

GOF3000 Thermal & EMI Gasket

Electrically Conductive Thermal Gasket



GOF3000 ELECTRICALLY CONDUCTIVE THERMAL GASKET

Laird's Graphite-over-Foam (GOF), GOF3000 thermal and EMI gasket, provides thermal transfer performance in the form of a traditional wrapped compressible foam gasket, and contains an additional outside layer for electrical conductivity. This combination allows for the replacement of electrically conductive foams or fabric-over-foam gaskets with a gasket that can not only provide excellent EMI shielding but also a highly effective thermal transfer pathway. GOF3000 can simplify system design with economical system space usage through a multifunctional component. GOF3000 combines the thermal transfer performance of Laird's Tgon™ 9000 synthetic graphite, copper's electrical conductivity, and the repeatable compression and rebound of the foam core. GOF3000 utilizes a silicone foam core for lower compression force and UL94 V0 flammability rating.

FEATURES AND BENEFITS

- Efficient thermal transfer over large gaps
- Electrical conductivity for EMI grounding
- High deflection & low force
- Repeatable compression and rebound cycles
- No bleed from silicone oil or other materials
- Lightweight
- Abrasion resistant exterior
- Ease of manufacturing for high volume
- UL94 V0 flammability rating

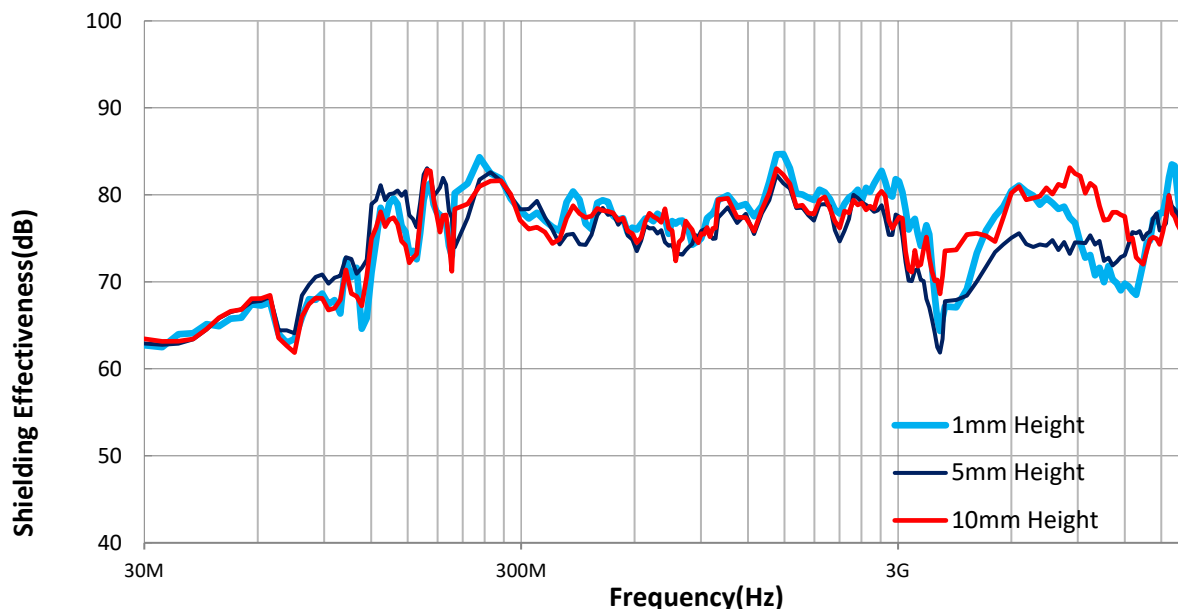
VALUE

- Provides compressible thermal interface for sliding connections. Ideal for insertion applications
- Exceptional thermal transfer over large gap sizes, allowing for simplified thermal system design from component directly to the enclosure without heat pipes
- Space saving combining your EMI shielding and thermal management into one part
- Ensures thermal interface contact in high vertical movement locations that would separate a traditional thermal putty, gel, or grease
- Improved reliability performance of electronics with no bleed
- Environmentally friendly solution meets including RoHS and REACH

PRODUCT PROPERTIES	GOF3000 TYPICAL VALUES
Color	Copper
UL Flammability	UL94 V0 (pending), Passed in-house testing
Standard Thicknesses (mm)	1.1, 1.8, 2.6, 3.5, 5.0, 6.6, 9.7, 13.0
Thickness Tolerance	+/-0.3 mm (1.1 – 2.6 mm THK.) +/-0.5 mm (3.5 – 6.6 mm THK.) +/-0.7 mm (9.7 mm THK.) +/-1.0 mm (13.0 mm THK.)
Width Tolerance	+/-0.5 mm
Available Width Range	3 mm to 25 mm
Available Length Range	5 mm to 300 mm
Compression Set	<20% @ 100°C @ 168 hrs.
Shelf Life	12 Months at 23°C/60% R.H.
Recommended Compression Range	Target compression 25% 15% to 35% for <2mm thick 15% to 50% for >2mm thick

GOF3000 SHIELDING EFFECTIVENESS

Shielding Effectiveness of GOF3000
@50% Compression



PSA

GOF3000 uses a 30um thick PSA as standard and is advised to span the entire width of part bottom surface. All performance figures and testing were completed with PSA present. This 30um is included in the standard thickness listed in the chart above.

APPLICATION

GOF3000 parts should only be handled with gloves to avoid oxidation from contamination during handling. Parts stored properly might show slight oxidation over long periods of time but will have no effect on electrical or thermal resistance and overall product performance.

Small cosmetic wrinkles in the part exterior are to be expected in the uncompressed state and do not affect performance.

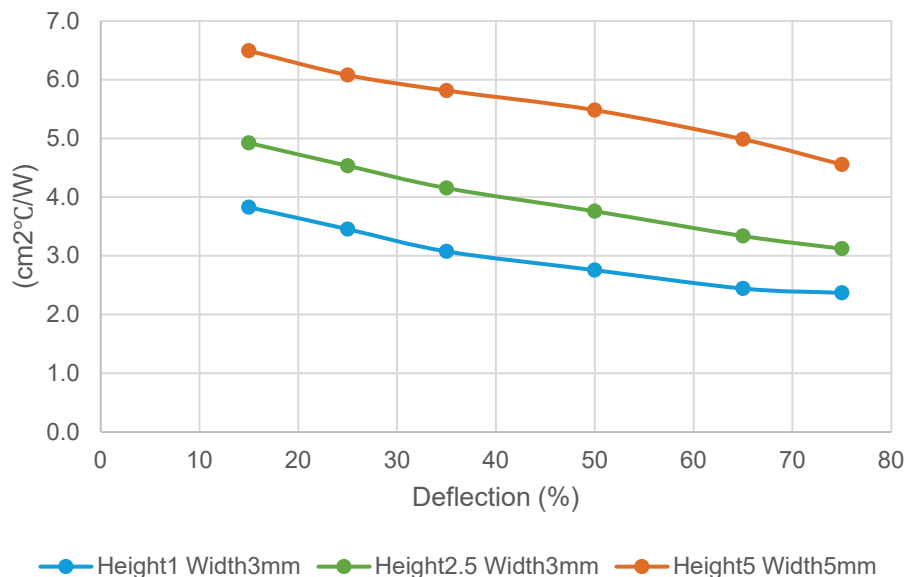
THERMAL CONDUCTIVITY & THERMAL RESISTANCE

Graphite over foam is not a homogeneous material and therefore thermal conductivity is not a constant value across the different configurations and sizes. The values in the chart below are only for comparison's sake to traditional thermal gap pads. Thermal resistance is the more indicative value for design evaluation. Below values are based on representative 3.0mm wide by 25mm long samples. Final part Tr and Tc can be measured and reported in prototype phase to confirm exact value for the configuration.

THERMAL RESISTANCE

GOF3000 Thermal Resistance

(Length 25mm with PSA)



THERMAL CONDUCTIVITY @ 25% COMPRESSION

	Height 1mm Width 3mm	Height 2.5mm Width 3mm	Height 5mm Width 5mm
Thermal Conductivity (W/mK)	2.2	4.1	6.2
Thermal Resistance (cm²°C/W)	3.5	4.5	6.1

GOF3000 FORCE AND ELECTRICAL RESISTANCE VS COMPRESSION %

