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SMD Chip E-beam Welding Alloy Resistor

Epoxy SMD Chip E-Beam Welding Alloy Resistor

high power, current sensing , excellent stability, AEC-Q200 compliant

Features:

- Electron-beam welding craf, pure copper electrode, Ideal solution for current detection applications
- high reliability and stability ,superb pulse load capability
- Coating with heat-resistant epoxy resin, excellent weather resistance
- Ultra-low thermal EMF
- Ultra-low parasitic inductance, fast response, suitable for high frequency AC current detection
- RoHS compliant
- customization

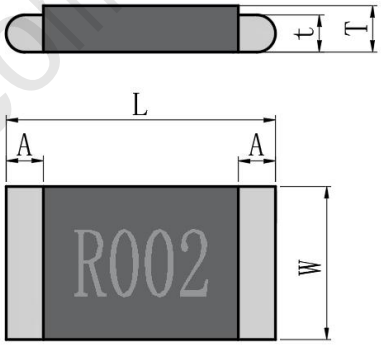
parameter:	
resistance value	1mΩ~100mΩ
tolerance	±1%(F),±5%(J)
TCR	Min.±50ppm/℃
temperature range	-55℃~ +170℃
inductance	<5nH
thermal EMF (0-100°C)	<1 μV/°C
power ($P_{70℃}$)	12W

Type Designation: WSMP4527MR002FT0 WSMP4527 manganese copper 2mohm 1% package with tape and reel

W	S	M	P	4	5	2	7	M	R	0	0	2	F	T	0

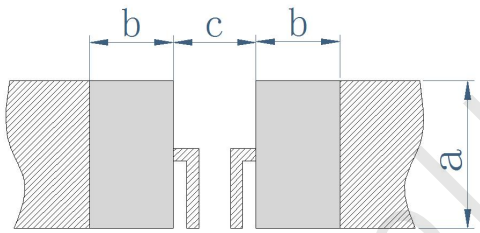
- WSMP: high power epoxy SMD chip alloy resistor
- Size: 4527
- material: M:manganese copper; K: Karma
- resistance value: R002 = 2mΩ; R020=20mΩ
- tolerance: F=±1%; J=±5%
- code: T0: package with tape and reel; B0: without tape and reel; Tx: special code(x: 0~9)

Dimensions(mm):



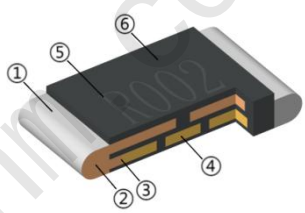
series	power	resistance value	tolerance	TCR	L (mm)	W (mm)	A (mm)	t (mm)	T (mm)
WSMP4527	12W	1-6mΩ	±1%(F) ±5%(J)	±75ppm	11.6±0.5	6.6±0.5	1.6±0.5	1.6±0.1	2±0.2
		7mΩ-100mΩ		±50ppm					

Recommended pad and size(mm):



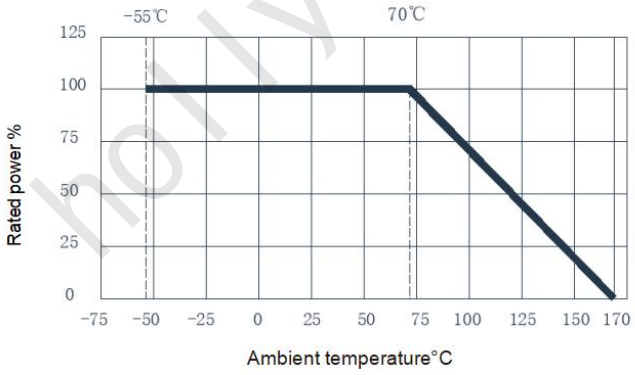
series	resistance value	a(mm)	b(mm)	c(mm)
WSMP4527	1mΩ~100mΩ	8.7	3.4	8

construction:



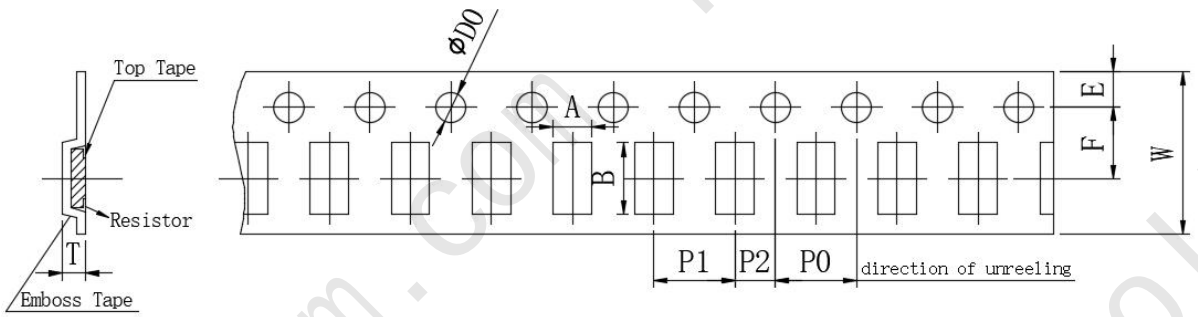
1.Ni and Sn plating on the surface of red copper
2.pure red copper terminal
3.electron-beam welding
4.Manganese copper/Karma
5.laser marking
6.epoxy resin

Derating Curve:

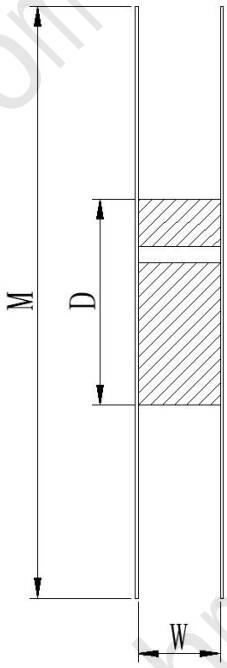


performance indicators:		
Test Item	**standard**	**Test method**
TCR	Within specified TCR	IEC60115-1 4.8，measured point 20°C～+130°C，reference point +20°C
Solderability	No visible damage 95%covered Minimum	IEC60115-1 4.17，245°C tin bath，3s
Short-time overload	No visible damage △R±1% Maximum	IEC60115-1 4.13，five times rated power，5s
Resistance to soldering heat	No visible damage △R±0.5% Maximum	IEC60115-1 4.18，260°C tin bath，maintaining10s
Base plate bending test	Within specified value	IEC60115-1 4.33，2mm，maintaining 60+5s
Flammability	Incomplete combustion, with the shim unignited and the pine wood board not charred	UL-94 V-0 or V- 1is acceptable，no need to do electrical test
Insulation resistance	1000MΩ, Minimum	IEC60115-1 4.6，Applying a direct current voltage of 100 V between the electrode and the substrate.，maintaining 60s，then test insulation resistance value
Withstand voltage	without breaking down or arc flash	IEC60115-1 4.7，Applying an AC VOLTS which the effective value is the maximum load voltage to the electrode and substrate at a rate of approximately 100 V/s, maintaining it for 60 ± 5 s.
Solvent resistance	signage intact	IEC60115-1之4.29，IPA，temperature of a solvent：23±5°C，maintaining 5±0.5min
High temp. & high humidity	No visible damage△R±1% Maximum	Applying 10% of the rated power (current) or the maximum current of the component (whichever is lower) for a duration of 1000 hours in a temperature of 85°C and a humidity of 85% according to MIL-STD-202 method 103
High temperature storage	No visible damage △R±0.5%Maximum	IEC60115-1 4.25.3，1000hours@170°C，without loading current and voltage
Low temperature load	No visible damage △R±0.5%Maximum	IEC60115-1 4.36，cooled from room temperature to -55°C ,no load for 1.5 hours,applying rated power,continuously flowing for 45 minutes,cool for 15 minutes，then recover to room temperature for testing again.
temperature cycle	No visible damage △R±1% Maximum	IEC60115-1 4.19，-55°C@30mins～+155°C@30mins；1000 cycles
load life	No visible damage △R±1.0% Maximum	IEC 60115-1 4.25.1，1000hrs.，70 ℃ ± 2 ℃，rated current, or the maximum current rating of the component (whichever is lower) is applied for 1.5 hours/0.5 hour interruption

Packing specifications and size (mm):



Type	A	B	W	E	F	P0	P1	P2	ΦD0	T	Quantity
4527	7.4	11.8	24	1.75	11.5	4	12	2	1.5	2.3	500



Reel Type	W	M	A	B	D
7"reel for24mm tape	25±0.5	Φ178±2.0	2.0±0.5	Φ13.5±0.5	Φ60.0±1.0

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version update record

Version NO.	update record	person in charge	Issue date
A0	Updated specification version	Sheguang Zhu	18Jan2022
A1	Updated performance metrics	Qingke Zeng	24Oct2023