

Ultra-Low Ohmic Resistors for Current Detection

PMR25

●Features

- 1) Ultra low-ohmic resistance range (1mΩ~)
- 2) Improved current detection accuracy by trimming-less structure.
Highly recommended for large current / High speed switching circuit.
- 3) Completely Pb free product
- 4) ISO9001- / ISO/TS 16949-approved

●Rating

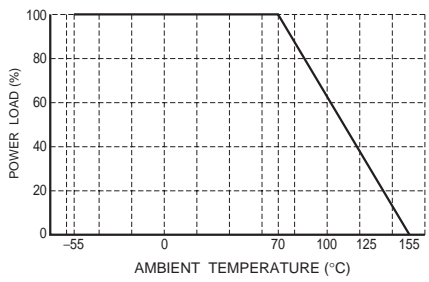
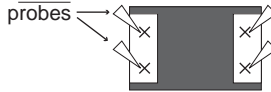
Item	Conditions	Specifications
Rated power	For resistors operated at the ambient temperature in excess of 70°C, the load shall be derated in accordance with Fig.1  <p style="text-align: center;">Fig.1</p>	1W at 70°C
Rated voltage Rated current	Rated voltage and current are determined from the following. $E = \sqrt{P \times R}$ $E = \sqrt{P / R}$ E: Rated voltage (V) I: Rated current (A) P: Rated power (W) R: Resistance (Ω)	
Nominal resistance	See Table 1.	
Operating temperature		-55°C to +155°C

Table.1

RESISTANCE (mΩ)	TOLERANCE	SPECIAL CODE	TEMPERATURE COEFFICIENT (ppm / °C)
1 to 4	F (±1%)	V	±100
5	J (±5%)	U	

●Characteristics

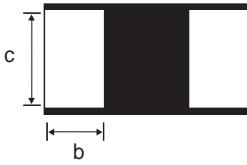
Item	Guaranteed value	Test conditions (JIS C 5201-1)
	Resistor type	
Resistance	F : $\pm 1\%$ J : $\pm 5\%$	JIS C 5201-1 4.5 Measuring method : Measure under terminations by 4 probes. Fig.2 (Under terminations) probes 
Variation of resistance with temperature	See Table.1	JIS C 5201-1 4.8 Measurement : 25 / -55 / +25 / +125°C
Overload	$\pm (2.0\%+0.0005\Omega)$	JIS C 5201-1 4.13 Rated voltage (current) $\times 2.5$, 2s.
Solderability	A new uniform coating of minimum of 95% of the surface being immersed and no soldering damage.	JIS C 5201-1 4.17 Rosin-Ethanol (25%WT) Soldering condition : $235\pm 5^\circ\text{C}$ Duration of immersion : $2.0\pm 0.5\text{s}$.
Resistance to soldering heat	$\pm (1.0\%+0.0005\Omega)$ No remarkable abnormality on the appearance.	JIS C 5201-1 4.18 Soldering condition : $260\pm 5^\circ\text{C}$ Duration of immersion : $10\pm 1\text{s}$.
Rapid change of temperature	$\pm (1.0\%+0.0005\Omega)$	JIS C 5201-1 4.19 Test temp. : -55°C to $+125^\circ\text{C}$ 5cyc
Damp heat, steady state	$\pm (3.0\%+0.0005\Omega)$	JIS C 5201-1 4.24 40°C , 93%RH Test time : 56days
Endurance at 70°C	$\pm (3.0\%+0.0005\Omega)$	JIS C 5201-1 4.25.1 Rated power, 70°C 1.5h : ON – 0.5h : OFF Test time : 1,000h to 1,048h
Endurance	$\pm (3.0\%+0.0005\Omega)$	JIS C 5201-1 4.25.3 155°C Test time : 1,000h to 1,048h
Component Solvent Resistance	$\pm (0.5\%+0.0005\Omega)$	JIS C 5201-1 4.29 $23^\circ\text{C}\pm 5^\circ\text{C}$ Solvent : 2-propanol
Bend strength of the end face plating	Without open.	JIS C 5201-1 4.33

●Dimensions&Construction

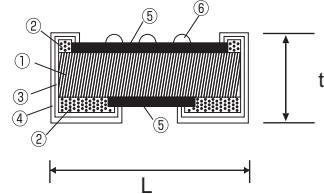
(The Surface)



(The back)



(The cross section)



Resistance	Measure					
	L ± 0.20	W ± 0.20	t ± 0.15	a ± 0.20	b ± 0.20	c ± 0.20
1mΩ	3.20	2.50	0.52	0.50	0.90	1.95
2mΩ			0.52		1.00	
3mΩ			0.42		0.80	
4mΩ			0.32		0.90	
5mΩ			0.32		0.90	

(Unit:mm)

No.	Material
①	Resistive metal element(Ni-Cu/Ni-Cr Alloy)
②	Primary electrode(Cu)
③	Middle electrode(Ni)
④	External electrode(Sn)
⑤	Overcoat(Resin:Black)
⑥	Marking(Resin:Yellow)

●Part No. Explanation



Part No.

Resistance tolerance

Special part number

Nominal resistance

F	±1%
J	±5%

U	5mΩ
V	1 to 4mΩ

Resistance code, 3 or 4 digits.	
Resistance tolerance	Resistance code
F	: 4 digits
J	: 3 digits

Resistance Value (Ω)	Resistance Tolerance	
	J	F
1mΩ	1L0	1L00
2mΩ	2L0	2L00
3mΩ	3L0	3L00
4mΩ	4L0	4L00
5mΩ	5L0	5L00

Packaging Specifications Code

Part No.	Code	Resistance tolerance		Packaging specifications	Reel	Basic ordering unit (pcs)
		J(±5%)	F(±1%)			
PMR25	HZP	◎	◎	Embossed tape (4mm Pitch)	φ180mm (7in.)	2,000

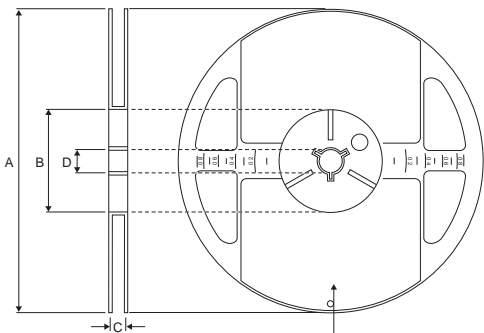
Reel (φ180) : Compatible with JEITA standard "EIAJ ET-7200B"

◎ : Standard product

●Packaging

Reel

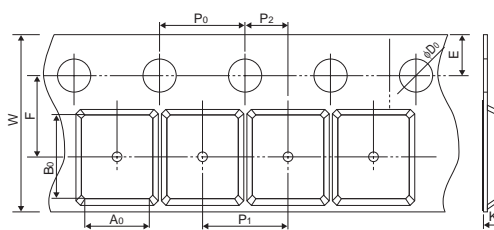
Taping



EIAJ ET-7200B compliant

(Unit : mm)

A	B	C	D
φ180 ⁰ _{-1.5}	φ60 ⁺¹ ₀	9 ^{+1.0} ₀	φ13±0.2



(Unit : mm)

W	F	E	A ₀	B ₀
8.0±0.3	3.5±0.05	1.75±0.1	3.0±0.1	3.5±0.1
D ₀	P ₀	P ₁	P ₂	K
φ1.5 ^{+0.1} ₀	4.0±0.1	4.0±0.1	2.0±0.05	Max. 1.1

Notes

No copying or reproduction of this document, in part or in whole, is permitted without the consent of ROHM Co.,Ltd.

The content specified herein is subject to change for improvement without notice.

The content specified herein is for the purpose of introducing ROHM's products (hereinafter "Products"). If you wish to use any such Product, please be sure to refer to the specifications, which can be obtained from ROHM upon request.

Examples of application circuits, circuit constants and any other information contained herein illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

Great care was taken in ensuring the accuracy of the information specified in this document. However, should you incur any damage arising from any inaccuracy or misprint of such information, ROHM shall bear no responsibility for such damage.

The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM and other parties. ROHM shall bear no responsibility whatsoever for any dispute arising from the use of such technical information.

The Products specified in this document are intended to be used with general-use electronic equipment or devices (such as audio visual equipment, office-automation equipment, communication devices, electronic appliances and amusement devices).

The Products specified in this document are not designed to be radiation tolerant.

While ROHM always makes efforts to enhance the quality and reliability of its Products, a Product may fail or malfunction for a variety of reasons.

Please be sure to implement in your equipment using the Products safety measures to guard against the possibility of physical injury, fire or any other damage caused in the event of the failure of any Product, such as derating, redundancy, fire control and fail-safe designs. ROHM shall bear no responsibility whatsoever for your use of any Product outside of the prescribed scope or not in accordance with the instruction manual.

The Products are not designed or manufactured to be used with any equipment, device or system which requires an extremely high level of reliability the failure or malfunction of which may result in a direct threat to human life or create a risk of human injury (such as a medical instrument, transportation equipment, aerospace machinery, nuclear-reactor controller, fuel-controller or other safety device). ROHM shall bear no responsibility in any way for use of any of the Products for the above special purposes. If a Product is intended to be used for any such special purpose, please contact a ROHM sales representative before purchasing.

If you intend to export or ship overseas any Product or technology specified herein that may be controlled under the Foreign Exchange and the Foreign Trade Law, you will be required to obtain a license or permit under the Law.



Thank you for your accessing to ROHM product informations.
More detail product informations and catalogs are available, please contact us.

ROHM Customer Support System

<http://www.rohm.com/contact/>