

High Value Surface Mounted Resistor

• **FEATURE:**

- Custom designs / sizes available.
- Resistance range to 50G ohms.
- Termination available for wire bonding or soldering.
- Low voltage coefficient of resistance.



• **ELECTRICAL DATA**

■ **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 below.

Style	*Resistance Range (Ω)	Rated Vol.	Temperature	TCR (ppm/°C)	Tolerance
MQHR0503	10M to 500M	50V (max)	-55 to +155°C	0 to 2500 ppm	±10%.
	501M to 20G				±25%, ±50%.
MQHR0805	100M ~ 1G	100V(max)	-55 to +155°C	0 to 2000 ppm	±5%, ±10%.
	1.1G ~ 50G				±25%, ±50%.
MQHR1005	100M ~ 1G	150V(max)	-55 to +155°C	0 to 1500 ppm	±5%, ±10%.
	1.1G ~ 50G				±25%, ±50%.
MQHR1206	100M ~ 1G	200V(max)	-55 to +155°C	0 to 1000 ppm	±5%, ±10%.
	1.1G ~ 50G				±25%, ±50%.

■ Notes: Measured at 10 volts.

*Higher values available, consult factory for details.

• **ORDERING PROCEDURE**

Example: MQHR0503KN10GR

Style	Rated	Part No.	Tol.	T.C.R/(°C)	Resistance	Package
0503	50V (max)	MQHR0503	M = ±20%	F=±200ppm	10M	TB = T/Box.
0805	100V (max)	MQHR0805	K = ±10%	G=±300ppm	100M	B = Bulk
1005	150V (max)	MQHR1005	J = ±5%	N = No specified	1G	R=Reel Type
1206	200V (max)	MQHR1206	Y = ±50%		10G	

Example: MQHR 1206 with solderable wraparound termination at 10 gigohms and 50% tolerance, on a reel of up to 3000 pieces.


Body Marking

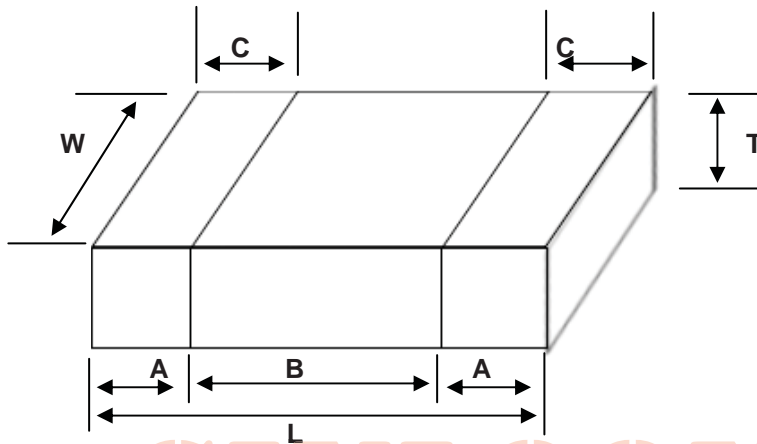


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High Value Surface Mounted Resistor

• PHYSICAL DATA

Style	L	W	T (max)	Dimension (mm) & Weight (g)			Weight	Tape Reel Package
				Wrap around		Planar		
				A	¹ B	C		
0503	1.25±0.2	0.63±0.15	0.5	Not available		0.2±0.1	0.005	
0805	2.0±0.3	1.25±0.2	0.6	0.3±0.15	0.9 min	0.3±0.1	0.009	
1005	2.5±0.3	1.25±0.2	0.7	Not available		0.4±0.15	0.015	
1206	3.2±0.4	1.6±0.2	0.7	0.4±0.2	1.7 min	0.4±0.15	0.02	



¹This dimension determines the number of conductors which may pass under the surface mounted device.

• Marking:

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

• Terminations

Planar (or single-sided) termination in gold and suitable for wire-bonding; wrap around in suitable for soldering.

• Solder ability

Wrap-around terminations on MQHR resistor have good "leach" resistance properties. They will withstand immersing in solder at 260°C for 30 seconds.

• 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.

• Packaging

Resistor chips are supplied taped and reeled on standard 8mm tape to IEC 286-3.

• Planar Terminations

Resistor chips are supplied in waffle packs.



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• PERFORMANCE DATA

Performance Data		Maximum	Typical
Load at power : 1000 hours 1t 70°C	△R%	2	1
Overload:	△R%	1	0.2
Shelf life: 12 months at room temperature:	△R%	2	1
Temperature rapid change:	△R%	1	0.3
Change on Wave Soldering:	△R%	1	0.5
Voltage proof:	volts	0503:100 ; 0805 to 1206 : 500	
Voltage coefficient of resistance (10V ~ 25V)	%/V		
	0805	1	0.4
	1005	0.8	0.3
	1206	0.2	0.05

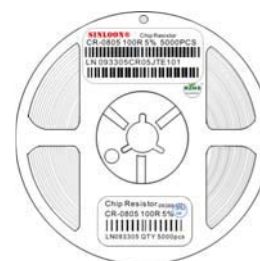
• APPLICATION NOTES

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 wire bonding to planar terminations or 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 in the solder bath for 30 seconds at 260°C. This enables the resistor to be mounted on one side of a printed circuit and Wire leaded components on the other side. The resistor must be kept dry during use to avoid leakage. The presence of moisture will not damage the resistor in any way.

• PACKAGE SPECIFICATION

Size	Type	Quantity(ea)			
	Style	Paper Reel Tape	In Box	Carton	
0503	MQHR0503	5,000 Pcs	7" Reel	50K pcs	300K pcs
0805	MQHR0805	5,000 Pcs	7" Reel	50K pcs	300K pcs
1005	MQHR1005	5,000 Pcs	7" Reel	50K pcs	300K pcs
1206	MQHR1206	5,000 Pcs	7" Reel	50K pcs	300K pcs



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