

### Material Features:

- Low Density
- Low thermal resistance
- Good thermal stability

### Applications

- Graphic Processors
- Base stations
- Microprocessors
- Data Centers

### Storage Conditions:

- Store in dark environment
- Storage Temperature:  $\leq 30^{\circ}\text{C}$
- Storage Humidity:  $\leq 70\%$

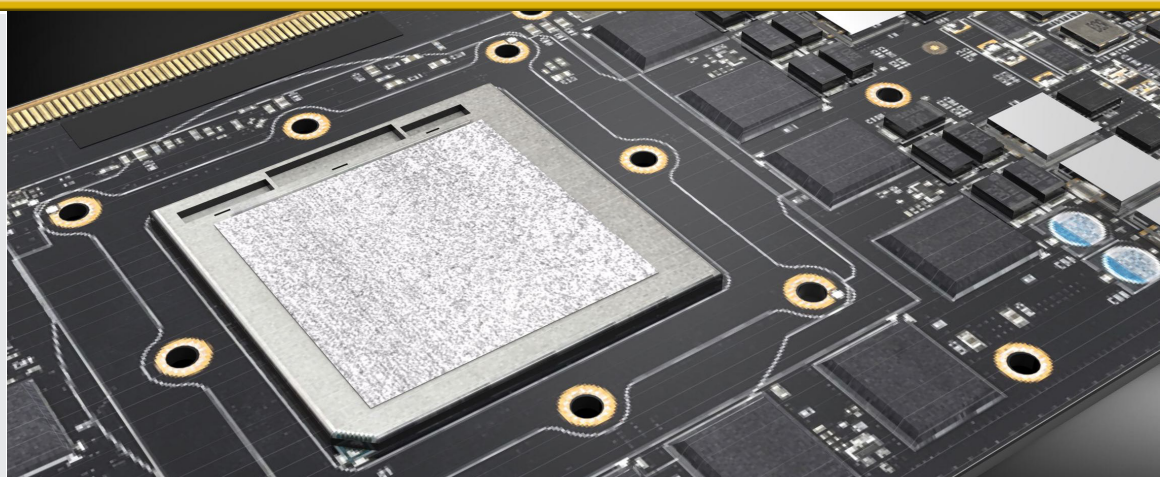
### Shelf Life:

- Stored at storage conditions:  
Two years

### Short Term Operating Temperature:

- $500^{\circ}\text{F}$  ( $260^{\circ}\text{C}$ ) for 30 minutes.

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### TGN Series

Leader Tech's TGN series are a new ultra-thin thermal pad with low thermal resistance. This thermal pad is fabricated by combining graphene and silicone. The materials are arranged in the polymer matrix in an orderly manner to form a good thermally conductive path, which greatly improves the efficiency of heat conduction. In addition, this material has high resiliency and low density which can be used as a replacement of thermal grease material.

Part Series	Test Method	TGN700	TGN900	TGN1300
<b>Thermal Properties</b>				
Thermal Conductivity Z axis (W/m-K)	ASTM D 5470	70	90	130
Thermal Conductivity X axis (W/m-K)	ASTM D 5470	600	600	600
Thermal Conductivity Y axis (W/m-K)	ASTM D 5470	25	25	25
Thermal Impedance ( $^{\circ}\text{C-in}^2/\text{W}$ ; @50psi)	ASTM D 5470	$\leq 0.090$	$\leq 0.070$	$\leq 0.050$
<b>Physical Properties</b>				
Color	Visual	Black	Black	Black
Thickness Range (in, (mm))	ASTM D 374	0.008-0.031 (0.2-0.8)	0.008-0.031 (0.2-0.8)	0.008-0.020 (0.2-0.5)
Width & Length (in, (mm))	N/A	3.54 x 3.54 (90 x 90)	3.54 x 3.54 (90 x 90)	1.57 x 1.57 (40 x 40)
Density (lb/in <sup>3</sup> , (g/cc))	ASTM D 792	0.022 (0.6)	0.022 (0.6)	0.036 (1)
Compression Ratio @50 psi (%)	ASTM C 165	$\geq 50$	$\geq 50$	$\geq 25$
Compression Stress @50% (psi)	ASTM D 575	$\leq 60$	$\leq 60$	$\leq 150$
Tensile Strength (M Pa)	ASTM D 412	$\geq 0.05$ X axis $\geq 0.02$ Y axis	$\geq 0.05$ X axis $\geq 0.02$ Y axis	$\geq 0.05$
Resilience (%)	ASTM D 575	$\geq 60$	$\geq 60$	$\geq 70$
Operating Temperature( $^{\circ}\text{F}$ (C))	IEC60068-2-14	-40 to 302 (-40 to 150)	-40 to 302 (-40 to 150)	-40 to 302 (-40 to 150)
Shelf Life (Months)	N/A	24	24	24

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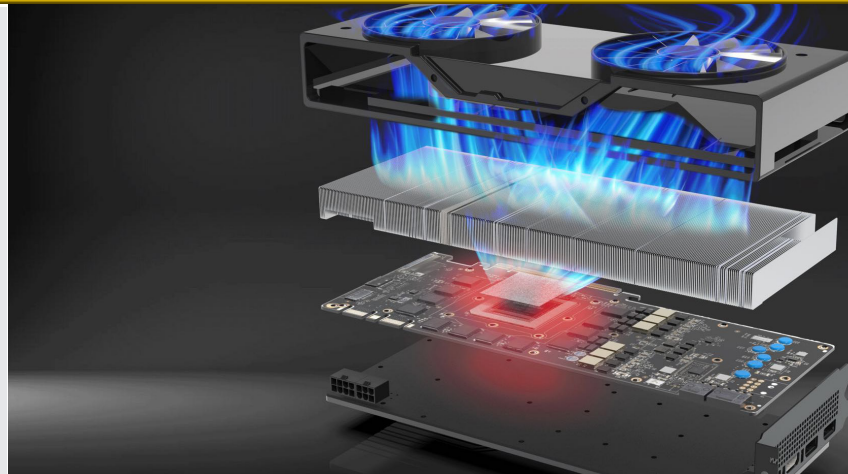
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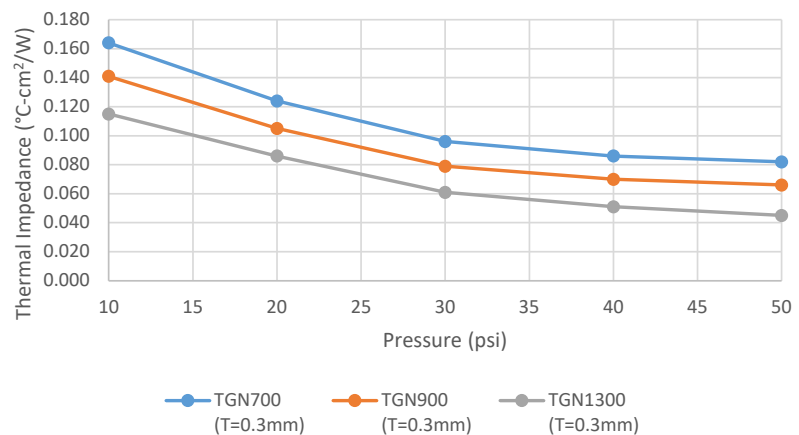
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Thermal Impedance



Compression Ratio

