

GraphiteTIM (Low thermal resistance PGS)

Artificial graphite sheet specially developed for TIM (Thermal Interface Material)

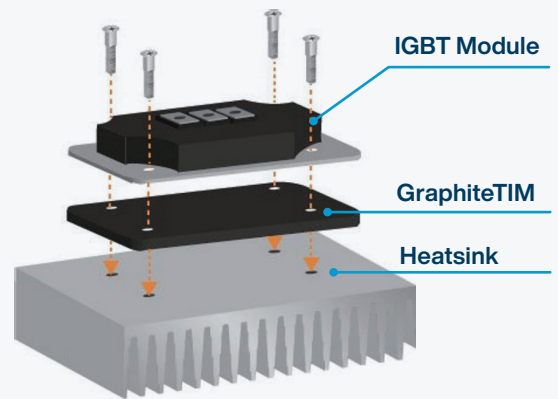
Feature

- Achievable **low thermal resistance** equivalent to grease.
- **High reliability** compared to grease due to its property of barely changing thermal resistance.
- **Easy handling** (inventory control, repair, and processing)

Application notes

Panasonic Series	Requirements
Power module (IGBT)	<ul style="list-style-type: none"> ▪ Reliability that can withstand continuous use at 200 or higher ▪ Handling, repair work, maintenance improvement. ▪ Requirement for materials that can be processed into shapes.
Server base station	<ul style="list-style-type: none"> ▪ Materials having high reliability that can reduce maintenance after installment.

Usage example



Characteristic (Reference)

Items	Test method	Condition	Data		
Thickness (μm)	-	-	200	250	350
Thermal resistance (K·cm ² /W)*1	TIM tester	200 kPa	0.6	0.4	0.5
Compressibility (%)*1	TIM tester	600 kPa	40	55	55
Flame resistance	UL-94	-	V-0 equivalent		
Operating temperature range (°C)	-	-	-55 to +400		

*1 Measuring device TIM Tester (ANALYSIS TECH, ASTM D5470 compliant)

※ A conductive material. Please use it for the parts that do not require insulation.

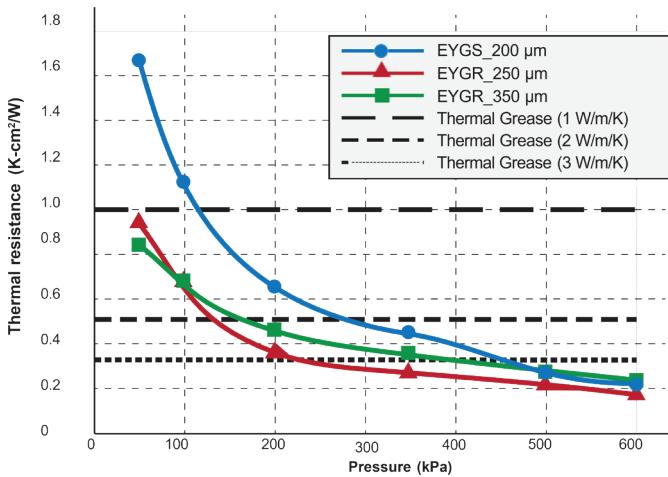
※ The data shown are typical values, not guaranteed values.

Features of GraphiteTIM

1. Low thermal resistance

Thermal resistance compared to grease with different thermal conductivity

(Thickness of grease is 100 μm)

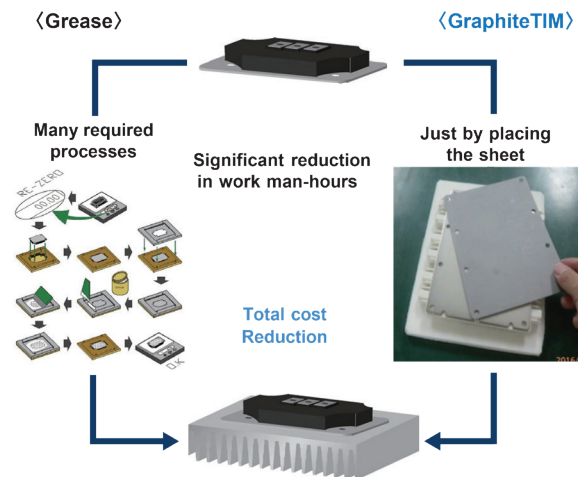


Measuring device:

TIM Tester (ANALYSIS TECH, ASTM D5470 compliant)

Achievable low thermal resistance equivalent to grease

3. Easy handling

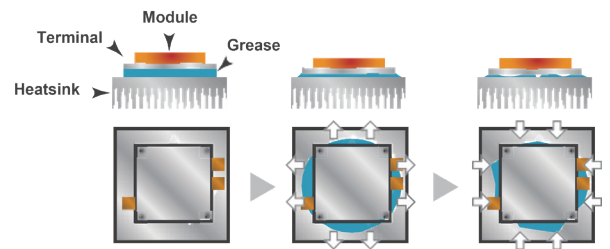


- No complicated application process
- Capable of customizing and repairing

2. High reliability:

Pump-out test Heat cycle (-40⇔100°C)

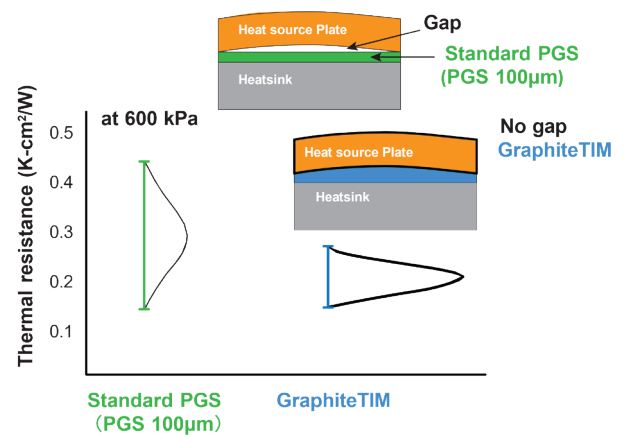
Material	Initial	120 times	Deterioration (Resistance)
Grease			NG
GraphiteTIM			OK



There is no pump-out (dripping, etc.) little change in characteristics

Reference : Thermal resistance

Thermal resistance comparison



High compression of GraphiteTIM enable to eliminate the gap to reduce the thermal resistance

GraphiteTIM



Power module compatible
GraphiteTIM Search Tool



Memo