

Features & Benefits

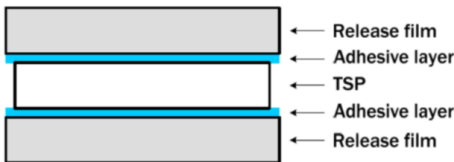
- TSP is a kind of thermal interface material that has several advantages over traditional silicon-based materials
- Excellent Thermal Conductivity
- Low Thermal Resistance
- High Voltage Strength
- Easy to process
- Broad operating temperature
- Thermal curing at elevated temperature
- RoHS compliant, Halogen free & lead-free process
- Available in roll, sheet, or custom part form
- The insulator is made by a unique polymer composite that combine epoxy resin and high thermal conductivity filler. The thermal conductivity is much higher than the traditional silicone or epoxy filled glass fiber pads.
- The differentiating technology of TCLAD Thermal Interface Materials resides in the dielectric formulation. This datasheet highlights the performance characteristics of TCLAD TSP 3 & 8.

Applications

- Power Electronics
- Automotive
- Component to heatsink
- IMS PCB to heatsink
- LED module

Configurations

- Roll
- Sheet
- Custom piece part
- Packaging
 - Bulk
 - Tray
 - Tape and Reel
- PET Release Film Thickness 50µm



Item	Thickness	Unit	Value	Method	
Thermal Properties					
Thermal Conductivity		W/m-K	3	8	TO-220
Thermal Resistance	200µm (8mil)	°C-in ² /W	0.21	0.15	ASTM D5470
Electrical Properties					
Dielectric Constant		-	7.04	8.04	IPC-TM-650 2.5.5.3
Dielectric Loss Tangent		-	0.0232	0.0294	IPC-TM-650 2.5.5.1
Surface Resistance		Ω	10 ¹³	10 ¹³	IPC-TM-650 2.5.17.1
Volume Resistivity		Ω-cm	10 ¹³	10 ¹³	IPC-TM-650 2.5.17.1
Breakdown Voltage 200µm (8mil)		KVAC	>6	>6	JIS 2110 (Si oil)
Mechanical Properties					
Color		-	Gray		Visual
Peel Strength @ 25°C		Kg/cm	>1.5	>1.5	JIS C 6481
Hardness		Shore A	96	96	ASTM D-2240A
Density		g/cm ³	2.69	2.72	ASTM D792
Flexibility		Radius, mm	1	1	
Chemical Properties					
Water Absorption		% Wt.	<0.01	<0.01	IPC-TM-650 2.6.2.1
Out-Gassing Total Mass Loss		% Wt.	<0.1	<0.01	ASTM E595
Collect Volatile Condensable Material		% Wt.	< 0.1	<0.1	ASTM E595
Curing					
Curing temperature		°C	120	120	

