

HYBRID THERMAL/EMI ABSORBER

CoolZorb-Ultra series is a higher performance and non-silicone based formulation 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 25GHz
- Non-silicone based 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

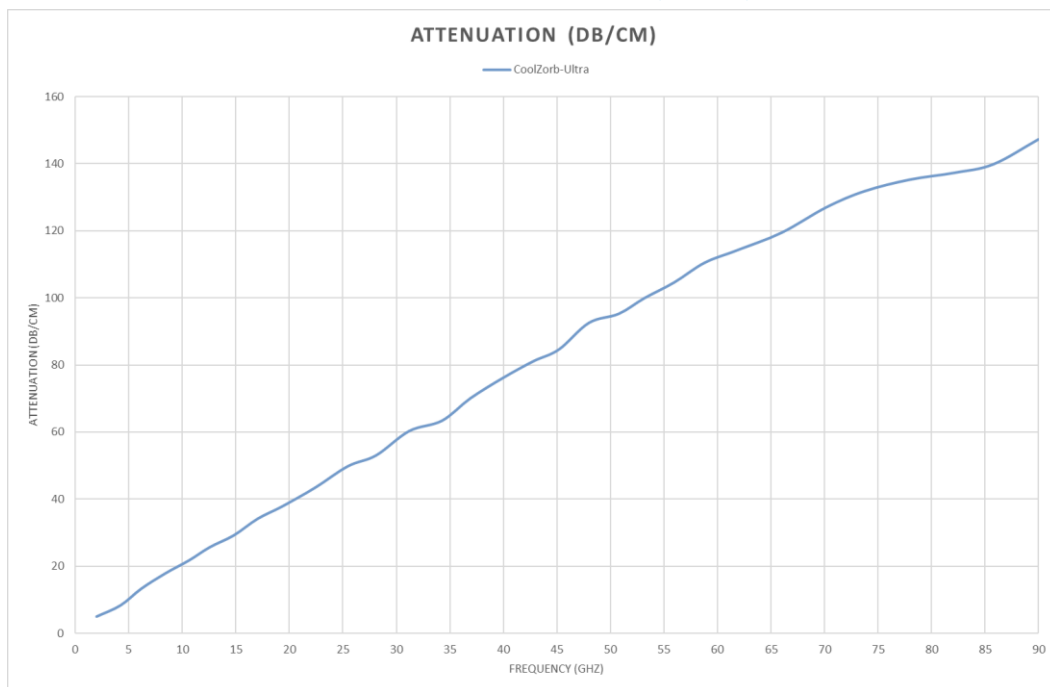
- Performance advantage comes from dual functional properties of thermal conductivity and EMI reduction
- Improved reliability performance of electronics
 - Better signal integrity due to reduction of EMI
 - Consistent performance of electronics due to temperature stability and low outgassing properties 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 | 6x10 ¹⁶ Ω*cm | ASTM D257 |
| Outgassing (TML) | 0.29% | ASTM E595-07 |
| Outgassing (CVCM) | 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 | 0.5-4mm | |
| Condensation and fogging at 120C | None over 96 hours | |

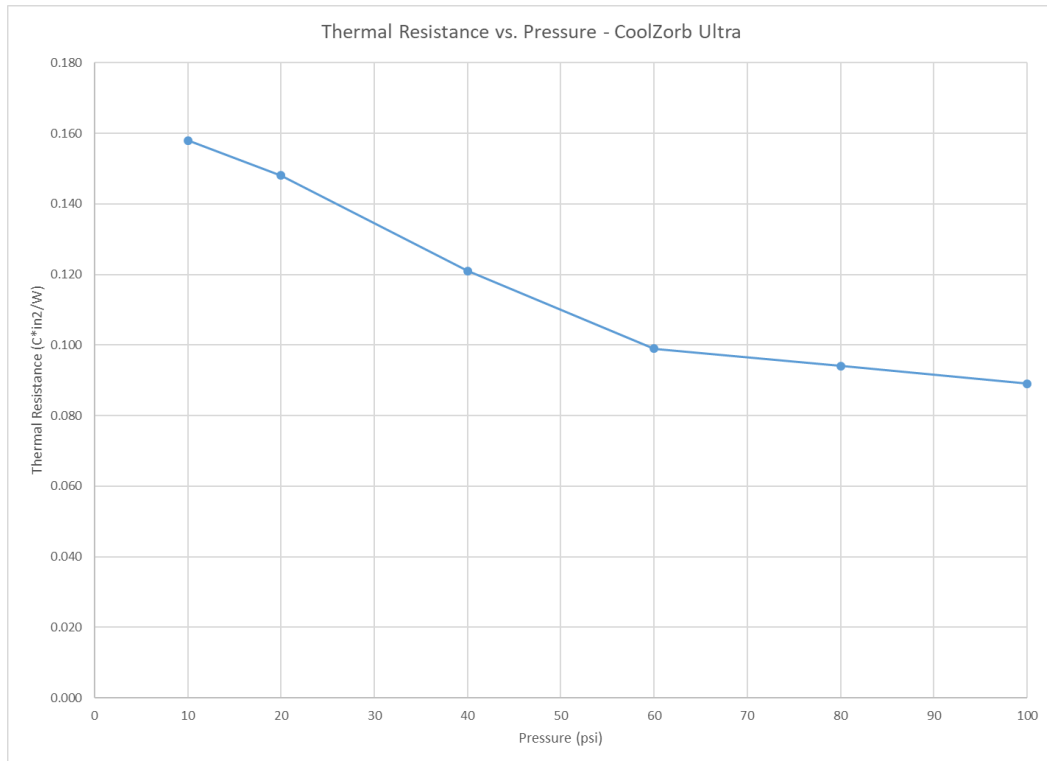


Hybrid Thermal/EMI Absorber

CoolZorb Ultra Attenuation (dB/cm)



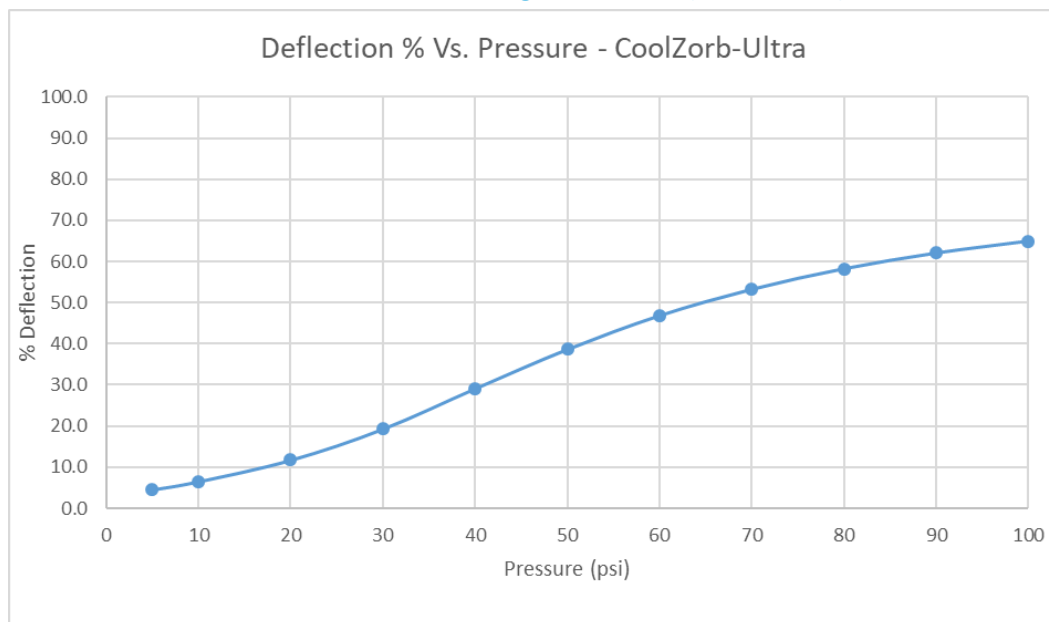
CoolZorb Ultra thermal resistance @50C (ASTM D5470)



MFS-DS-COOLZORB Ultra 20250902

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CoolZorb Ultra Percentage Deflection (ASTM D575)



AVAILABILITY

- Standard sheet size is 18" X 18"
- Thickness availability range is 0.040" - 0.16" (1mm- 4mm)
- 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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