Momentive's thermally conductive SilCool grease compounds offer excellent thermal conductivity, as well as excellent stability, penetration, temperature resistance, and low bleed. These properties enable SilCool grease compounds to draw heat away from devices, contributing to improved reliability and operational efficiency of electronic components.

The combination of processing performance and thermal conductivity that these grease compounds offer makes them good candidates for thermal interface applications in a wide range of high performance devices and packages.

SilCool Silicone Grease Compounds

Momentive’s family of SilCool series silicone grease compounds feature outstanding thermal conductive and dielectric properties, excellent workability, virtually no oil separation, and minimal weight loss at elevated temperatures. These high-performance grease products were formulated to help address heat management challenges resulting from higher frequencies, higer power, and miniaturization in the development of electric and electronic devices.

Key Features of Momentive's Silcool Silicone Grease Compounds

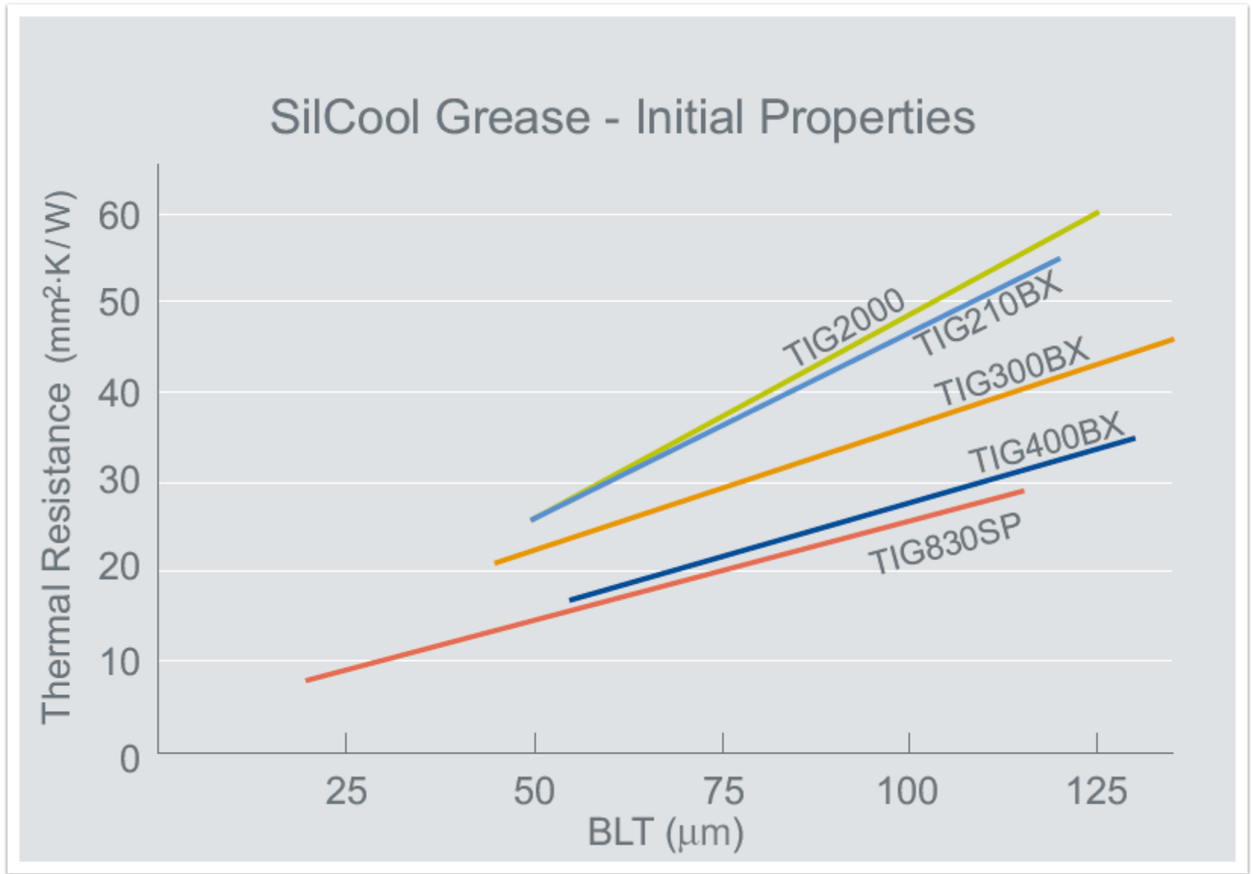
- Highly workable – excels in automated dispensing, screen printing, and stamping applications
- High thermal conductivity
- Wide operating temperature range
- Low oil separation and minimal weight loss at elevated temperatures
- Minimal ionic impurities & excellent dielectric properties

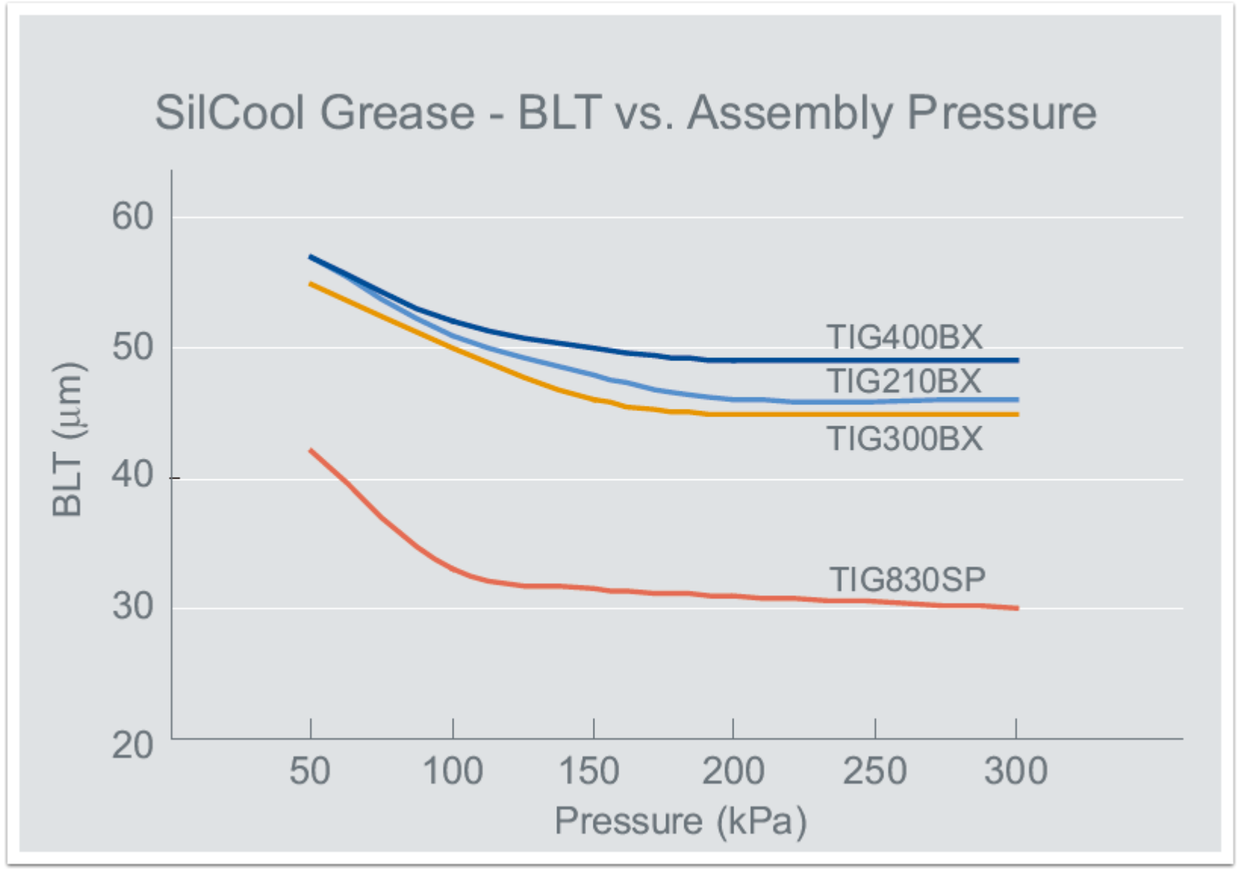
Product Details

Properties		TIG830SP	TIG400BX	TIG300BX	TIG210BX	TIG2000	TIG1500	TIG1000
Features		High thermal conductivity, low thermal resistance	High thermal conductivity, low oil bleed, temperature resistance	High thermal conductivity, low oil bleed, temperature resistance	Low oil bleed, temperature resistance	Grease with good thermal conductivity	Temperature resistance grease	General purpose thermal grease
Property / Color		Gray Paste	Gray Paste	Gray Paste	Gray Paste	Pale Blue Paste	White Paste	White Paste
Thermal Conductivity[1]	W/m.K	4.1	4.0	3.0	2.1	2.0	1.5	1.0
Thermal Resistance[2](BLT)	mm2.K/W	8 (20µm)	17 (55µm)	20 (45µm)	26 (50µm)	26 (50µm)	35 (55µm)	33 (50µm)
Specific Gravity (23°C)		2.88	3.18	3.00	2.90	2.80	2.7	2.50
Penetration[3](23°C)		360	260	350	345	400	300	340
Viscosity (23°C)	Pa.s	300	350	250	250	150	100	-
Bleed[3](150°C/24h)	wt%	0.0*	0.0*	0.0*	0.0*	0.1	-	0.1
Evaporation (150°C/24h)	wt%	0.3	0.3	0.1	0.1	0.1	-	0.1
Volume Resistivity[4]	MΩ.m	$1x10^3$	$3x10^3$	$5x10^3$	$1x10^6$	$1x10^6$	$2x10^5$	$3x10^6$
Dielectric Strength	kV/0.25mm	4.5	5.0	5.0	3.0	5.0	3.0	-
Volatile Siloxane (D4-D10)	ppm	<100	<100	<100	<100	<100	<100	<100
Ionic Content[5](Na+/K+/Cl-)	ppm	0.5, 0.0, 0.1	0.05, 0.03, 0.3	1.0, 0.3, 0.3	2.0, 0.0, 0.0	-	-	-

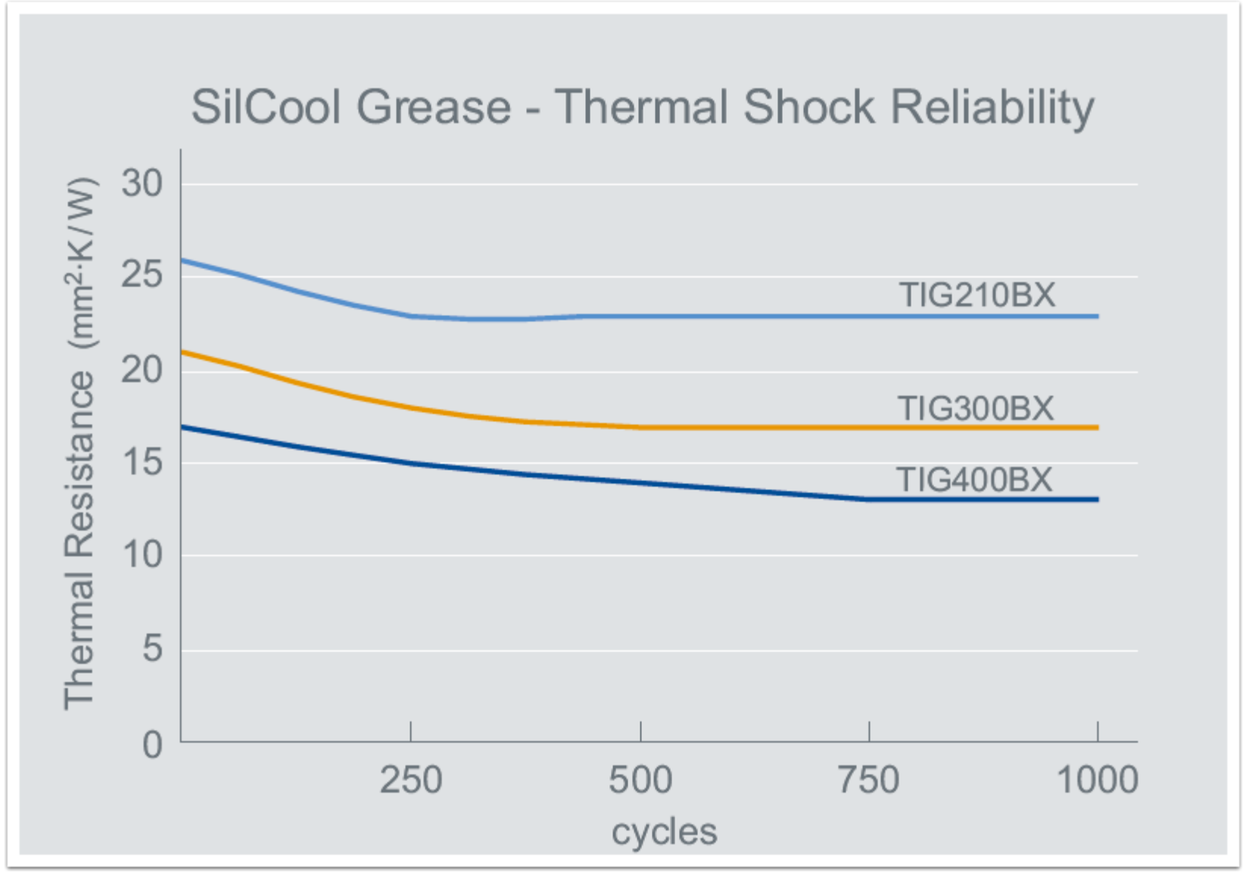
[1]Hot wire method, [2]Laser flash analysis on Si-Si sandwiched material, [3]JIS K 2220, [4]MIL-S-8660B, [5]Ion chromotography analysis on water extracts, *Measurement limit Typical property data values should not be used as specifications

(Charts) Thermal Resistance is proportional to the thickness of the material through which the heat must travel. The ability to control and reduce thickness (BLT) of the thermal interface is a key factor in the component assembly process. Increases in assembly pressures are known to contribute to reductions in BLT, and subsequently, reduced thermal resistance.

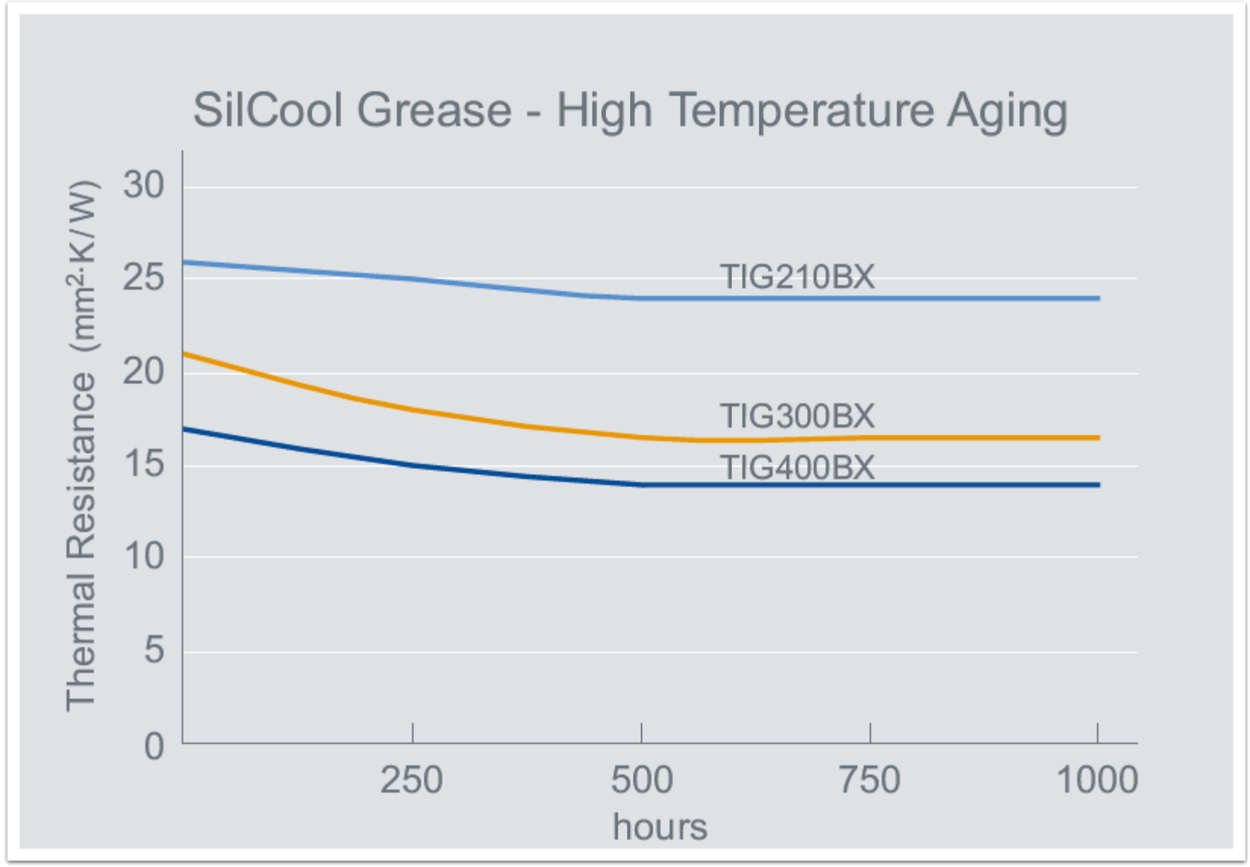




(Above) Test Conditions: Sandwich 0.02ml of material between 10mm×10mm silicon dies, and apply desired pressure for 1 minute. Measure BLT.



(Above) Test Conditions: Sandwich material between 10mm×10mm silicon dies, and apply 300kPa pressure. Thermal cycle (-55°C~125°C, dwell time 30 minutes at each extreme). Measure thermal resistance using laser flash method.



(Above) Test Conditions: Sandwich material between 10mm×10mm silicon dies, and apply 300kPa pressure. Expose to 150°C tempertures up to 1000 hours. Measure thermal resistance using laser flash method.