

0505 0805
1005 1206

Therma-Bridge™

1020 2010
2512
2525 3725



Offers

Very high thermal dissipation

Protection of critical board components against heat

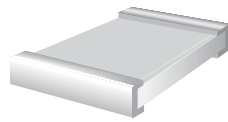
Optimal control over board temperature

Therma-Bridge™ AlN Thermal Management Device

The **ims** Aluminum Nitride (AlN) Therma-Bridge™ is a simple, cost effective device which aids in thermal management. Bridges are available in standard sizes and thicknesses. Custom sizes are also available on request. The Therma-Bridge™ is designed to transport heat from one location to another. Simply attach one terminal to the heat source, and the other terminal to a thermal plane or heat sink. Popular application configurations are shown on the reverse side. The Therma-Bridge™ has the following features:

- AlN substrate material
- Multiple sizes and thicknesses
- RoHS PtAg or Solder coated PtAg terminals for easy attachment

Terminal style



Full wraparound

Terminal materials:

- 3 ✓ PtAg (platinum silver) for epoxy or solder attachment
- C Solder coated PtAg for solder attachment

Thermal Conductivity

The table below lists the thermal resistance (in black) measured in degrees C per watt (°C/W) and the equivalent thermal conductivity, normalized to chip size, (in red) measured in milliwatts per degree C (mW/°C) for each Therma-Bridge™ size and thickness combination.

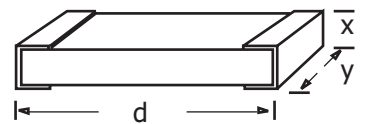
These values are based on the nominal thermal resistance of Aluminum Nitride. The values are approximate.

		NOMINAL THICKNESS			
		0.025" "G"		0.040" "T"	
CASE SIZE	0505	9°C/W	110mW/°C	N/A	N/A
	0603	18	53	N/A	N/A
	0805	14	71	N/A	N/A
	1005	18	56	N/A	N/A
	1206	19	53	N/A	N/A
	1020	3	210	3°C/W	340mW/°C
	2010	19	53	12	83
	2512	19	53	12	83
	2525	9	110	6	167
	3725	14	71	9	110

The values are calculated using material constants, the area of each chip face (x•y) and the thickness (d) of each device.

The thermal constant of AlN is: $k \sim 170 \left(\frac{W}{m \cdot ^\circ C} \right)$

Thermal resistance (Θ_R) is calculated as: $\Theta_R = \frac{d}{kA} = \frac{d}{k(x \cdot y)}$



Normalized thermal conductivity is the reciprocal of thermal resistance.

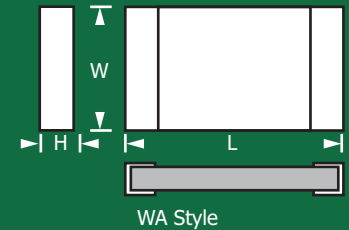
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See reverse for dimensional and ordering information

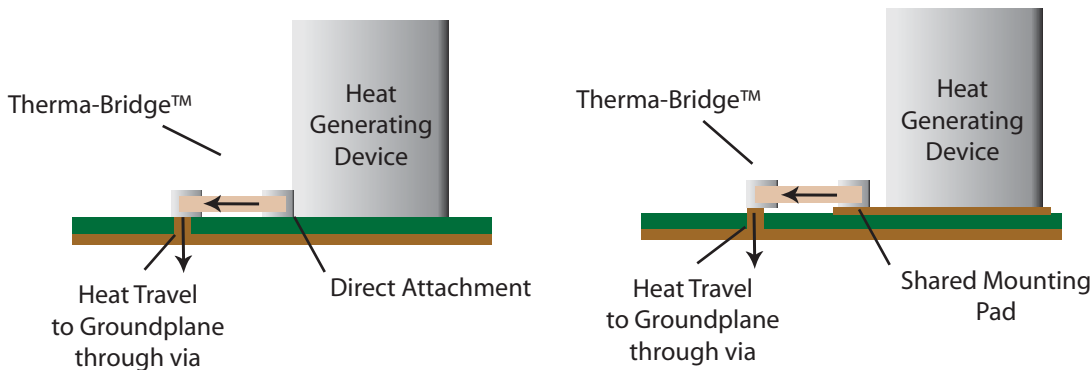
Dimensions

Case	Length	Width	Height Option 'G'	Height Option 'T'	Choose the height option that best suits your thermal conductivity needs (see chart on reverse) and build your Part Number below.
0505	0.050"	0.050"	0.035"Max	N/A	
0603	0.060"	0.030"	0.035"Max	N/A	
0805	0.080"	0.050"	0.035"Max	N/A	
1005	0.100"	0.050"	0.035"Max	N/A	
1206	0.126"	0.063"	0.035"Max	N/A	
1020	0.098"	0.197"	0.035"Max	0.050"Max	
2010	0.197"	0.098"	0.035"Max	0.050"Max	
2512	0.250"	0.120"	0.035"Max	0.050"Max	
2525	0.250"	0.250"	0.035"Max	0.050"Max	
3725	0.375"	0.250"	0.035"Max	0.050"Max	



Additional sizes and thicknesses available upon request. Please contact factory. For detailed dimensional information, outline drawing is available from factory.

Application Examples



Visit our
website for
more:
www.ims-resistors.com

Ordering Information

Example: 1206 Size Therma-Bridge™ on 0.025" substrate with PtAg terminations

Example: B G 3 - 1206 WA	
Substrate Thickness G - 0.025" T - 0.040" ¹	Wraparound Termination Style
Termination Material	Case Size
3 - PtAg	0505 1005 2010 3725
C - PtAg with Solder	0605 1206 2512
	0805 1020 2525

1. 0.040" Substrate available in sizes 2010 (or 1020) and larger