BERGQUIST

BERGQUIST® microTIM mTIM 1000 SERIES

DURBLE MICRO-THERMAL INTERFACE COATINGS FOR PLUGGABLE OPTICAL MODULES

The requirement to accommodate greater data bandwidth to meet market demand has led to the integration of faster, more capable transceiver technology. The move from 100 Gb to 800 Gb pluggable optical modules (POMs) has increased line card heat generation exponentially. Henkel's *BERGQUIST* microTIM mTIM 1000 series are novel micro-thermal interface coatings designed to provide more efficient heat dissipation between POMs and their riding heatsinks. Applied on the heatsink or the transceiver, the materials are durable, thermally conductive coatings that reduce heat per 20 Watt POM as much as 4°C. With as many as 32 POMs per networking line card, this significantly reduces temperature across the server ecosystem. Highly durable, *BERGQUIST* microTIM mTIM 1000 series materials can withstand up to 500 insertions and pulls with no degradation in performance.

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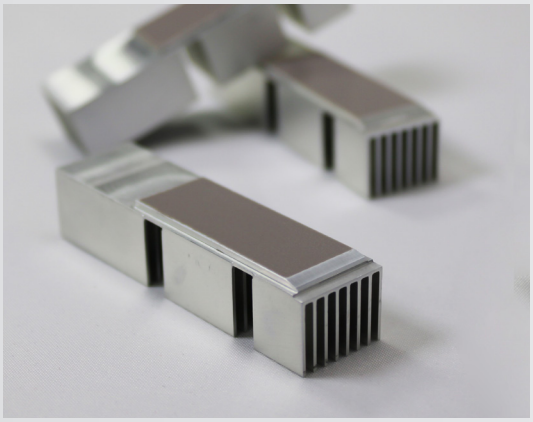
Key Benefits

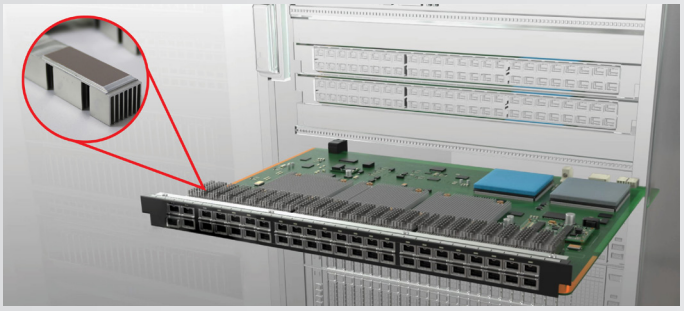
- Easily applied in high volume to aluminum and copper heatsinks, and to transceiver housings.
- Significantly reduces operational heat for pluggable optical modules. In testing, heat reductions of 0.18° C/Watt, or 3-4° C per 20-Watt QSFP-DD module at initial was confirmed.
- High durability coating that can withstand up to 500 insertions and pulls.
- Excellent reliability over a wide operating temperature range, from -40° C to 125° C.
- Longevity and performance improvements provide a low total cost of ownership.



Properties	*BERGQUIST* microTIM mTIM 1013	*BERGQUIST* microTIM mTIM 1028
Thermal Performance over metal to metal (°C/W)	0.18	0.18
Appearance	Tan	Tan
Heatsink Type	Aluminum heatsinks with Alodine Type 2, Class 1 A, ROHS certified surface finish	Aluminum and copper heatsinks with electroless nickel plating ASTM B733 TYPE IV, Class 1, SCO, with a minimum of 1 µm thickness
Thickness	24 +3 µm	25±5 µm
Operating Temperature	-40 to 125°C	-40 to 125°C
Volume Resistivity, ASTM D257 (GΩ-m)	> 1	> 1

Typical applications

- Heatsinks used in riding cage assemblies used in switches, servers, and routers
- Flatness coating interface requirements: ISO Flatness < 75 µm and surface roughness < 3 µm
- Appropriate for any metal-to-metal interface where improved heat dissipation is required, such as liquid cooling plates and pipes



microTIM by Henkel
cool technology for hyperscale performance

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henkel-adhesives.com/electronics

Henkel Corporation
18930 West 78th Street
Chanhassen, MN 55317
United States
+1.800.347.4572

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