

N-TEM54

Non-Silicone Thermal Conductive RF Absorber Pad

LiPOLY N-TEM54 is a thermally conductive absorber based upon soft magnetic materials dispersed in a non-silicone resin. It has a thermal conductivity of 4.0 W/m*K and dissipates electromagnetic radiation rapidly to mitigate against EMI issues.

■ FEATURES

- / Thermal conductivity: 4.0 W/m*K
- / Excellent absorption characteristics
- / Naturally tacky
- / Reworkable

■ TYPICAL APPLICATION

- / IC, CPU, MOS, LED, M/B, Heat sink
- / LCD-TV, Notebook PC, PC, Telecom device, Wireless hub
- / DDR II module, DVD applications, Hand-set applications
- / 5G base station & infrastructure
- / EV electric vehicle

■ SPECIFICATIONS

- / Sheet form
- / Die-cut parts

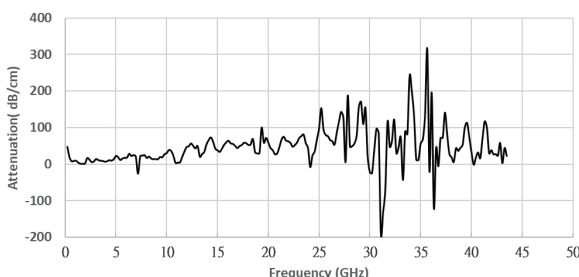
■ FREQUENCY APPLICATION

- 2.4 GHz Wi-Fi Router , Bluetooth
- 3.5 GHz 5G Mobile Networks
- 5.0 GHz Wi-Fi Router
- 6.0 GHz Wi-Fi Router
- 12~18 GHz Low Earth Orbit (LEO) System
- 28 GHz 5G Mobile Networks
- 39 GHz 5G Mobile Networks

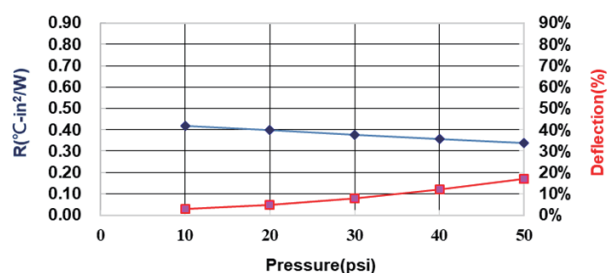
■ TYPICAL PROPERTIES

| PROPERTY | N-TEM54 | TEST METHOD | UNIT |
|-------------------------------|-------------------|-------------------|------------------------|
| Color | Dark Gray | Visual | - |
| Surface tack 2-side/1-side | 2 | - | - |
| Thickness | Customized | ASTM D374 | mm |
| Density | 3.6 | ASTM D792 | g/cm ³ |
| Hardness | 75 | ASTM D2240 | Shore OO |
| TML | <0.8 | By LiPOLY | % |
| Application temperature | -60~130 | - | °C |
| ROHS & REACH | Compliant | - | - |
| COMPRESSION@1.0mm | | | |
| Deflection @10 psi | 3 | ASTM D5470 modify | % |
| Deflection @20 psi | 5 | ASTM D5470 modify | % |
| Deflection @30 psi | 8 | ASTM D5470 modify | % |
| Deflection @40 psi | 12 | ASTM D5470 modify | % |
| Deflection @50 psi | 17 | ASTM D5470 modify | % |
| EMI Attenuation @1.0mm | | | |
| EMI attenuation@ 2.4 GHz | 12 | ASTM D4935 modify | dB/cm |
| EMI attenuation@ 3.5 GHz | 9 | ASTM D4935 modify | dB/cm |
| EMI attenuation@ 5.0 GHz | 22 | ASTM D4935 modify | dB/cm |
| EMI attenuation@ 6.0 GHz | 18 | ASTM D4935 modify | dB/cm |
| EMI attenuation@ 12 GHz | 47 | ASTM D4935 modify | dB/cm |
| EMI attenuation@ 18 GHz | 53 | ASTM D4935 modify | dB/cm |
| EMI attenuation@ 28 GHz | 118 | ASTM D4935 modify | dB/cm |
| EMI attenuation@ 39 GHz | 49 | ASTM D4935 modify | dB/cm |
| ELECTRICAL | | | |
| Surface resistivity | >10 ¹¹ | ASTM D257 | Ohm |
| Volume resistivity | >10 ¹⁰ | ASTM D257 | Ohm-m |
| THERMAL | | | |
| Thermal Conductivity | 4.0 | ASTM D5470 | W/m*K |
| Thermal impedance@10 psi | 0.419 | ASTM D5470 | °C-in ² / W |
| Thermal impedance@20 psi | 0.399 | ASTM D5470 | °C-in ² / W |
| Thermal impedance@30 psi | 0.377 | ASTM D5470 | °C-in ² / W |
| Thermal impedance@40 psi | 0.357 | ASTM D5470 | °C-in ² / W |
| Thermal impedance@50 psi | 0.338 | ASTM D5470 | °C-in ² / W |

Attenuation



Thermal Resistance vs. Pressure vs. Deflection



Note: All specifications provided by LiPOLY are subject to change without notice. The test methods used by LiPOLY are based on the TIM Tester method and ASTM D5470 test method. These test methods are used as the definition standards for LiPOLY. Property values provided in this document are not for product specifications or guaranteed. This document does not guarantee the performance and quality required for the purchaser's specific purpose. The purchaser needs to evaluate and verify the safety before using the material. We strongly recommend the purchaser pre-test the product and verify the performance of the product under the purchaser's specific conditions. Liability and use of the product are the responsibility of the end user. LiPOLY makes no warranty as to the suitability, merchantability, or non-infringement of any LiPOLY material or product for any specific or general uses. LiPOLY shall not be liable for incidental or consequential damages of any kind. All LiPOLY products are sold in accordance with the LiPOLY Terms and Conditions in effect at the time of purchase and a copy of which will be furnished upon request. All rights reserved, including LiPOLY trademarks or registered trademarks of LiPOLY or its affiliates. Statements concerning possible or suggested uses made herein shall not be relied upon or be constructed as a guaranty of patent infringement. Copyright 2023 LiPOLY.