KULR Technology
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MIZAR Fiber Thermal Interface Data Sheet

Characteristics and Capabilities

Characteristic	
Color[1]	Black
Thickness (mm)	3.00 +/- 10%
Bulk Thermal Conductivity: Z(W/m-K) [2]	<10
Thermal Impedance: ((cm ^{2} -°C)/W), Typical [3]	> 9
Operating Temperature Range (C) [4]	-40 to 120
Dielectric Breakdown Voltage (V/mil) [5]	Conducting
CTE (ppm/C) [6]	5 to 15
Maximum Compression (%)	40-50

1. The color as shipped is generally Dark Grey/Black. Other choices available, subject to customization.
2. Z-axis thermal conductivity is dependent on the fiber density. Custom fiber densities are available for higher performance.
3. Thermal impendences shown are typical.
4. Operating temperature range is set by intermediate layers in the stack. Please contact KULR Marketing if your application requires extended (up to 120°C) and extreme (>120°C) operating temperatures.
5. Values shown are typical. Dielectric breakdown voltage for thermally conductive FTI is dependent on the composition of the stack.
6. Values shown are composite based on fiber distribution in the core material layers in the stack. Our core material has negligible CTE.

Thermal Mechanical Data

	Pressure (PSI)		
	5	15	30
R ($(cm^2$-°C)/W)	13.6	10	9
Compression (%)	10	33	46

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ALCOR Fiber Thermal Interface Data Sheet

Characteristics and Capabilities

Characteristic	
Color[1]	Black
Thickness (mm)	2.00 +/- 10%
Bulk Thermal Conductivity: Z(W/m-K)[2]	<10
Thermal Impedance: ((cm^2-°C)/W), Typical[3]	>5
Operating Temperature Range (C)[4]	-40 to 120
Dielectric Breakdown Voltage (V/mil)[5]	Conducting
CTE (ppm/C)[6]	5 to 15
Maximum Compression (%)	40

1. The color as shipped is generally Dark Grey/Black. Other choices available, subject to customization.
2. Z-axis thermal conductivity is dependent on the fiber density. Custom fiber densities are available for higher performance.
3. Thermal impendences shown are typical.
4. Operating temperature range is set by intermediate layers in the stack. Please contact KULR Marketing if your application requires extended (up to 120°C) and extreme (>120°C) operating temperatures.
5. Values shown are typical. Dielectric breakdown voltage for thermally conductive FTI is dependent on the composition of the stack.
6. Values shown are composite based on fiber distribution in the core material layers in the stack. Our core material has negligible CTE.

Thermal Mechanical Data

	Pressure (PSI)		
	5	15	30
R ($(cm^2 - °C)/W$)	12	6	4.7
Compression (%)	9	28	40

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PHI Fiber Thermal Interface Data Sheet

Characteristics and Capabilities

Characteristic	
Color[1]	Black
Thickness (mm)	1.00 +/- 10%
Bulk Thermal Conductivity: Z(W/m-K)[2]	>10
Thermal Impedance: ((cm^2-°C)/W), Typical[3]	> 2.8
Operating Temperature Range (C)[4]	-40 to 120
Dielectric Breakdown Voltage (V/mil)[5]	PSA Insulation
CTE (ppm/C)[6]	5 to 15
Maximum Compression (%)	< 20

1. The color as shipped is generally Dark Grey/Black. Other choices available, subject to customization.
2. Z-axis thermal conductivity is dependent on the fiber density. Custom fiber densities are available for higher performance.
3. Thermal impendences shown are typical.
4. Operating temperature range is set by intermediate layers in the stack. Please contact KULR Marketing if your application requires extended (up to 120°C) and extreme (>120°C) operating temperatures.
5. Values shown are typical. Dielectric breakdown voltage for thermally conductive FTI is dependent on the composition of the stack.
6. Values shown are composite based on fiber distribution in the core material layers in the stack. Our core material has negligible CTE.

Mechanical Cycling Data

	Number of Cycles			
	50	100	150	200
R ($(cm^2 \cdot °C)/W$)	2.4	2.4	2.4	2.4
Compression (%)	27.5	30	33	33

Thermal Mechanical Data

	Pressure (PSI)			
	5	15	30	50
R ($(cm^2 \cdot °C)/W$)	8.8	5.5	3.3	2.8
Compression (%)	2.5	6.7	17	21