

THERMAL SPREADER AS

Thermal Management for Semiconductor Wafer Fabrication Equipment

Technical Data Sheet

Fralock® Thermal Spreader AS (aluminum silicone) is a thermal interface solution designed for maximum heat transfer for applications in semiconductor wafer fabrication equipment. Constructed with a double coat of thermally and electrically conductive rubberized silicone over an aluminum foil base, it can be used when electrical isolation is not needed.

With a thermal impedance of $0.22^{\circ}\text{C-in}^2/\text{W}$ at 50 psi, Thermal Spreader AS reduces thermal resistance, eliminating heat retention and potential shorting. It can be placed between the surfaces of a heat-generating and cooling component, where the flexible rubberized coating creates maximum surface conformation and allows highly-efficient thermal transfer to heat sinks, without air pockets.

Thermal Spreader AS is available in thickness of 6 mil (0.1524 mm) and 9 mil (0.2286 mm).

Fralock® is an established manufacturer of thermal management components for high-reliability semiconductor wafer fabrication equipment. Our expert engineering and production teams can provide effective thermal solutions for your demanding requirements with custom designed Thermal Spreader AS components.

Applications

- Showerhead Gaskets
- Electrode Gaskets
- Choke Rings
- Heatsink TIM

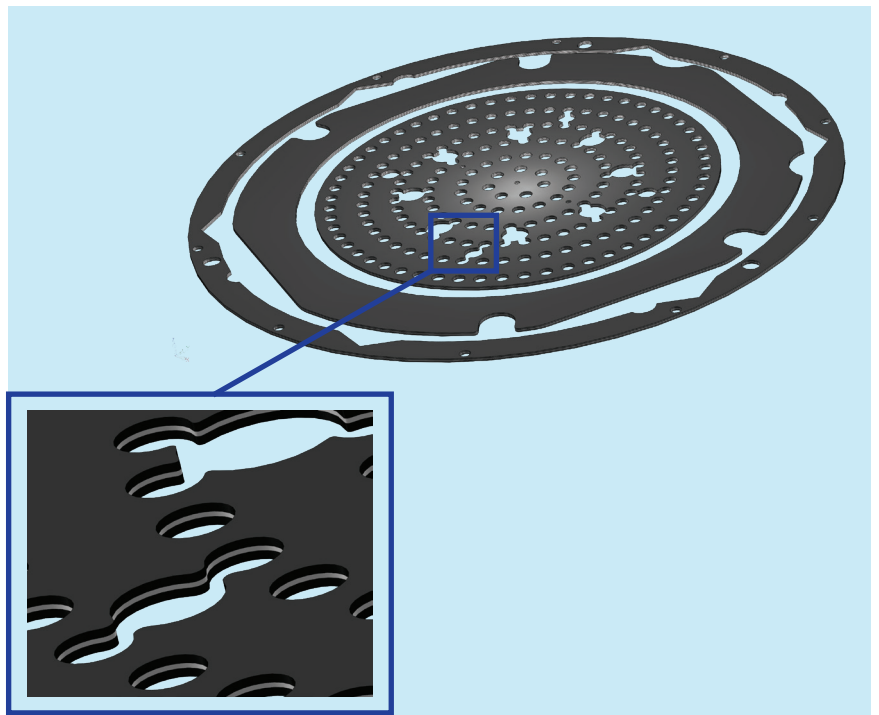
Features

- RoHS Certified
- Continuous Operating Temperature: -76°F to 356°F (-60°C to 180°C)
- Thermally Conductive
- Electrically Conductive

Manufacturing Capabilities

Fralock produces AS Thermal Spreader parts to specification of your requirements. Our advanced capabilities enable custom fabrication for your application.

Assembly and packaging services available with in-house clean rooms certified to ISO 14644-1, class 5 (100) to class 7 (10,000) standards.



Properties

	Typical Value					Test Method
Color	Black					Visual
Reinforcement Carrier	Aluminum					—
Hardness (Shore A)	93					ASTM D2240
Continuous Use Temp (°F) / (°C)	-76 to 356 (-60 to 180)					—
ELECTRICAL						
Dielectric Breakdown Voltage (Vac)	Non-Insulating					ASTM D149
Dielectric Constant (1000 Hz)	NA					ASTM D150
Volume Resistivity (Ohm-meter)	10 ²					ASTM D257
Flame Rating	V-O					U.L.94
THERMAL						
Thermal Conductivity (W/m-K)	2.5					ASTM D5470
<i>THERMAL PERFORMANCE vs PRESSURE</i>						
Pressure (psi)	10	25	50	100	200	
TO-220 Thermal Performance (°C/W)	2.44	1.73	1.23	1.05	0.92	
Thermal Impedance (°C-in ² /W) (1)	0.52	0.30	0.22	0.15	0.12	

Ordering Information

Material Reference Number: FR10297-XX (–XX =thickness)

Thickness code	-01	-02
Thickness	.006"	.009"

Example: To request Thermal Spreader AS in 6 mil, the reference # is FR10297-01

Contact us for more information on Thermal Spreader AS and other related products.

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Warranty: User is responsible for determining whether the product is fit for a particular purpose and suitable for user's application. Limitation of Liability: Fralock® will not be liable for any loss or damage arising from the product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability. The above values are averaged values and should not be used in writing specifications.

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