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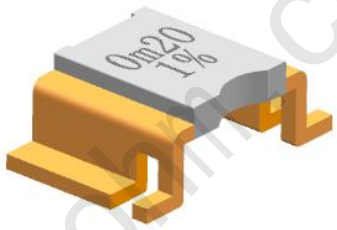
Kelvin detect precision alloy resistor

E-beam Welding Alloy Resistor

4-terminal SMD，current sensing，excellent stability，AEC-Q200



Features:

- E-beam welding craft，4-terminal，pure copper electrode，ideal solution for current detection applications
- high reliability and stability ,superb pulse load capability ,±0.5% tolerance
- full metal structure,pickling and passivating on the surface of metal ,vulcanization resistance, strong weather resistance
- Ultra-low parasitic inductance，fast response，suitable for high frequency AC current detection
- RoHS compliant
- customization

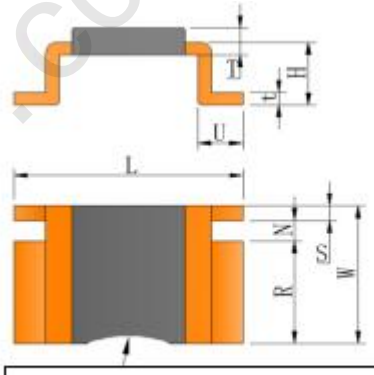
parameter:	
resistance value	0.2～5 mOhm
tolerance	±0.5%(D)，±1%(F)，±5%(J)
TCR	Min.25 ppm/℃
temperature range	-55℃ ~+170℃
inductance	<3nH
thermal EMF (0-100°C)	<1μV/ ℃
power ($P_{70℃}$)	Max.12W

Type Designation:WSKN4026ML200FT0 WSKN4026 manganese copper 0.2mohm 1% package with tape and reel

W	S	K	N	4	0	2	6	M	L	2	0	0	F	T	0

- WSKN: E-beam alloy resistor with 4-terminal current detecting
- Size: 4026
- material: M:manganese copper; K:Karma; F:Fe-Cr-Al
- resistance value: L200 =0.2mΩ; R001=1mΩ
- tolerance: D=±0.5%; F=±1%; J=±5%
- code: T0: package with tape and reel; B0: without tape and reel; Tx: special code(x: 0~9)

Dimensions(mm):

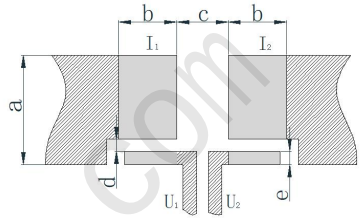


notice:side arc for resistance value refinement

series	resistance value	tolerance	L (mm)	W (mm)	R (mm)	N (mm)	S(mm)	U(mm)	H(mm)
WSKN4026	0.2～5mΩ	±0.5% ±1% ±5%	10.1±0.3	$6.6^{+0.35}_{-0.2}$	4.9±0.2	1.0±0.15	0.7±0.1	2.0±0.1	3.0±0.3

notice：word code marking as laser engraving,the "L" is used in the naming to indicate the mΩ and also show the decimal point position, which corresponds to the mark "m".For example：0m20=0.2mΩ ,the "R" is used in the naming to indicate the Ω and also show the decimal point position, which corresponds to the mark "R",for example :R001=1mΩ

Recommended pad and size(mm):



series	resistance value	a (mm)	b (mm)	c (mm)	d(mm)	e(mm)
WSKN4026	0.2～5mΩ	7.3	2.45	5.5	0.8	0.9

construction:

Derating Curve:

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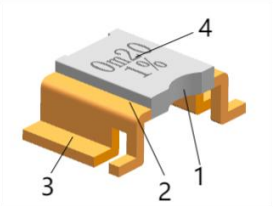
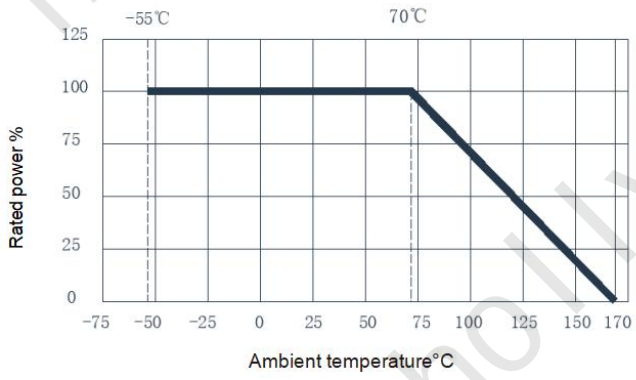


1.resistor body: manganese copper, Karma, Fe-Cr-AL, low TCR(<20ppm/℃)
2.E-beam welding
3.pur copper sampling with 4 terminal
4.laser marking



attached list:

Resistance value	material	T/mm Thickness of alloy	t/mm Thickness of red copper	TCR(ppm)	$P_{70℃}$	Resistance value	material	T/mm	t/mm	TCR(ppm)	$P_{70℃}$
0.2mΩ	M	1.3±0.1	0.6±0.1	±75	12	3mΩ	F	0.36 ±0.1	0.4±0.1	±25	5
0.3mΩ	M	1.2±0.1	0.6±0.1	±75	11	4mΩ	F	0.28 ±0.1	0.4±0.1	±25	4
0.5mΩ	M	0.68±0.1	0.68±0.1	±75	9	5mΩ	F	0.28 ±0.1	0.4±0.1	±25	3
0.7mΩ	M	0.48±0.1	0.48±0.1	±75	7	2mΩ	K	0.52 ±0.1	0.52±0.1	±50	6
1mΩ	M	0.35±0.1	0.4±0.1	±50	6	3mΩ	K	0.35 ±0.1	0.4±0.1	±50	5
2mΩ	F	0.55±0.1	0.55±0.1	±25	6	4mΩ	K	0.26 ±0.1	0.4±0.1	±50	4

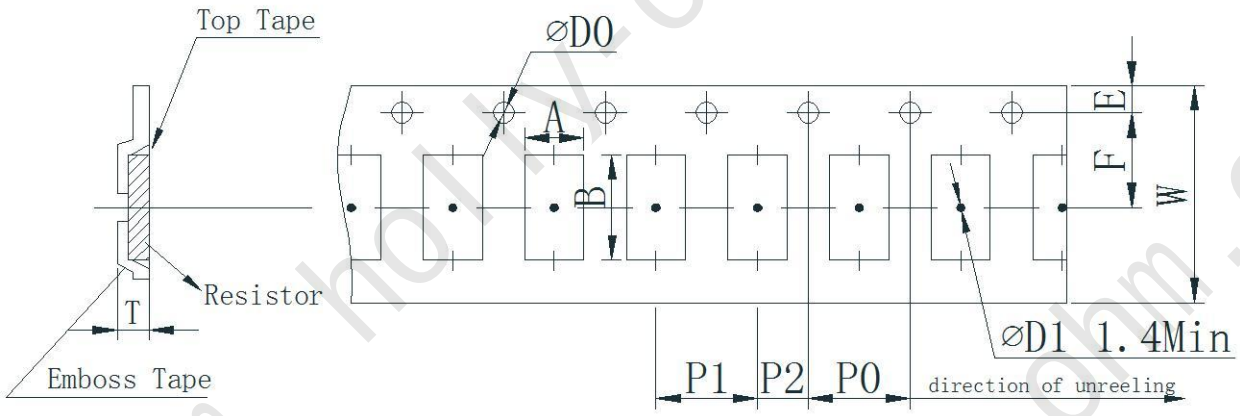
Notice:Fe-Cr-Al material has magnetic properties, which has an impact on the variable frequency current. Please be careful when selecting products.

performance indicators:

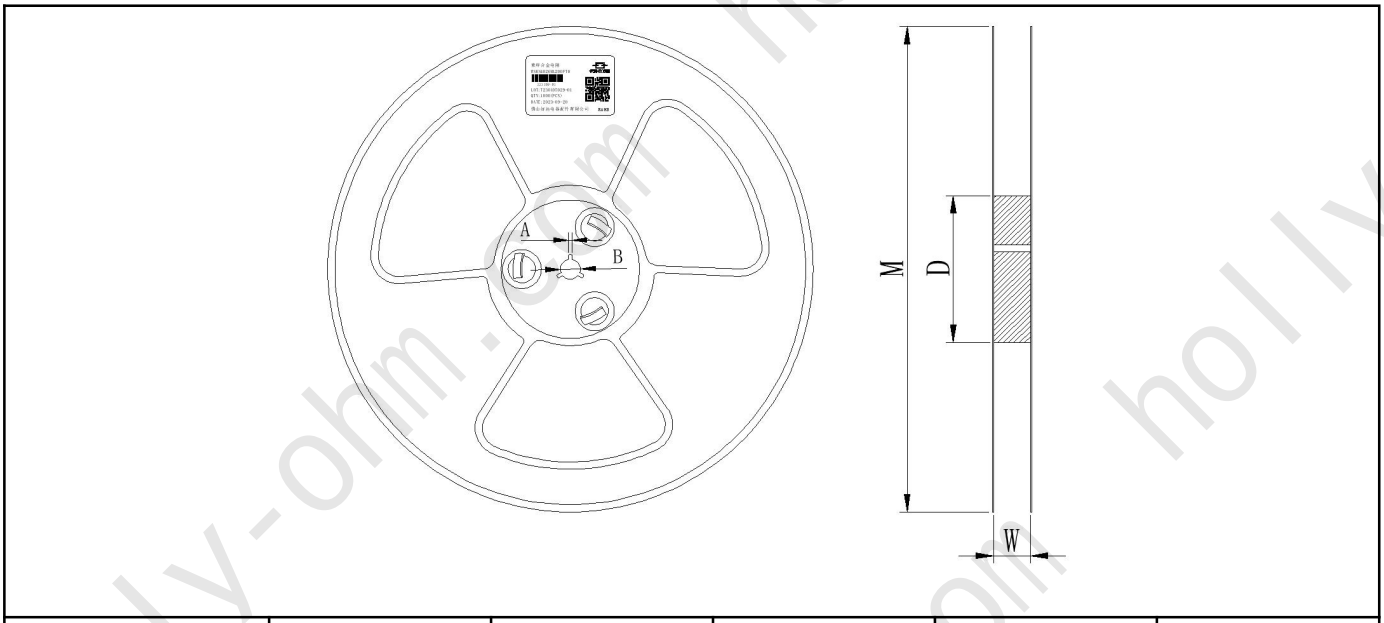
Test Item	standard	Test method
TCR	Within specified TCR	IEC60115-1 4.8, measured point 20°C ~ +130°C, reference point +20°C
Solderability	No visible damage 95%covered Minimum	IEC60115-1 4.17, 245°C tin bath, 3s
Short-time overload	No visible damage ▵R±1% Maximum	IEC60115-1 4.13, five times rated power, 5s

Resistance to soldering heat	No visible damage △R±0.5% Maximum	IEC60115-1 4.18，260°C tin bath，maintaining10s
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
WSKN4026	7.3	10.9	24	1.75	11.5	4	12	2	1.5	3.8	1000



Reel Type	W	M	A	B	D
13"reel for24mm tape	25±1	Φ330±2.0	2.0±0.5	Φ13.5±0.5	Φ99.0±1.0

version update record

Version NO.	update record	person in charge	Issue date
A0	Updated specification version	Sheguang Zhu	13Oct2022
A1	Updated performance metrics	Qingke Zeng	24Oct2023