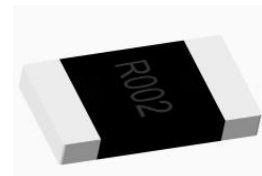


HoCG2818 Series Automotive Grade Metal Alloy Resistors Datasheet

■ 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.



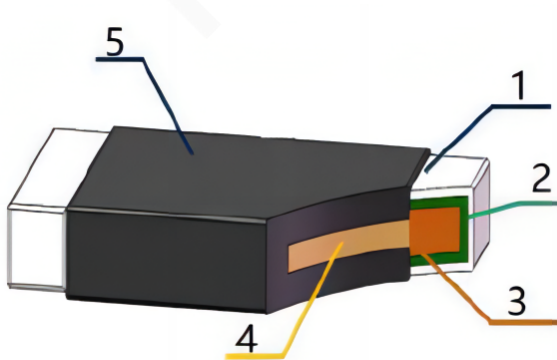
■ Application

- ① Power Module ② Aerospace and military industry ③ BMS Management System ④ Automatic Control System
- ⑤ Control unit for automotive 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
2818	5W	0Ω	/	-55°C~+170°C	±0.1% ±0.2% ±0.5% ±1% ±5%	/	/	< 3nH
		$R \leq 1\text{m}\Omega$	±75ppm			158.11A	353.55A	
		$1\text{m}\Omega < R \leq 3\text{m}\Omega$	±50ppm			70.71A	158.11A	
		$3\text{m}\Omega < R \leq 100\text{m}\Omega$	±25ppm~ ±50ppm			40.82A	91.28A	

■ Product Structure

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



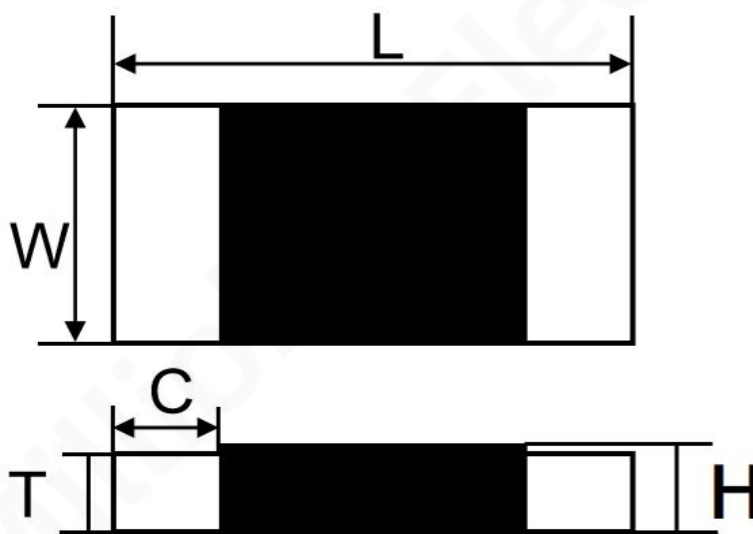
■ Product Selection

Selection Example: **HoCG2818 5 R005 F4 T** Enclosure Alloy Resistors 2818 5 W 5 mΩ 1%

H	o	C	G	2	8	1	8	5	R	0	0	5	F	4	T
↓		↓		↓		↓		↓		↓		↓		↓	
Manufactu rer	product category	seal inside	rating	numerical value of electrical impedance	accurate	Packingo 'ty	material								
milliohm electronics	vehicle- specification grade Enclosure Alloy	2818	5=5W	R001=1mR R005=5mR R010=10mR R100=100mR 1m50=1.5mR	A=± 0.1% C=± 0.2% D=± 0.5% F=± 1.0% G=± 2.0% J=± 5.0% ...	4=4000pcs	M=mangan ese copper K=Karma T=FeCrAl N=6J16 H=6J06								

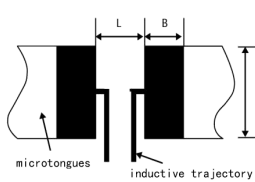
For the detail parameters , please check the following page

■ Dimension(Unit : mm)



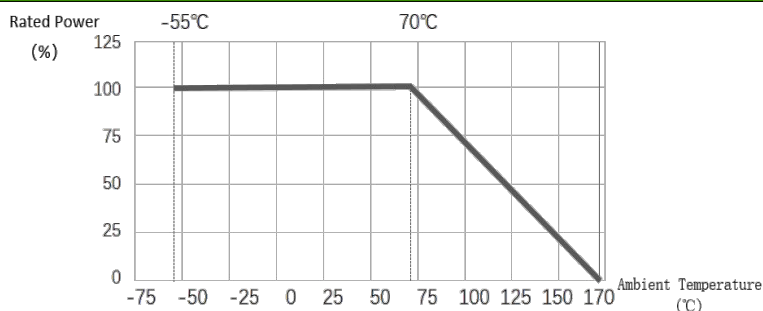
Package	Resistance	L	W	C	T	H
2818	0Ω~100mΩ	7.4±0.25	4.6±0.35	1.3±0.25	0.8±0.25	1.1±0.25

■ Recommended Pad Size

	Resistance	A	L	B
	0Ω~100mΩ	5.1	3.51	2.5

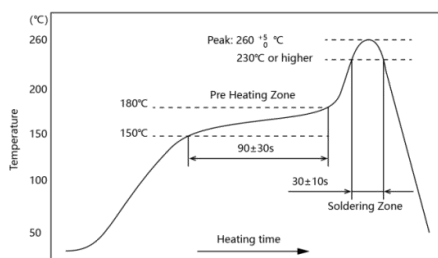
■ Power Curve

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

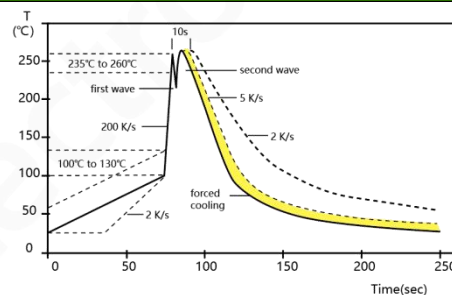


■ Recommended welding parameters

Reflow soldering curve



Wave soldering curve



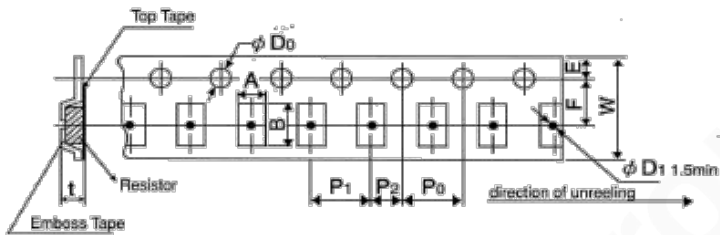
■ Reliability Test

Item	Standard	Testing Conditions	Testing Limit
Temperature coefficient	IEC60115-1-4.8 JIS-C5201-4.8	Test temperature +25 ~ 125°C Reference temperature +25°C	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 $\Delta R \pm 1\%$
Short-term overload	IEC60115-1-4.13 JIS-C5201-4.13	5 times rated power, 5 seconds	No visible damage $\Delta R \pm 1\%$
High temperature and High humidity	IEC60115-1-4.24.2.1a) JIS-C5201-4.24.2.1a)	85 , 85% relative humidity, 1000 hours, load 10% rated power	No visible damage $\Delta R \pm 1\%$
Temperature Cycle	IEC60115-1-4.19 JIS-C5201-4.19	-55@30min ~ +155@30min, 1000 cycles	No visible damage $\Delta R \pm 0.5\%$
Withstand welding heat	IEC60115-1-4.18 JIS-C5201-4.18	260±5, 10±1sec	No visible damage $\Delta R \pm 0.5\%$
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 $\Delta R \pm 1\%$
Low temperature storage	IEC60115-1-4.23.4 JIS-C5201-4.23.4	1000 hours @-55, no load	No visible damage $\Delta R \pm 1\%$
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

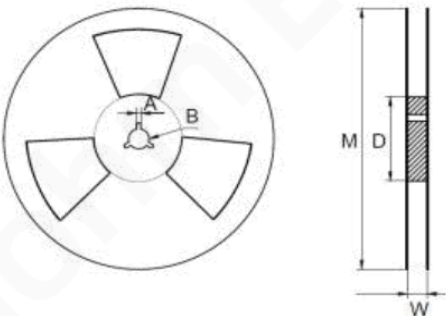
■ Rated current calculation formula

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

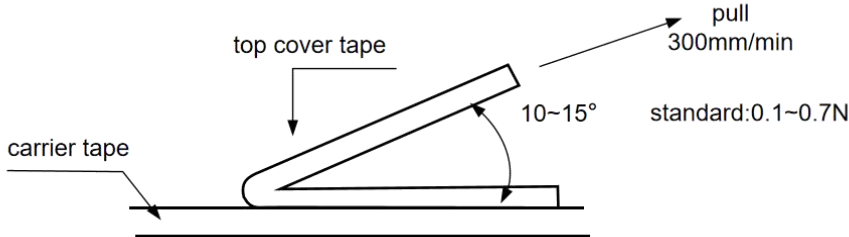
■ Carrier tape size

										
A	B	W	F	E	P1	P2	P0	D0	T	
5.0±0.2	7.5±0.2	16±0.2	7.5±0.05	1.75±0.1	8.0±0.1	2±0.05	4±0.05	Φ1.5±0.1	1.1±0.15	

■ Reel Specifications

					
W	M	A	B	D	Quantity
17.4±0.5	178±1	2.5±1	13.2±1	60.2±2	2000PCS

■ 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.

■ Disclaimer

- ◆ All products, specifications and data are subject to change without notice.
- ◆ Shenzhen Milliohm Electronic Co., Ltd. and its affiliated units, agents, and other representatives shall not bear any legal liability for any errors, inaccuracies, and incompleteness of information disclosed under this Agreement or other product-related information.
- ◆ Except as otherwise stated in the purchase terms and conditions, Milliohm Electronic makes no warranties, representations or guarantees.
- ◆ The product specifications do not constitute an extension or revision of the purchasing terms and conditions of Shenzhen Milliohm Electronic Co., Ltd, including but not limited to the warranties under this Agreement.
- ◆ To the extent permitted by applicable law, Shenzhen Milliohm Electronic Co., Ltd makes the following disclaimer
 - (1) All liability arising from the use of the product.
 - (2) All implied warranties, including the warranties of fitness for a particular purpose, non-infringement and merchantability.
 - (3) Including, but not limited to, all liability for special, consequential or incidental damages.
- ◆ The information provided in the datasheet and parameter table may vary in different applications, and the performance of the product may change over time. The recommended application descriptions for the product are based on Shenzhen Milliohm Electronic Co., Ltd's knowledge and experience of typical needs. The customer is obliged to verify whether the product is suitable for a specific application based on the parameters provided in the product manual. Before officially installing or using the product, you should ensure that you have obtained the latest version of the relevant information, which can be obtained through the website <http://www.milliohm.net>.
- ◆ The signing of this Agreement does not constitute any express, implied or other form of license to all intellectual property rights of Shenzhen Milliohm Electronic Co., Ltd Products.
- ◆ Unless otherwise expressly stated, the products listed in this Agreement are not intended for life-saving or life-sustaining applications. In the absence of express notice, customers shall bear all risks caused by their unauthorized use of the above products and agree to fully compensate Milliohm Electronics for all losses caused by such sales or use. For written terms of products for such special applications, please contact the authorized Milliohm Electronics personnel.

■ 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
A2	2025-05-15	Plate Quantity and Size Updates	Product Optimization	Yongkang Huang	Wenyi Leng
A3	2025-07-07	Product specifications add material indication	Content Updates	Yongkang Huang	Wenyi Leng