λ-Bridge Thermal Conductor

AVX RF

AVX's new λ-Bridge Thermal Conductor is manufactured with the highest quality materials for reliable and repeatable performance providing a cost effective thermal management solution. These devices are constructed with Aluminum Nitride (AlN) or Beryllium Oxide (BeO) and are available in standard EIA form factors.

λ-Bridge provides the designer with the ability to manage thermal conditions by directing heat to a thermal ground plane, heat sink or any other specific thermal point of interest. The inherently low capacitance makes this device virtually transparent at RF/microwave frequencies. This device has the added benefit of offering additional layers of protection to adjacent components from hot spot thermal loads.

λ-Bridge provides the benefit of increased overall circuit reliability. AVX's λ-Bridge is manufactured using one-piece construction, providing a RoHS compliant SMT package that is fully compatible with high speed automated pick-and-place processing. It is available in 0302, 0402, 0603 and 0805 EIA case sizes. Custom configurations are also available.

FEATURES

- High Thermal Conductivity
- Low Thermal Resistance
- Low Capacitance
- Increases Circuit Reliability
- RoHS Compliant
- More efficient thermal management

APPLICATIONS

- GaN Power Amplifiers
- High RF Power Amplifiers
- Filters
- Synthesizers
- Industrial Computers
- Switch Mode Power Supplies
- Pin & Laser Diodes

FUNCTIONAL APPLICATIONS

- Between active device and adjacent ground planes
- Specific contact pad to case
- Contact pad to contact pad
- Direct component contact to via pad or trace
- Edges fully metalized

HOW TO ORDER

LB	03	A	25	W	H	T
λ-Bridge	**Case Size** OS = 0302 02 = 0402 03 = 0603 05 = 0805	**Substrate** A = AlN B = BeO	**Thickness** (mils)	**Style** W = Edge Wrap E = No Wrap	**Termination** H = Gold over Non-Magnetic Barrier Termination 7 = Gold over Magnetic Termination	**Packaging** T = 1000pcs., 7" reel T\500 = 500pcs., 7" reel C = Matrix Tray

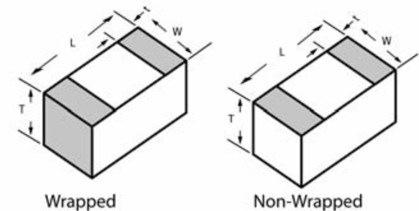
Consult factory for other termination options e.g., tin plate and solder plate

RoHS COMPLIANT

DIMENSIONS

mm (inches)

Size (EIA)	Length (L)	Width (W)	Standard Thickness (T, mils)		Termination (t)
			T1	T2	
0302	0.77 ± 0.051 (0.030 ± 0.002)	0.51 ± 0.051 (0.020 ± 0.002)	20	15	0.25 ± 0.051 (0.010 ± 0.002)
0402	1.02 ± 0.051 (0.040 ± 0.002)	0.51 ± 0.051 (0.020 ± 0.002)	20	15	0.25 ± 0.051 (0.010 ± 0.002)
0603	0.52 ± 0.051 (0.060 ± 0.002)	0.76 ± 0.051 (0.030 ± 0.002)	25	20	0.38 ± 0.051 (0.015 ± 0.002)
0805	2.03 ± 0.051 (0.080 ±.002)	1.27 ± 0.051 (0.050 ± 0.002)	40	25	0.51 ± 0.051 (0.020 ± 0.002)



Typical Characteristics

AlN Case Size	Thermal Resistance (°C/W)		Thermal Conductivity (mW/°C)		Capacitance Value (pF)*	
	Thickness T1	Thickness T2	Thickness T1	Thickness T2	Thickness T1	Thickness T2
0302	19	24	53	41	.08	.07
0402	25	32	40	30	.06	.05
0603	20	25	50	40	.08	.06
0805	10	16	100	60	.13	.08
BeO Case Size	**Thermal Resistance (°C/W)**		**Thermal Conductivity (mW/°C)**		**Capacitance Value (pF)***	
	Thickness T1	**Thickness T2**	**Thickness T1**	**Thickness T2**	**Thickness T1**	**Thickness T2**
0302	12	15	81	63	.07	.06
0402	16	21	61	46	.05	.04
0603	13	16	76	61	.06	.05
0805	7	11	153	92	.10	.07

Note: Thermal conductivity is normalized to chip size. All values are approximate. Consult factory for extended thermal conductivity options.
*Applies to wrapped versions only. Non-wrapped versions have lower capacitance.