3M™ Thermally Conductive Silicone Interface Pad 5515-20 and 5515-25

Product Description

3M™ Thermally Conductive Silicone Interface Pads 5515-20 and 5515-25 are designed to provide a preferential heat transfer path between heat generating components and heat sinks, heat spreaders or other cooling devices. The 3M Pad 5515 product is the thinnest product among 3M™ Thermally Conductive Silicone Pad products and consists of a highly conformable and slightly tacky silicone elastomeric sheet filled with thermally conductive ceramic particles which provide good thermal performance and with good electrical insulation performance.

Product Uses

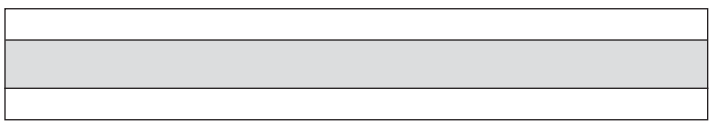
This product can be used as the Thermal Interface Materials (TIM) to improve heat management of electronic devices and joining/stacking parts in electronic component assemblies.

Key Features

- Thin thickness for lower thermal impedance.
- High thermal conductivity.
- Good softness and conformability for firm silicone thin pad type.
- Good electrical insulation property.
- Good pressure relaxation reduces pressure to electric components.
- Slight tack allows pre-assembly.
- Good wet-ability to a surface for better thermal dissipation.
- Fine dimensional stability for easy converting.

Product Construction

3M™ Thermally Conductive Silicone Interface Pad 5515-20 and 5515-25



Removable PET Film

Thermally conductive silicone

Removable PE or PET Film

Standard thickness (excluding liner) 0.20 mm, 0.25mm

Application Ideas

- IC Packaging Thermal Interface Material (TIM)
- Printed Circuit Board Heat Sink TIM
- Aluminum Heat Sink Block
- COF Chip Heat Conduction to adjacent substrate
- 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. 3M silicone PSA 9122 is an adhesive option to use with the 3M™ Thermally Conductive Silicone Interface Pad 5515 if higher adhesion is desired in an application.

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.

3M™ Thermally Conductive Silicone Interface Pad 5515-20 and 5515-25

Property	Method	Value 3M™ Thermally Conductive Silicone Pad 5515-20 and 5515-25		
Thickness (mm)	–	0.20 / 0.25 (±0.025mm)		
Thermal conductivity (W/m-K)	QTM-500	3.0		
Flammability	UL94	V-0 (Passed 3M Internal FR Test)		
Density (g/cm³,@ 25°C)	TS-TM-441	2.9 (±0.15)		
Hardness Shore 00	ASTM D2240	80 (±10)		
Volume resistivity (Ω-cm)	ASTM D257	4.5×10^{14}		
Dielectric Strength (kV/mm)	ASTM D149	14.5		
Dielectric constant	ASTM D150	100Hz	1Khz	1Mhz
		16.0	15.6	15.7

Environmental Aging Testing: 3M™ Thermally Conductive Silicone Interface Pad 5515-20 and 5515-25

Duration (hrs)	Initial	100	1000	2000
Thermal Conductivity (W/m-K)	3.0	3.0	3.0	3.1
Hardness Shore 00	82	82	83	83
Appearance	–	No effect	No effect	No effect

Aged at 130°C in high temperature chamber.

Application Technique

- Adhesion strength of the 3M™ Thermally Conductive Silicone Interface Pad 5515 is dependent upon the total amount of surface contact developed. Firm application pressure helps develop better contact and improves adhesion strength as the product is slightly tacky only.
- Contact surfaces should be clean, dry and well unified to allow for improved adhesion and thermal performance. Typical surface cleaning solvents are an isopropyl alcohol and water blend: **Note:** Follow manufacturer's safety precautions and directions for use when using solvents.
- Useful application temperature range is from 20°C to 40°C. Initial application to surfaces at temperatures below 20°C is not suggested because the pad will be firmer and wet-out could be reduced. However, once properly applied, low temperature holding is generally satisfactory.

Certification/Recognition

MSDS: 3M has not prepared a MSDS for these products which is are subject to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R. 1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, these products should not present a health and safety hazard. However, use or processing of these products in a manner not in accordance with the directions for use may affect their performance and present potential health and safety hazards.

TSCA: These products are defined as an article under the Toxic Substances Control Act and therefore, are exempt from inventory listing requirements.

RoHs Complaint/REACH Compliant: These products comply with the European Union's "Restriction of Hazardous Substances" (RoHs) initiative and with European REACH regulations 2002/95/EC and 2005/618/EC.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M, Electronics Markets Materials Division, 3M Center, Building 225-3S-06, St. Paul, MN 55144-1000. Our fax number is 651-778-4244 or 1-877-369-2923. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

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