

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

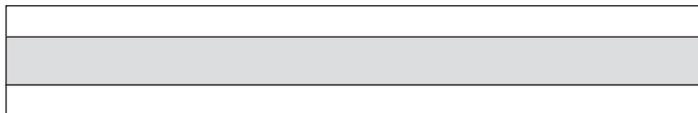
This product can be used as the Thermal Interface Materials (TIM) to improve heat management of electronic devices and joining/stacking parts in electronic component assemblies.

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

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

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/cm ³ , @ 25°C)	TS-TM-441	2.9 (±0.15)		
Hardness Shore 00	ASTM D2240	80 (±10)		
Volume resistivity (Ω-cm)	ASTM D257	4.5 x10 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.

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

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.

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

Certification/Recognition

MSDS: 3M has not prepared a MSDS for these products which 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.

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture at the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



Electronics Markets Materials Division

3M Center, Building 225-3S-06
St. Paul, MN 55144-1000
1-800-251-8634 phone
651-778-4244 fax
www.3M.com/electronics

3M is a trademark of 3M Company.
Please recycle. Printed in U.S.A.
©3M 2011. All rights reserved.
60-5002-0462-7

