



### HYBRID THERMAL/EMI ABSORBER

CoolZorb 600 is a 2<sup>nd</sup> 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 600 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 good thermal conductivity and excellent EMI suppression in the microwave frequency range with best attenuation performance at or above 3 GHz.
- CoolZorb 600 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                   | 3.0W/m-K                  | ASTM D5470        |
| Density                                | 4.1 g/cc                  | ASTM D792         |
| Hardness                               | 60 Shore 00               | ASTM D2240        |
| Tensile strength                       | 50 psi                    | ASTM D638         |
| Temperature Range                      | -40°C to 175°C            | NA                |
| UL Flammability                        | UL94V0                    | UL                |
| Volume resistivity                     | 1 x 10 <sup>12</sup> Ω*cm | ASTM D257         |
| Outgassing (TML)                       | 0.024%                    | ASTM E595-07      |
| Outgassing (CVCM)                      | 0.013%                    | ASTM E595-07      |
| Coefficient of Thermal Expansion (CTE) | 205 μm/mC                 | IPC-TM-650 2.4.41 |
| EMI Attenuation @ 5 GHz                | 18.3 dB/cm                |                   |
| EMI Attenuation @ 15 GHz               | 49.8 dB/cm                |                   |
| Standard Thickness range               | .020"-.125" (0.5-3.1mm)   |                   |
| Thickness Tolerance                    | +/- .005" (+/- .127mm)    |                   |

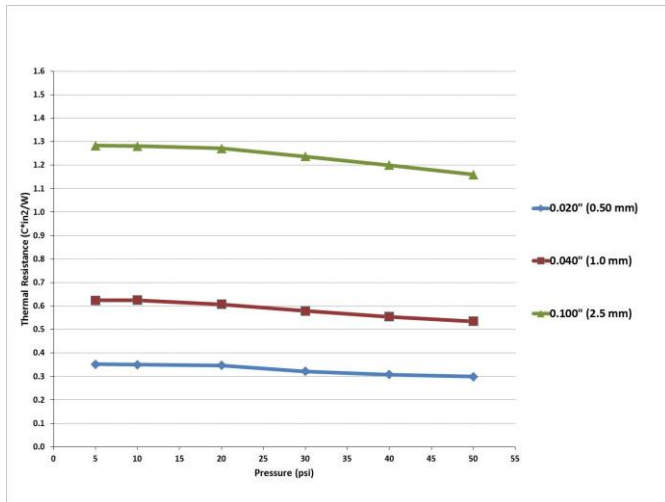
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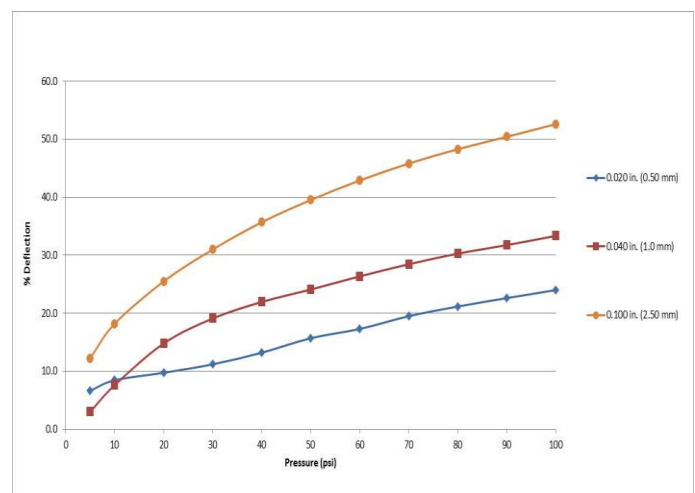
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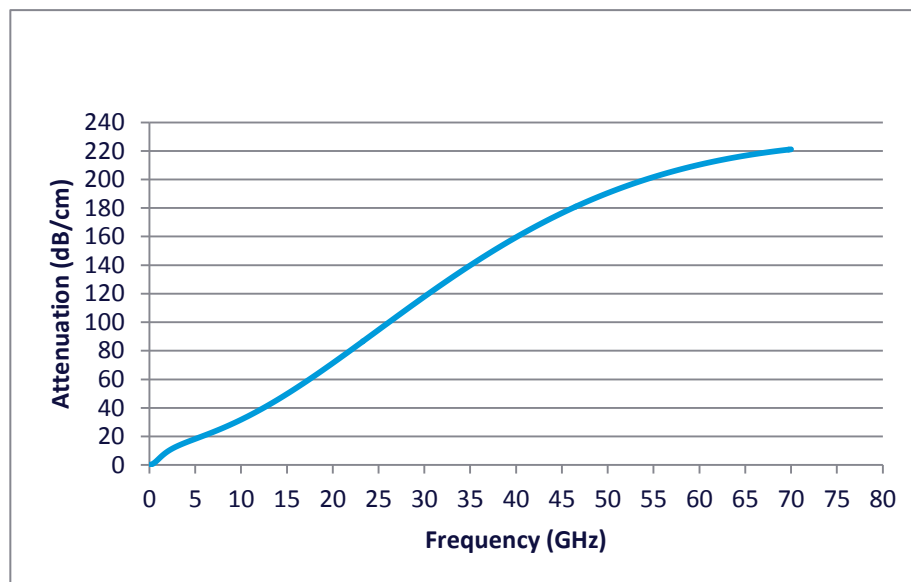
CoolZorb 600 Thermal resistance at 100C (ASTM D5470)



CoolZorb 600 Percent Deflection (ASTM D575)



CoolZorb 600 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 600 series absorber sheets (12"X12") use the following designation when ordering: CZ600-XXX where XXX is thickness of absorber in thousands of an inch
- CoolZorb 600 series no charge absorber samples (4"X4") use the following designation when ordering: CZ600S-XXX where XXX is thickness of absorber in thousands of an inch
- Example: CZ600-020 = CoolZorb 600, .020"X12"X12" sheet size; Example: CZ600S-040 = CoolZorb 600, .040"X4"X4 no charge sample size

RFP-DS-COOLZORB 500 110915

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