

# HRRCS High-Reliability Metal Foil Current Sensing Chip Resistor



## 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

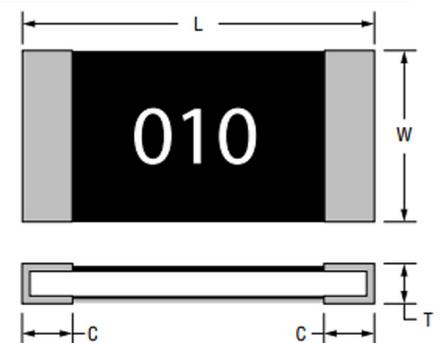
- Satellite/Spacecraft
- Aerospace
- Avionics
- Military

## Electrical Characteristics

Characteristics	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 30 mΩ 40 mΩ
Tolerance	±1%, ± 5%			
Operating Temperature Range	-55°C to +125°C	-55°C to +155 °C		
Temperature Coefficient of Resistance	±100 PPM/°C	±50 PPM/°C and ±100 PPM/°C		

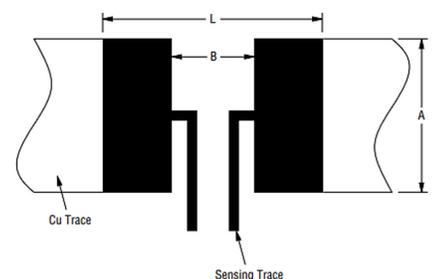
## Product Dimensions

Model	mm (inches)			
	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)



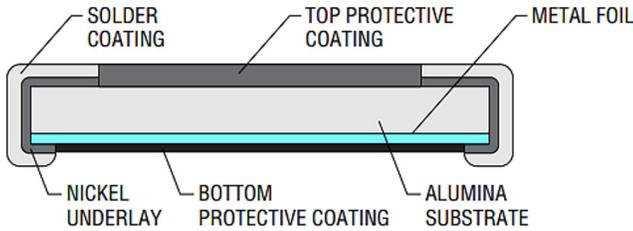
## Recommended Pad Layout

Model	mm (inches)			
	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)



# HRRCS High-Reliability Metal Foil Current Sensing Chip Resistor

## Construction



## Typical Part Marking



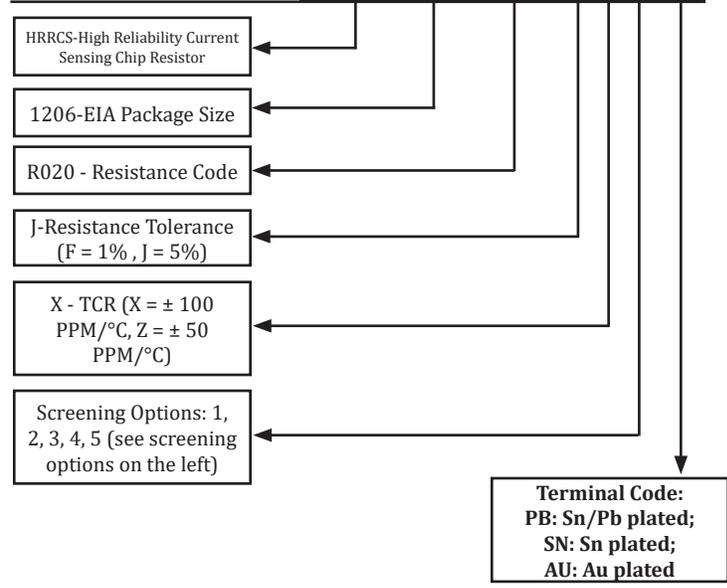
HRRCS0805 HRRCS1206	HRRCS0402 HRRCS0603
005 = 5 mΩ 010 = 10 mΩ 020 = 20 mΩ 030 = 30 mΩ 040 = 40 mΩ	No Marking

## Standard Screening Options

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

## Ordering Information

HRRCS 1206 R020 J X x x



## AEM part numbers:

AEM Part No.	Package Size	Resistance Code	Resistance Value (Ohms)	Resistance Tolerance	AEM Part No.	Package Size	Resistance Code	Resistance Value (Ohms)	Resistance Tolerance
HRRCS0402-R010FXxx	0402	R010	10m	1%	HRRCS0603-R010FZxx	0603	R010	10m	1%
HRRCS0402-R020FXxx	0402	R020	20m	1%	HRRCS0603-R020FZxx	0603	R020	20m	1%
HRRCS0402-R010JXxx	0402	R010	10m	5%	HRRCS0603-R005JXxx	0603	R005	5m	5%
HRRCS0402-R020JXxx	0402	R020	20m	5%	HRRCS0603-R010JXxx	0603	R010	10m	5%
HRRCS0603-R005FXxx	0603	R005	5m	1%	HRRCS0603-R020JXxx	0603	R020	20m	5%
HRRCS0603-R010FXxx	0603	R010	10m	1%	HRRCS0603-R005JZxx	0603	R005	5m	5%
HRRCS0603-R020FXxx	0603	R020	20m	1%	HRRCS0603-R010JZxx	0603	R010	10m	5%
HRRCS0603-R005FZxx	0603	R005	5m	1%	HRRCS0603-R020JZxx	0603	R020	20m	5%

# HRRCS High-Reliability Metal Foil Current Sensing Chip Resistor

## AEM part numbers (Continue):

AEM Part No.	Package Size	Resistane Code	Resistance Value (Ohms)	Resistance Tolerance	AEM Part No.	Package Size	Resistane Code	Resistance Value (Ohms)	Resistance Tolerance
HRRCS0805-R010JXxx	0805	R010	10m	5%	HRRCS1206-R006FXxx	1206	R006	6m	1%
HRRCS0805-R020JXxx	0805	R020	20m	5%	HRRCS1206-R010FXxx	1206	R010	10m	1%
HRRCS0805-R030JXxx	0805	R030	30m	5%	HRRCS1206-R020FXxx	1206	R020	20m	1%
HRRCS0805-R005JZxx	0805	R005	5m	5%	HRRCS1206-R040FXxx	1206	R040	40m	1%
HRRCS0805-R010JZxx	0805	R010	10m	5%	HRRCS1206-R005FZxx	1206	R005	5m	1%
HRRCS0805-R020JZxx	0805	R020	20m	5%	HRRCS1206-R010FZxx	1206	R010	10m	1%
HRRCS0805-R030JZxx	0805	R030	30m	5%	HRRCS1206-R020FZxx	1206	R020	20m	1%
HRRCS0805-R005FXxx	0805	R005	5m	1%	HRRCS1206-R040FZxx	1206	R040	40m	1%
HRRCS0805-R010FXxx	0805	R010	10m	1%	HRRCS1206-R005JXxx	1206	R005	5m	5%
HRRCS0805-R020FXxx	0805	R020	20m	1%	HRRCS1206-R010JXxx	1206	R010	10m	5%
HRRCS0805-R030FXxx	0805	R030	30m	1%	HRRCS1206-R020JXxx	1206	R020	20m	5%
HRRCS0805-R005FZxx	0805	R005	5m	1%	HRRCS1206-R040JXxx	1206	R040	40m	5%
HRRCS0805-R010FZxx	0805	R010	10m	1%	HRRCS1206-R005JZxx	1206	R005	5m	5%
HRRCS0805-R020FZxx	0805	R020	20m	1%	HRRCS1206-R010JZxx	1206	R010	10m	5%
HRRCS0805-R030FZxx	0805	R030	30m	1%	HRRCS1206-R020JZxx	1206	R020	20m	5%
HRRCS0805-R005JXxx	0805	R005	5m	5%	HRRCS1206-R040JZxx	1206	R040	40m	5%
HRRCS1206-R005FXxx	1206	R005	5m	1%	Note: Last (xx) are screening and termination codes respectively. (From left to right)				

Note: Other resistor values maybe available within same size and tolerances. Contact AEM for info.

