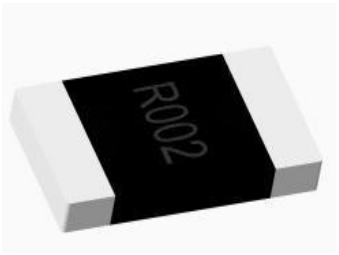
HoCG2728 SeriesAutomotive Grade Metal Alloy Resistors Datasheet

■ Features



① The first manufacturer of alloy resistors using high thermal conductivity epoxy resin in China.

② Eco-friendly laser-etched markings for a premium look.

③ Alloy chip, encapsulated for superior solderability, reliability, and overload ability.

④ Consistent performance, high precision, high reliability, high stability.

⑤ Low resistance temperature coefficient, ultra-low parasitic inductance, can be used for high-frequency AC current detection.

⑥ Compliant with ROHS and halogen-free requirements, automotive AEC-Q200 testing.

■ Application

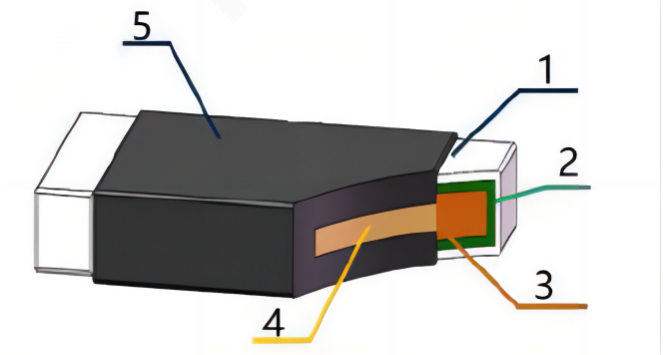
① Power Module ② Aerospace and military industry ③ BMS Management System ④ Automatic Control System

⑤ Control unit forautomotive modules ⑥ Variable frequency drive ⑦ Servo drive system ⑧ Industrial equipment

■ Product electrical parameters

Part No.	Power	Resistance Range	TCR	Operating temperature range	Tolerance	Max. Rated Current	Max. Overload Current	Inductance
2728	5W	0Ω	/	-55℃~+170℃	±0.1% ±0.2% ±0.5% ±1% ±5%	250A	/	< 3nH
	5W	0.5mΩ、1mΩ、2mΩ、3mΩ	±50ppm			100A	223.60A	
	4W	4mΩ~100mΩ	±25ppm			31.62A	70.71A	

■ Product Structure



No.	Layer Name
1	Tin
2	Nickel
3	Copper
4	Alloy body
5	Plastic

High-tech enterprises IATF16949 ISO9001 RoHS REACH AEC-Q200

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■ Product Selection

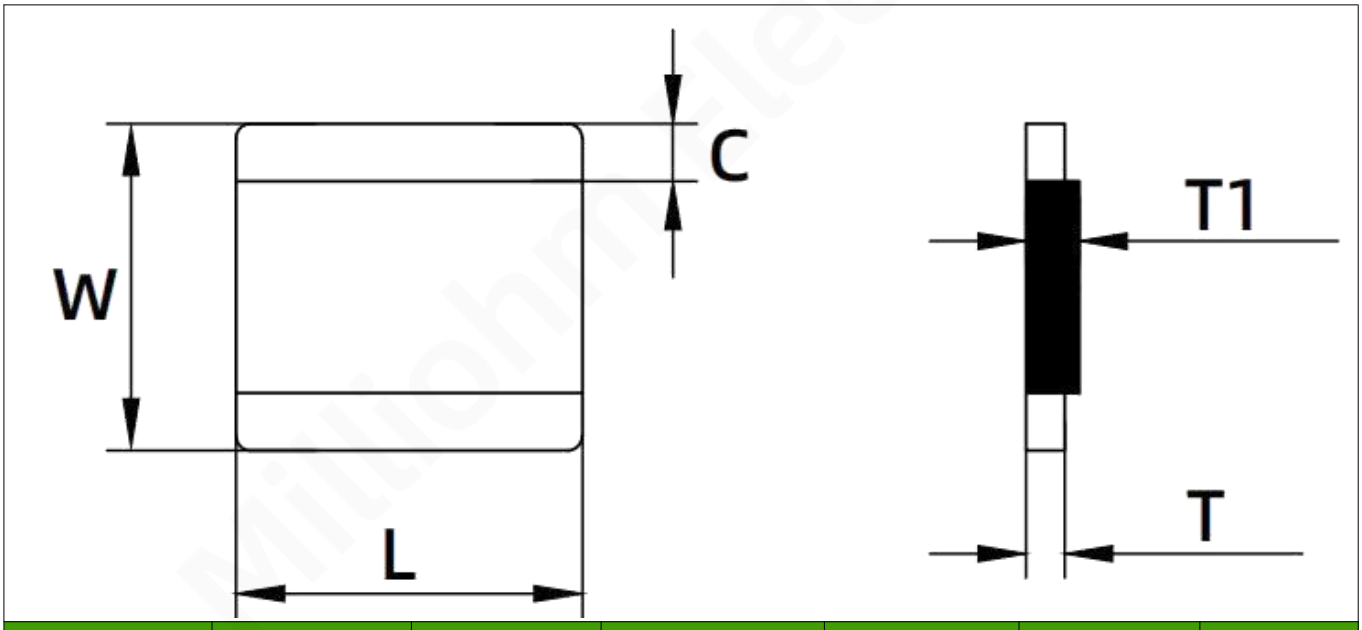
Selection Example: **HoCG2728 4 R005 F 1** Enclosure Alloy Resistors 2728 4W 5 mΩ 1%

H o C G 2 7 2 8 4 R 0 0 5 F 1

Manufacturer	Product Catagory	Package	power	Resistance	Tolearance	Packing Q'ty
Shenzhen Milliohm Electronic Ltd	Enclosure Alloy	2728	4=4W 5=5W	R001=1mR R004=4mR R050=50mR 0m50=0.5mR	A=0.1% C=0.2% D=0.5% F=1% J=5%	1=1000pcs

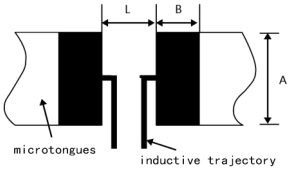
For the detail parameters , please check the following page

■ Dimension(Unit：mm)



Package	Resistance	L	W	C	T	T1
2728	0Ω~100mΩ	7.2±0.25	6.8±0.35	1.1±0.25	0.8±0.25	1.1±0.25

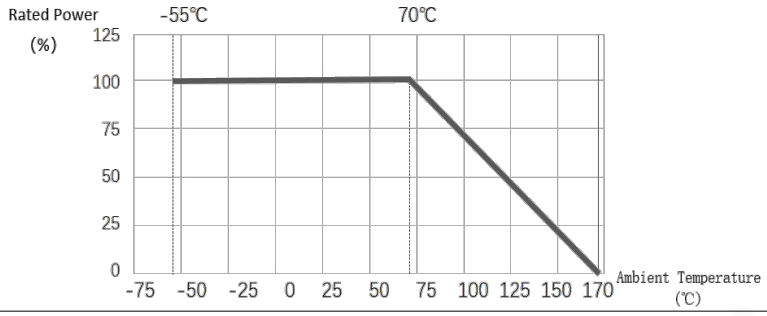
■ Recommended Pad Size



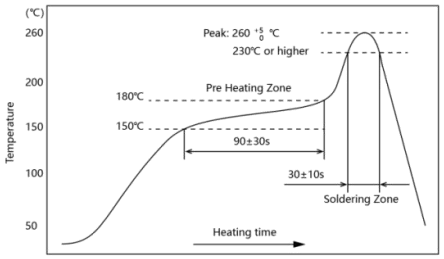
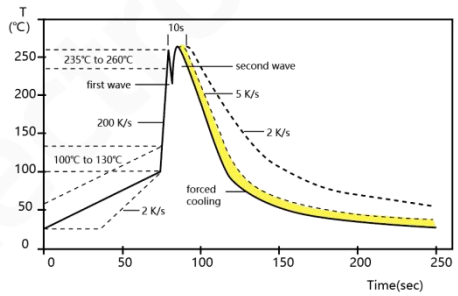
Resistance	A	L	B
0Ω~100mΩ	7.8	2.1	3.5

■ Power Curve

Power reduction diagram: Operating temperature range -55～+170 Resistance temperature reaches 70°C



■ Recommended welding parameters

Reflow soldering curve	Wave soldering curve
	

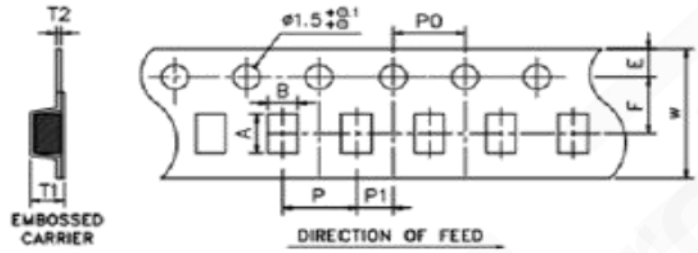
■ Reliability Test

Item	Standard	Testing Conditions	Testing Limit
Temperature coefficient	IEC60115-1-4.8 JIS-C5201-4.8	Test temperature +25～125℃ Reference temperature +25℃	Within specified value
Load Life	IEC60115-1-4.25.1 JIS-C5201-4.25.1	At rated power: 1000 hours, 70°C, " on" 1.5 hours, " off" 0.5 hours	No visible damage △R±1%
Short-term overload	IEC60115-1-4.13 JIS-C5201-4.13	5 times rated power, 5 seconds	No visible damage △R±1%
High temperature and High humidity	IEC60115-1-4.24.2.1a) JIS-C5201-4.24.2.1a)	85°C, 85% relative humidity, 1000 hours, load 10% rated power	No visible damage △R±1%
Temperature Cycle	IEC60115-1-4.19 JIS-C5201-4.19	-55@30min～+155@30min, 1000 cycles	No visible damage △R±0.5%
Withstand welding heat	IEC60115-1-4.18 JIS-C5201-4.18	260±5, 10±1sec	No visible damage △R±0.5%
Solderability	IEC60115-1-4.17 JIS-C5201-4.17	45±5, 2±0.5s	At least 95% of the electrode surface should be covered with new solder
High temperature storage	IEC60115-1-4.23.2 JIS-C5201-4.23.2	1000 hours @170, no load	No visible damage △R±1%
Low temperature storage	EC60115-1-4.23.4 JIS-C5201-4.23.4	1000 hours @-55, no load	No visible damage △R±1%
Substrate bending	IEC60115-1-4.33 JIS-C5201-4.33	2mm, holding time 60+5 seconds	Within specified value
Withstand voltage	IEC60115-1 4.7 JIS C 5201-1 4.7	Apply an AC voltage with an effective value of the maximum load voltage between the electrode and the substrate at a rate of about 100V/S for 60+5 seconds	No breakdown or arcing
Solvent resistance	IEC60115-1 4.29 JIS C 5201-1 4.29	Isopropyl alcohol (IPA), solvent temperature: 23±5, duration 5±0.5min	Clear markings No visible damage

■ Rated current calculation formula

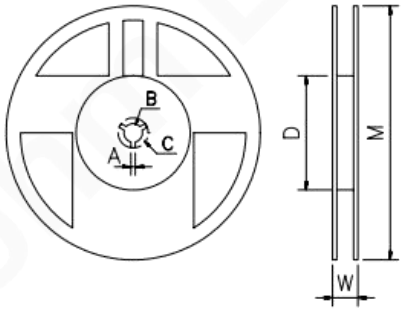
Rated current calculation formula			
$I=\sqrt{P/R}$	I	P	R
	Rated Current(A)	Rated Power (W)	Resistance (Ω)

■ Carrier tape size



A	B	W	F	E	T1	T2	P	P0	P1
7.15±0.2	7.7±0.2	12±0.2	5.5±0.05	1.75±0.1	1.2±0.1	0.25±0.1	12±0.1	4±0.1	2±0.1

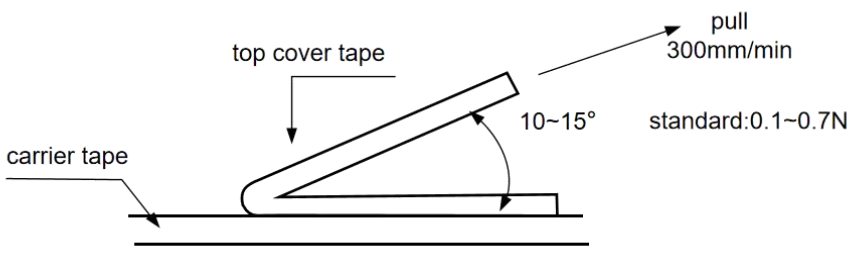
■ Reel Specifications



M	W	A	B	C	D	Quantity
178±1	16.2+0.5	2.5±1	13.5±1	17.7±1	57±2	1000PCS

■ Peel strength of upper tape

Peeling speed: 300 mm/min; peeling force between 0.1N and 0.7N



Recommendations for product use

- During the use of the product, pay attention to surface protection: prevent defects such as bumps and scratches on the product surface.
- When installing and using the product, avoid mechanical stress on the product.
- The long-term use power of the product should be less than or equal to the rated power to avoid resistance drift caused by long-term use overload.
- When using the product under high temperature or poor heat dissipation conditions, refer to the power consumption reduction curve for derating applications.

Storage Instructions

- The product storage environment temperature is 5~35, humidity is <65%RH, and the humidity should be kept as low as possible.
- The product should be stored in a clean, dry environment without harmful gases.
- Avoid removing the product from the taping package before use.
- Under the above storage conditions, the product can be kept for 1 year.
- For products more than 1 year old, check the surface for oxidation and solder test is required.

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■ Specification Revision Record:

Version	Revised Date	Revised Content	Reason of Revised	Revised by	Approved by
A1	2025-03-15	Resistancerange,sizeand applicationrangeupdated	Product Optimization	Yongkang Huang	Wenyi Leng