

## FEATURES

- High thermal conductivity
- Multiple sizes and thicknesses
- Electrically isolated thermal connection
- Optimal control over board temperature
- RoHS PtAg or solder coated
- PtAg terminals for easy attachment
- Protects Neighboring Components
- Multiple sizes and thicknesses

## APPLICATIONS

- RF Amplifiers
- Conduction Cooled Computers
- Power Supplies & Converters
- JTRS, MIDS-J, GMR, AMF
- Temperature Controlled Oscillators
- Lighting Ballasts
- Conduction Cooled Handheld Devices
- P25 Radios, Basestations & Repeaters
- Extracting Heat from Power FETS, LEDs, Pin & Laser Diodes

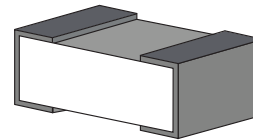
## DIMENSIONS

Part	Length	Width	Height (max)			
			C-0.010"	D-0.015"	G-0.025"	T-0.040"
0203 <sup>1</sup>	0.020"	0.030"	0.015"	N/A	N/A	N/A
0402 <sup>1</sup>	0.040"	0.020"	0.015"	N/A	N/A	N/A
0505	0.050"	0.050"	N/A	0.020"	0.035"	N/A
0510	0.050"	0.100"	N/A	0.020"	0.035"	N/A
0603	0.060"	0.030"	N/A	0.020"	0.035"	N/A
0605	0.060"	0.050"	N/A	0.020"	0.035"	N/A
0612	0.060"	0.120"	N/A	0.020"	0.035"	N/A
0805	0.080"	0.050"	N/A	0.020"	0.035"	N/A
1005	0.100"	0.050"	N/A	0.020"	0.035"	N/A
1206	0.120"	0.060"	N/A	0.020"	0.035"	N/A
1010	0.100"	0.100"	N/A	0.020"	0.035"	0.050"
1020	0.100"	0.200"	N/A	0.020"	0.035"	0.050"
2010	0.200"	0.100"	N/A	0.020"	0.035"	0.050"
2512	0.250"	0.120"	N/A	0.020"	0.035"	0.050"
2525	0.250"	0.250"	N/A	0.020"	0.035"	0.050"
3725	0.375"	0.250"	N/A	0.020"	0.035"	0.050"

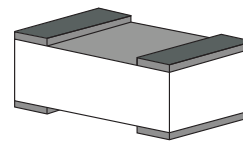
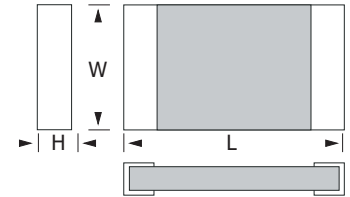
1. Only available in "C" Height and DS Style. Contact factory for additional sizes and thicknesses available upon request. For detailed dimensional information, outline drawings are available from factory. Choose the height option that best suits your thermal conductivity to build your part number.

## TERMINATIONS

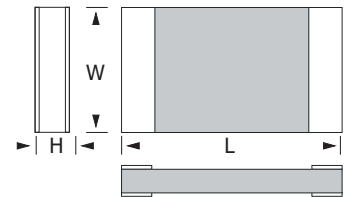
### Terminal Styles



WA - Full Wraparound



DS - Double Sided



### Termination Materials

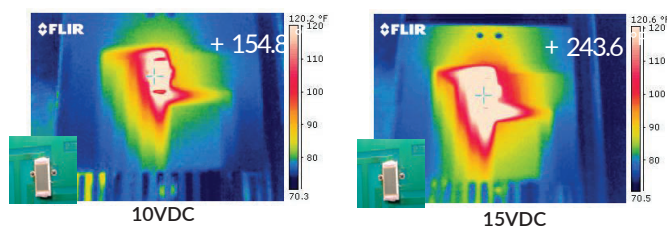
- ✓ - 3 PtAg
- ✓ - 8 PtAg ULR
- C PtAg w/ Sn62 Solder
- H PtAg w/ Sn62 Solder ULR
- ✓ - P PtAg w/ Sn96 Solder
- ✓ - R PtAg w/ Sn96 Solder ULR

DS only available in termination material 8, H & R

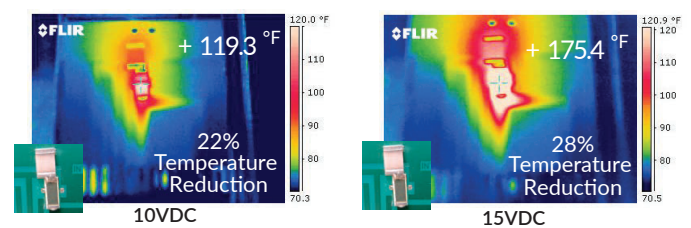
## THERMAL IMAGE HEAT TRANSFER DEMONSTRATION

Below is an actual test of the ThermaBridge™ showing a heat generating component mounted on an FR4 board. The images on the right show the temperature of the component being thermally aided by the ThermaBridge™ connected to a heat sink.

### Without ThermaBridge™



### With ThermaBridge™



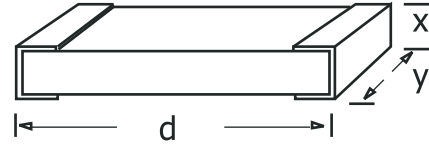
## THERMAL CONDUCTIVITY & ELECTRICAL CAPACITANCE

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

Normalized thermal conductivity is the reciprocal of thermal resistance.



## ORDERING INFORMATION

Ex: 1206 Size ThermaBridge™ on 0.025" substrate with PtAg terminals

	<b>B</b>	<b>G</b>	<b>3</b>	<b>-1206</b>	<b>WA</b>	
<b>Substrate Thickness</b>	-----		-----		-----	
C - 0.010" <sup>1</sup>	G - 0.025"				WA - Wraparound	
D - 0.015"	T - 0.040" <sup>2</sup>				DS - Metallization on both sides	
<b>Termination Material</b>	-----		-----		-----	
✓ - 3 PtAg					<b>Case Size</b>	
✓ - 8 PtAg ULR <sup>3</sup>					0203 <sup>1</sup> 0402 <sup>1</sup> 0505 0510	
C PtAg w/ Sn62 Solder					0603 0605 0612 0805	
H PtAg w/ Sn62 Solder ULR <sup>3</sup>					1005 1206 1010 1020 <sup>2</sup>	
✓ - P PtAg w/ Sn96 Solder					2010 <sup>2</sup> 2512 <sup>2</sup> 2525 <sup>2</sup> 3725 <sup>2</sup>	
✓ - R PtAg w/ Sn96 Solder ULR <sup>3</sup>						

For packaging options please visit our website  
[www.ims-resistors.com/packaging](http://www.ims-resistors.com/packaging)

RoHS Compliant = ✓

ULR = Ultra Leach Resistant

Choose the height option that best suits your thermal conductivity to build your part number.

Custom size available using standard available thicknesses. Consult factory.

1. "C" thickness only available in sizes 0203 & 0402. 2. "T" thickness only available in size 1010 and larger.  
3. "DS" (Double Sided) termination style only available in termination material 8, H & R.