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3M™ Thermally Conductive Silicone Interface Pad 5514

Product Description

3M™ Thermally Conductive Silicone Interface Pad 5514 is a silicone elastomer sheet, designed to provide heat transfer path between heat generating components and heat sinks, heat spreaders and other cooling devices.

Features and Benefits

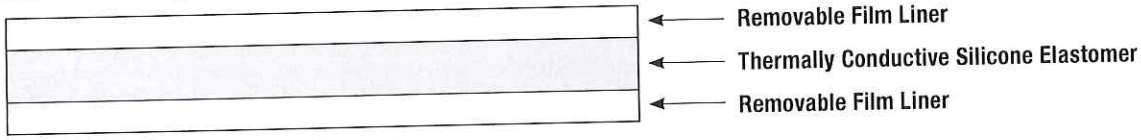
- Good thermal conductivity (1.6 W/m-K)
- Hardness: Shore 00 = 58
- Good dielectric properties
- UL 94 V-1
- High temperature resistance
- Good converting for complicated shape
- Good flexibility with over bending
- Thin thickness, 0.20 mm and 0.25 mm
- Roll is available

Product Uses

This product can be used for heat management of electronic devices and joining/stacking parts in electronic components.

Product Construction

3M™ Thermally Conductive Silicone Interface Pad 5514



Standard thickness (excluding liner): 0.25 mm

Application Ideas

- IC Packaging Heat Conduction
- Printed Circuit Board
- Spacer for Battery Module/Pack
- Heat Sink by Aluminum, other metal and ceramic
- COF Chip Heat Conduction
- LED Board TIM
- HD TV Address IC Chip and Scan Module
- Thin Gap Filling between board, module and chassis

Mechanical fastening such as clamp, bracket, screw and additional tapes and adhesives bonding can be used in parallel with this pad.

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Typical Physical Properties and Performance Characteristics

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Property	3M™ Thermally Conductive Silicone Interface Pad 5514-20 and 5514-25 Value			Method
Thickness (mm)	0.20 / 0.25 (±0.025mm)			–
Thermal Conductivity (W/mK)*	1.06			QTM-500
Flammability	UL 94 V-1			UL 94
Density (g/cm³, @ 25°C)*	2.4 (±0.25)			TS-TM-441
Hardness (Shore 00)*	55 (±10)			ASTM D2240
Volume Resistivity (Ω-cm)*	8.6×10^{13}			ASTM D257
Dielectric Strength (kV/mm)*	14.15			ASTM D149
Dielectric Constant*	100 Hz	1 Khz	1 Mhz	ASTM D150
	15.7	15.7	15.6	

*3M™ Thermally Conductive Interface Silicone Pad 5514-25 tested.

Heat resistance of 3M™ Thermally Conductive Silicone Interface Pad 5514-25

Duration	Initial	100	500	1000
Thermal Conductivity (W/mK)	1.6	1.6	1.6	1.6
Hardness (Shore 00)	56	56	56	56
Appearance	–	No effect	No effect	No effect

Aged at 130°C in high temperature chamber.

Application Techniques

- Positioning is dependent upon the total amount of surface contact developed. Firm application pressure helps develop better contact.
- To obtain optimum thermal conductivity, the wetting surfaces must be maximized. For better contact, clean, dry and well unified surface condition is recommended. Typical surface cleaning solvents are isopropyl alcohol and water (rubbing alcohol) or heptane. **Note:** Be sure to follow manufacturer's safety precautions and directions for use when using solvents.
- Ideal application temperature range is from 0°C to 40°C. Initial application to surfaces at temperatures below 0°C is not recommended because the pad becomes too firm to be wetted readily. However, once properly applied, low temperature holding is generally satisfactory.

Storage and Shelf Life

The shelf life of 3M™ Thermally Conductive Silicone Interface Pad 5514 is 12 months from the manufacture date when stored in original packaging at 21°C (70°F) and 50% relative humidity.

Regulatory

For regulatory information about this product, contact your 3M representative.

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

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