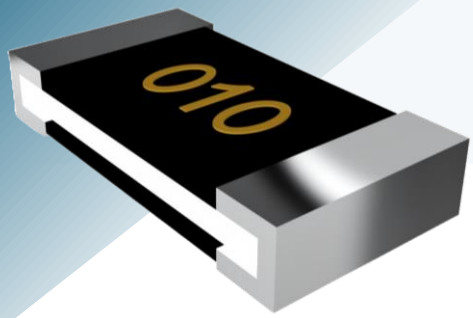


HRRCS Hi-Reliability Chip Resistor Arrays

FEATURES

- Metal foil technology
- High reliability and stability
- High power density
- Low temperature coefficient of resistance
- Available with Sn, Sn/Pb, Au terminals
- MIL-PRF-55342 and Space Level screening available

APPLICATIONS

- Aerospace
- Avionics
- Military
- Medical

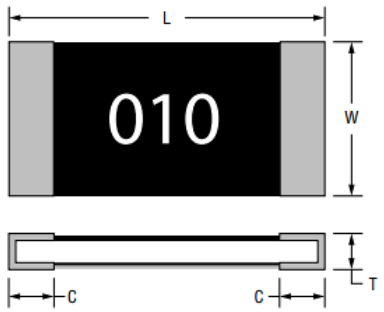
Electrical Characteristics

Characteristic	Model			
	HRRCS0402	HRRCS0603	HRRCS0805	HRRCS1206
Power Rating @ 70 °C	0.2 W	0.5 W	0.75 W	1 W
Resistance Value	10 mΩ 20 mΩ	5 mΩ 10 mΩ 20 mΩ	5 mΩ 10 mΩ 20 mΩ 30 mΩ	5 mΩ 10 mΩ 20 mΩ 40 mΩ
Tolerance	±1%, ± 5%			
Operating Temperature Range	-55°C to +125°C	-55C °C to +155 °C		
Temperature Coefficient of Resistance	±100 PPM/°C	±50 PPM/°C and ±100 PPM/°C		

Product Dimensions

mm (inches)

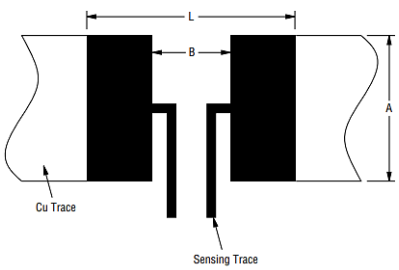
Model	L	W	C	T
HRRCS0402	1.10 ± 0.10 (0.043 ± 0.004)	0.55 ± 0.10 (0.022 ± 0.004)	0.25 ± 0.10 (0.010 ± 0.004)	0.45 ± 0.10 (0.018 ± 0.004)
HRRCS0603	1.60 ± 0.20 (0.063 ± 0.008)	0.80 ± 0.20 (0.031 ± 0.008)	0.40 ± 0.20 (0.016 ± 0.008)	0.60 ± 0.20 (0.024 ± 0.008)
HRRCS0805	2.00 ± 0.20 (0.079 ± 0.008)	1.25 ± 0.20 (0.049 ± 0.008)	0.40 ± 0.20 (0.016 ± 0.008)	0.70 ± 0.20 (0.028 ± 0.008)
HRRCS1206	3.20 ± 0.20 (0.126 ± 0.008)	1.60 ± 0.20 (0.063 ± 0.008)	0.50 ± 0.20 (0.020 ± 0.008)	0.70 ± 0.20 (0.028 ± 0.008)



Recommended Pad Layout

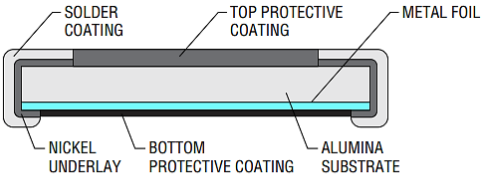
mm (inches)

Model	R (Resistance in mΩ)	A	L	B
HRRCS0402	10 ⩽ R ⩽ 20	0.70 (0.028)	1.20 (0.047)	0.45 (0.018)
HRRCS0603	5 ⩽ R ⩽ 20	1.00 (0.039)	2.80 (0.110)	0.60 (0.024)
HRRCS0805	5 ⩽ R ⩽ 30	1.40 (0.055)	3.20 (0.126)	1.20 (0.047)
HRRCS1206	5⩽ R ⩽ 20	1.80 (0.071)	4.70 (0.185)	1.60 (0.063)
	R = 40			2.20 (0.087)



AEM, INC.'s HRRCS Hi-Reliability Chip Resistor Arrays

Construction



Typical Part Marking

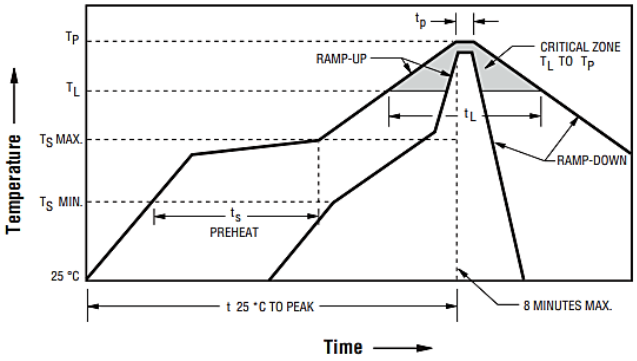
HRRCS0805
HRRCS1206

005 = 5 mΩ
010 = 10 mΩ
020 = 20 mΩ
030 = 30 mΩ
040 = 40 mΩ

HRRCS0402
HRRCS0603

No Marking

Reflow Soldering Recommendations



Soldering Profile	Lead Free Assembly
Average ramp-up rate ($T_S$max to T_P)	3 °C / second max.
Preheat: • Temperature Min. ($T_S$min) • Temperature Max. ($T_S$max) • Time ($T_S$min to $T_S$max) (t_s)	 • 150 °C • 200 °C • 60~150 seconds
Time maintained above: • Temperature (T_L) • Time (t_L)	 • 217 °C • 60~120 seconds
Peak Temperature (t_p)	260 °C
Time within +0/-5 °C of actual Peak Temperature (T_p)	10 seconds
Ramp-down rate	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

Standard Screening Options

- Option 1: 100% visual inspection per MIL-PRF-55342, AS9102 FAIR, MIL-STD-1580 DPA.
- Option 2: 100% Group A and B Screening per MIL-PRF-55342, AS9102 FAIR, MIL-STD-1580 DPA (see AEM detail specification for more details).
- Option 3: 100% Group A, B, and C Screening per MIL-PRF-55342, AS9102 FAIR, MIL-STD-1580 DPA (see AEM detail specification for more details).
- Option 4: 100% Group A, B, and Qualification Screening per MIL-PRF-55342, AS9102 FAIR, MIL-STD-1580 DPA (see AEM detail specification for more details).
- Option 5: Customer Source Control Drawing (SCD) defined screening. AEM will customize screening based on customer requirements.

Ordering Information

HRRCS 1206 - R020 F Z 1 PB

HRRCS - Hi-Reliability Chip Resistor Arrays

1206 - EIA Package Size

R020 - Resistance Code

J - Resistance Tolerance (F = 1% , J = 5%)

X - TCR (X = ± 100 PPM/°C, Z = ± 50 PPM/°C)

Screening Options: 1, 2, 3, 4, 5 (see screening options on the left)

Terminal Code: PB - Sn/Pb plated; SN - Sn plated; AU – Au plated

Note : "R" (decimal point) followed by three significant digits (example: R005 = 0.005 ohms)

TÜV AS9100 MIL-STD-790