



# Product Selection Guide

## Heat Sink Compounds

Thermal Greases:		Non Silicone					Silicone				
Properties	Units	410	412	4100	414	425	510	510FG Food Grade	512	5100	514
Thermal Conductivity	W/m.°K	0.8	2.0	3.2	3.7	1.2	0.8	0.8	2.0	3.2	3.7
Thermal Resistance	°C-In <sup>2</sup> /W	0.05	0.03	0.014	0.014	0.012	0.05	0.05	0.03	0.014	0.014
Dielectric constant	@1KHz.	4.6	4.5	3.5	2.8	4.8	4.4	4.4	4.1	3.7	2.8
Volume Resistivity	Ohm-cm	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>12</sup>	10 <sup>10</sup>	10 <sup>15</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>12</sup>	10 <sup>10</sup>
Max. Operating Temperature	°C	200	200	200	200	150	200	200	200	200	200

Applications: CPU to heat sink application, telecommunications hardware, transistor, diodes, rectifiers, motor control and semiconductor devices

Thermal Greases:		High Temperature			Electrically Conductive					
Properties	Units	610	611	613	710	711	712	744	745NS	745SL
Thermal Conductivity	W/m.°K	1.0	0.8	1.2	7.0	2.2	2.2	0.5	0.8	0.8
Thermal Resistance	°C-In <sup>2</sup> /W	0.05	0.06	0.04	0.01	0.02	0.02	0.1	0.03	0.03
Dielectric constant	@1KHz.	4.9	4.8	4.5	N/A	N/A	N/A	N/A	N/A	N/A
Volume Resistivity	Ohm-cm	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	<0.01	<25	<25	N/A	N/A	N/A
Max. Operating Temperature Range	°C	300	360	250	200	200	200	150	150	200

Applications: (600 series) Heater cartridges, thermistors, RTD, thermocouple wells, portable heaters and tank heaters.

Applications: (700 series) High power electrical applications, power switches, circuit breakers, semiconductor components grounding and high power CPU to heat sink.

Epoxies and Potting Compounds:		Thermally Conductive-Electrically Insulating					Thermally Conductive Potting	
Properties	Units	813	813 HTC	816	816 HTC	818	8550TC	8850FT
Thermal Conductivity	W/m.°K	1.5	2.7	0.85	2.7	0.8	1.2	1.3
Type/Cure		One Part Heat Cure	One Part Heat Cure	Two Part RT cure	Two Part RT Cure	Two Part RT Cure	Two Part RT Cure	Two Part RT Cure
Pot life (100 grams)		½ hr @80°C	½ hr @80°C	½ hr @25°C	½ hr @25°C	5 minutes @25°C	½ hr @25°C	½ hr @25°C
Cure Schedule		½ hr @150°C	½ hr @150°C	24-48 hrs @25°C	24-48 hrs @25°C	24-48 hrs @25°C	24-48 hrs @25°C	24-48 hrs @25°C
Dielectric Constant	@1KHz	5.3	5.3	5.3	5.3	5.8	3.0	5.8
Max. Service Temperature	°C	270	270	150	150	150	140	140

Applications: (Epoxies): Between heat sink & power devices, substrates attach, lid seal, SMD attach, stacking component and die attach applications.

Applications: (Potting Compounds): Potting & encapsulating of power supplies, relays, amplifiers transformers, coils and circuit boards.

Epoxies: Electrically Conductive			
Properties	Units	897M-2	830M-1
Thermal Conductivity	W/m.°K	1.5	2.7
Type/Cure		One Part/Heat cure	Two Part/ RT cure
Pot life (100grams)		½hr @80°C	1hr @25°C
Cure Schedule		1hr @100°C	48hrs @25°C
Volume Resistivity	Ohm-cm	0.0004	0.002
Shelf Life		4 months@ 0°C	1 year @25°C

Applications: die-attach, chip bonding, cold soldering and other micro electronic bonding applications.