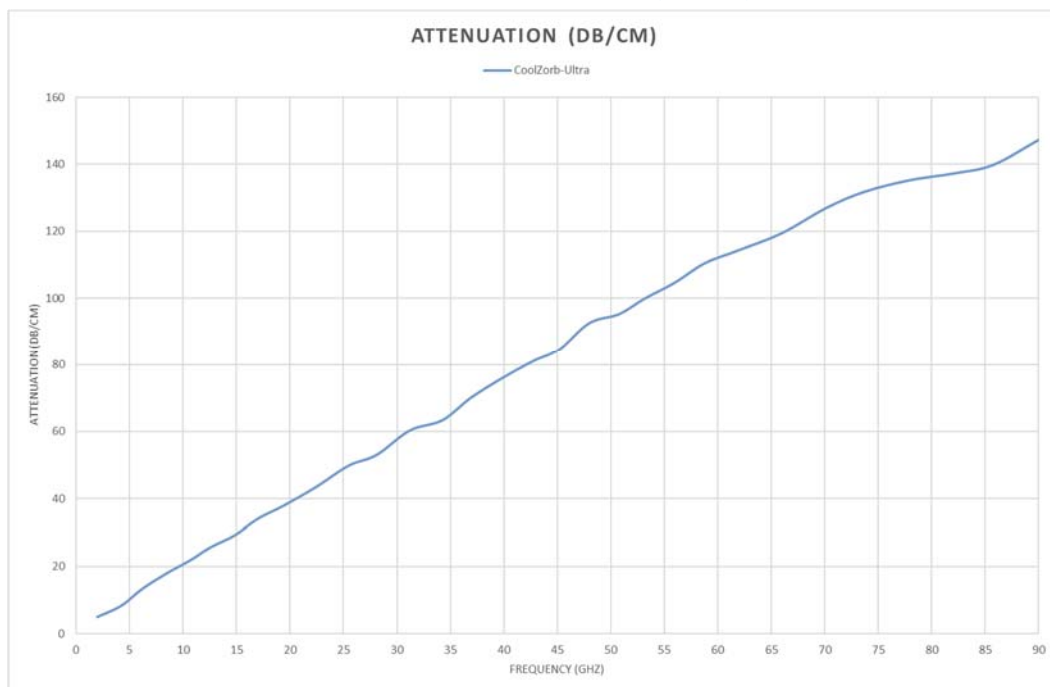
- Performance advantage comes from dual functional properties of thermal conductivity and EMI reduction
- Improved reliability performance of electronics
 - Better signal integrity due to reduction of EMI
 - Consistent performance of electronics due to temperature stability and low outgassing properties of product
- Improved EMC performance to meet compliance requirements
- Environmentally friendly solution that meets regulatory requirements including RoHS and REACH

TYPICAL PROPERTIES	TYPICAL DATA	TEST METHOD
Color	Dark gray	Visual
Thermal conductivity	11.5W/m.K	Hot Disk
Density g/cc	2.96	ASTM D792
Hardness 3 seconds	58 Shore 00	ASTM D2240
Hardness 30 seconds	31 Shore 00	
Deflection @ 10psi on 1mm	7%	ASTM D575
Deflection @ 50psi on 1mm	39%	ASTM D575
Temperature Range	-40°C to 125°C	NA
UL Flammability	UL94 V-0	UL
Volume resistivity	$6 \times 10^{16} \Omega \cdot \text{cm}$	ASTM D257
Outgassing (TML)	0.29%	ASTM E595-07
Outgassing (CVCN)	0.14%	ASTM E595-07
DC Breakdown voltage @2.5 mm	1.85KV	ASTM D149
AC Breakdown voltage @2.5 mm	1.34KV	ASTM D149
Standard Thickness range	0.5-5mm	
Condensation and fogging at 120C	None over 96 hours	

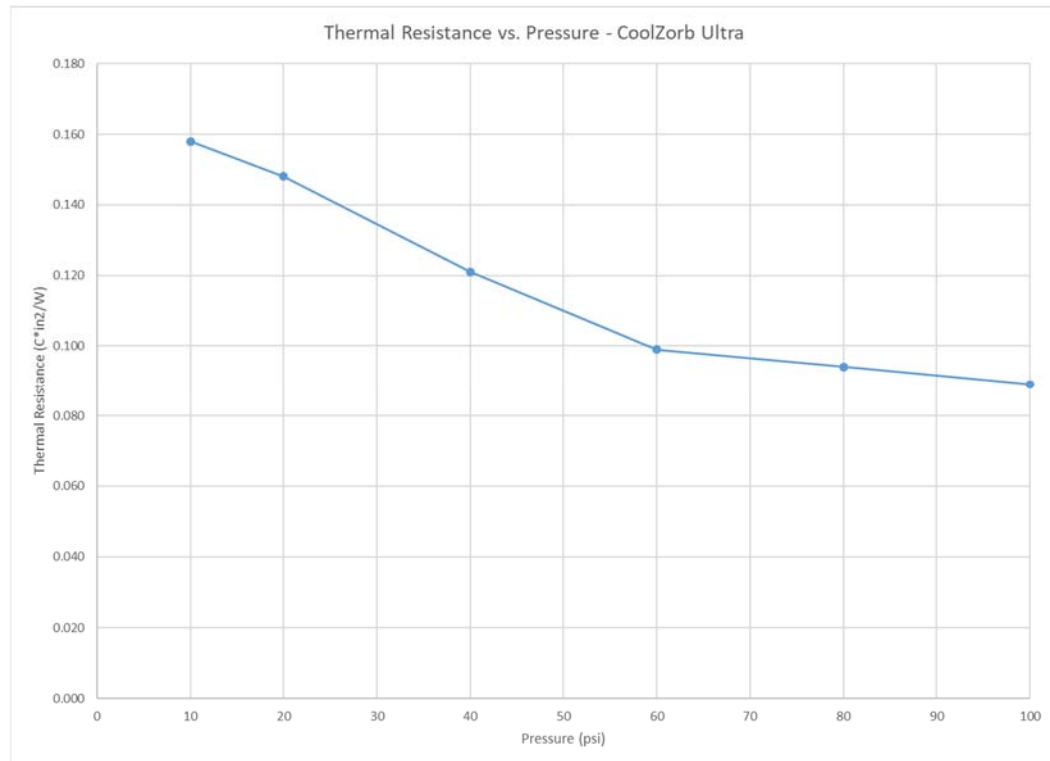


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CoolZorb Ultra Attenuation (dB/cm)



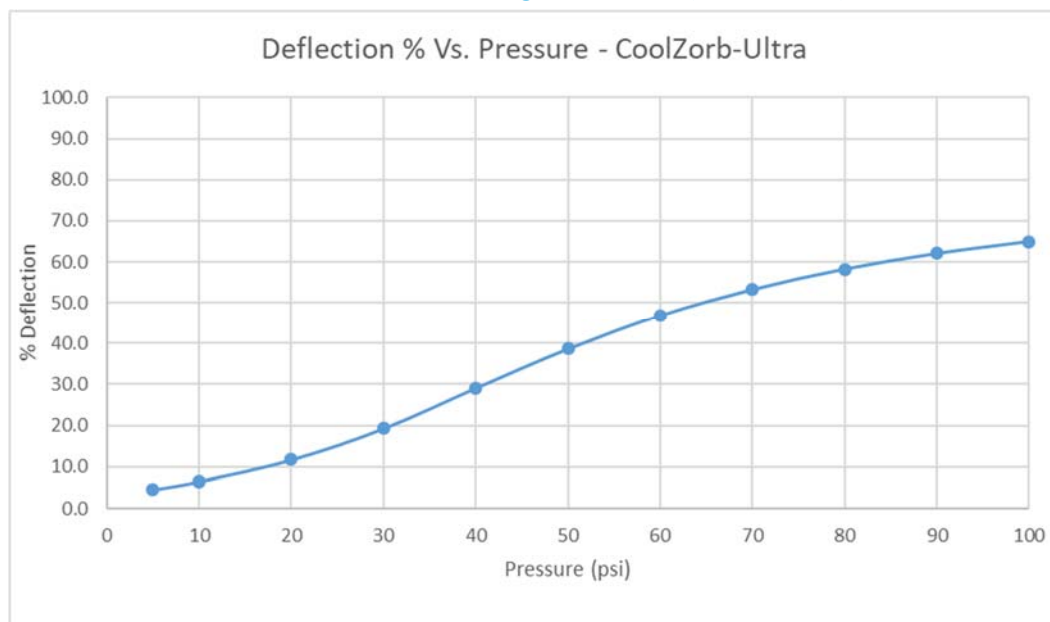
CoolZorb Ultra thermal resistance @50C (ASTM D5470)



MFS-DS-COOLZORB Ultra 20210127

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CoolZorb Ultra Percentage Deflection (ASTM D575)



AVAILABILITY

- Standard sheet size is 18" X 18"
- Thickness availability range is 0.040" - 0.20" (1mm- 5mm)
- Thickness available on special request 0.020" (0.5mm)
 - Requires peel and stick application
- Common standards for thickness are available with 0.02" incremental.
- No charge samples are available in 4" X 4" size for each of the above common thicknesses

PART NUMBER SYSTEM

- PRODUCTION sheets (18"X18") use the following designation when ordering: A18181-XXX where XXX is the sheet thickness in thousandths of an inch, example A18181-040 for 0.040"x18"x18"
- SAMPLE sizes of 0.020", 0.030", 0.040", 0.060" and 0.080" thicknesses are available without charge. 4" x 4" pieces are ordered with the part numbers A18183-020, A18183-030, A18183-040, A18183-060 and A18183-080. Other sizes may be available with NRE charge.

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