

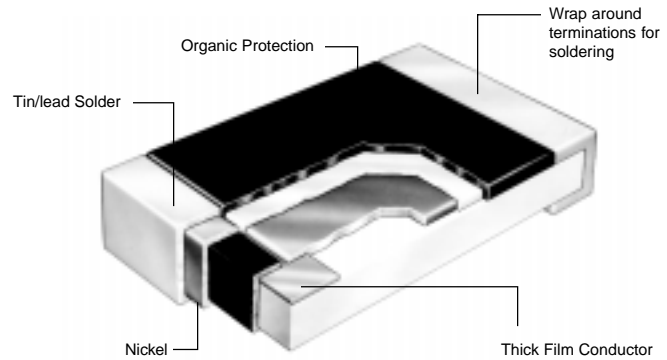
HIGH VALUE SURFACE MOUNT RESISTOR

ISO-9001 Registered



HR SERIES

- 100M ohms to 50G ohms
- Low voltage coefficient of resistance



SPECIFICATIONS:

IRC Type	Resistance Range (ohms) (measured at 10 volts)	Limiting Element Voltage (volts)	Operating Temperature Range (°C)	TCR (ppm/°C) (measured at 10 volts)	Resistance Tolerance (%)
0805	100M to 50G	100	-55 to +125	0 to -2000	100M to 1G: 5, 10 >1G to 50G: 25, 50
1005	100M to 50G	150	-55 to +125	0 to -1500	
1206	100M to 50G	200	-55 to +125	0 to -1000	

Power Rating:

The high resistance value of these devices is such that power dissipation is always small. The rating is therefore determined by voltage considerations only, as shown in the table above.

Construction:

The resistor material is screen printed onto a 96% alumina substrate and covered with a protection comprising of a glaze followed by an organic coating. This construction gives an insulated device.

Thickness:

The thickness of these devices depend on the size of the chip. The table below shows the standard substrate thickness used. (mm)

Terminations:

Wrap-around terminations on HR resistors have good 'leach' resistance properties. They will withstand immersion in solder at 260°C for 30 seconds.

STYLE	0503	0805	1005	1206
Planar	0.63	0.4	0.63	0.5
Wrap-around	N/A	0.4	N/A	0.5

F = wrap around; G = planar gold.

Marking:

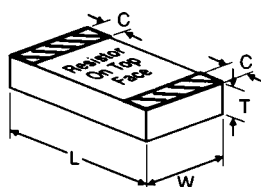
All relevant information is recorded on the primary package or reel.

DIMENSIONS (Inches and (mm)):

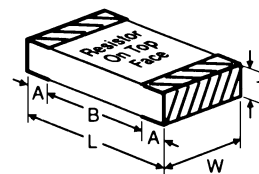
Style	L	W	T	Wrap Around		Planar	Weight (g)
				A	B*	C	
0805	.079±.012 (2.0±0.3)	.049±.008 (1.25±0.2)	.027 (.07)	.012±.006 (0.3±0.15)	.035 (0.9min)	.012±.004 (0.3±0.1)	0.009
1005	.098±.012 (2.5±0.3)	.049±.008 (1.25±0.2)	.027 (.07)	not available		.016±.006 (0.4±0.15)	0.015
1206	.126±.016 (3.2±0.4)	.063±.008 (1.6±0.2)	.027 (.07)	.016±.008 (0.4±0.2)	.067 (1.7min)	.016±.006 (0.4±0.15)	0.020

* This dimension determines the number of conductors which may pass under the surface mounted device.

Planar Terminations



Wrap Around Terminations (3 Faces)





HR SERIES PERFORMANCE DATA:

		Maximum	Typical
Load at rated voltage: 1000 hrs at 70°C	ΔR%	2	1
Shelf life: 12 months at room temperature	ΔR%	2	1
Dry heat: 1000 hrs at 125°C	ΔR%	2	0.5
Temperature rapid change	ΔR%	1	0.3
Change on Wave Soldering	ΔR%	1	0.5
Voltage proof	volts	100	200
Voltage coefficient of resistance (10V - 25V)	%volts		
	0805	1.0	0.4
	1005	0.8	0.3
	1206	0.2	0.05

APPLICATION NOTES:

Mounting

This chip resistor is ideally suited for handling by automatic methods due to its rectangular shape and the small dimensional tolerances. Electrical connection to a ceramic substrate or to a printed circuit board can be made by reflow soldering of wrap-around terminations. The 'F' terminations provide good leach properties and ensure reliable contact. Due to the robust construction the resistor chip can be immersed completely in the solder bath for 30 seconds at 260°C. This enables the resistor to be mounted on one side of a printed circuit board and other wire-led components on the other side. The presence of moisture will not damage the resistor in any way.

HOW TO ORDER

Specify type reference etc. as indicated in this example of a HR0805F 100M ohms 5% resistor with wrap around terminations and packed in a waffle pack. 1005 is available in Waffle Pack only.

Sample Part No.:

