

Ultra-Low Ohmic Resistors for Current Detection

PMR10

●Features

- 1) Ultra low-ohmic resistance range (2mΩ~)
- 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

●Ratings

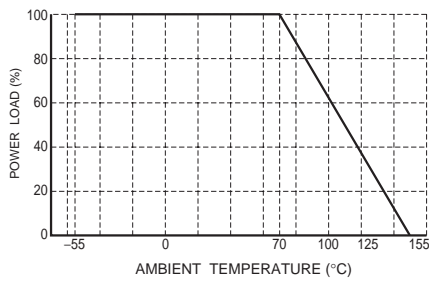
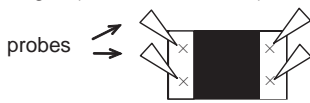
Item	Conditions	Specifications
Rated power	For resistors operated at the ambient temperature in excess of 70 , the load shall be derated in accordance with Fig.1  Fig.1	0.5W (1 / 2W) at 70°C
Rated voltage Rated current	Rated voltage and current are determined from the following. $E = \sqrt{P \times R}$ $I = \sqrt{P / R}$ E: Rated voltage (V) I : Rated current (A) P: Rated power (W) R: Nominal resistance (Ω)	
Nominal resistance	See Table 1.	
Operating temperature		-55°C to +155°C

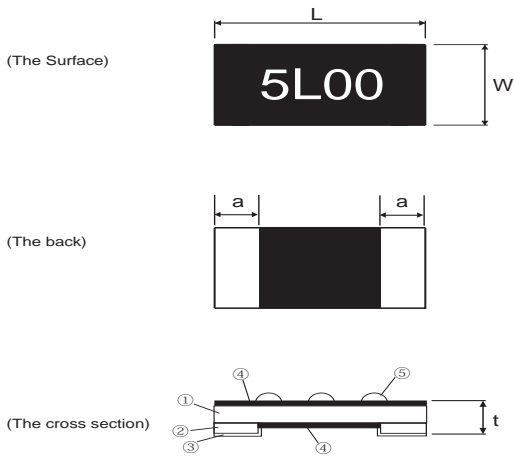
Table.1

RESISTANCE (mΩ)	TOLERANCE	SPECIAL CODE	TEMPERATURE COEFFICIENT (ppm / °C)
2,3,4	F (±1%) G (±2%)	V	±150
5,6,7,8,9,10	J (±5%)	U	

●Characteristics

Item	Guaranteed value	Test conditions (JIS C 5201-1)
	Resistor type	
Resistance	F : $\pm 1\%$ G : $\pm 2\%$ J : $\pm 5\%$	JIS C 5201-1 4.5 Measuring method : Measure under terminations by 4 probes. Fig.2 (Under terminations) 
Variation of resistance with temperature	See <u>Table.1</u>	JIS C 5201-1 4.8 Measurement : 25 / -55 / +25 / +125°C
Overload	$\pm 2.0\%$	JIS C 5201-1 4.13 Rated power $\times 2.5$, 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°C Duration of immersion : 2.0 \pm 0.5s.
Resistance to soldering heat	$\pm 1.0\%$ No remarkable abnormality on the appearance.	JIS C 5201-1 4.18 Soldering condition : 260 \pm 5°C Duration of immersion : 10 \pm 1s.
Rapid change of temperature	$\pm 1.0\%$	JIS C 5201-1 4.19 Test temp. : -55°C to +125°C 5cyc
Damp heat, steady state	$\pm 3.0\%$	JIS C 5201-1 4.24 40°C, 93%RH Test time : 56days
Endurance at 70°C	$\pm 3.0\%$	JIS C 5201-1 4.25.1 70°C, Rated power 1.5h : ON - 0.5h : OFF Test time : 1,000h to 1,048h
Endurance	$\pm 3.0\%$	JIS C 5201-1 4.25.3 155°C Test time : 1,000h to 1,048h
Resistance to solvent	$\pm 0.5\%$	JIS C 5201-1 4.29 23 \pm 5°C Solvent : 2-propanol
Bend strength of the end face plating	Without open	JIS C 5201-1 4.33

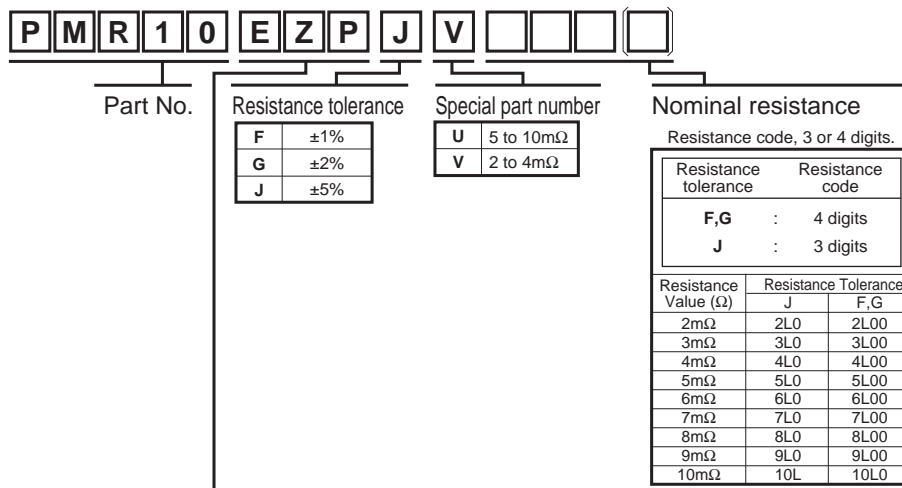
●Dimensions&Construction



Resistance	Measure			
	L ± 0.15	W ± 0.15	t ± 0.15	a ± 0.25
2mΩ	2.00	1.20	0.42	0.55
3mΩ				0.75
4mΩ				0.60
5mΩ				0.45
6mΩ			0.32	0.55
7mΩ				0.45
8mΩ				0.35
9mΩ			0.28	0.40
10mΩ				0.35

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

●Part No. Explanation



Packaging Specifications Code

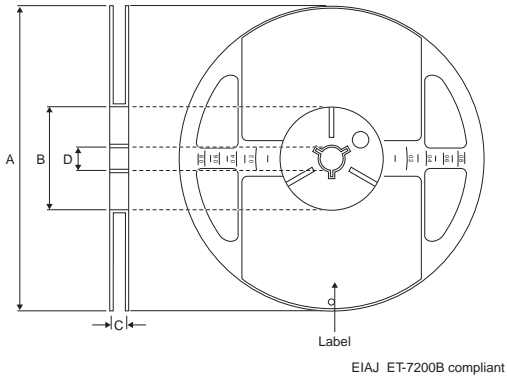
Part No.	Code	Resistance tolerance			Packaging specifications	Reel	Basic ordering unit (pcs)
		J(±5%)	G(±2%)	F(±1%)			
PMR10	EZP	◎	◎	◎	Paper tape (4mm Pitch)	φ180mm (7in.)	5,000

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

◎ : Standard product

●Packaging

Reel

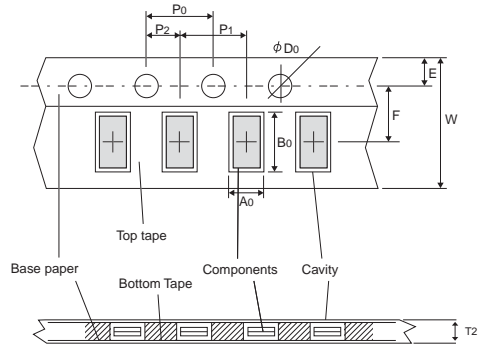


EIAJ ET-7200B compliant

(Unit : mm)

A	B	C	D
$\phi 180 \begin{smallmatrix} 0 \\ -1.5 \end{smallmatrix}$	$\phi 60 \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$	$9 \begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$	$\phi 13 \pm 0.2$

Taping



(Unit : mm)

W	F	E	A ₀	B ₀
8.0 ± 0.3	3.5 ± 0.05	1.75 ± 0.1	$1.65 \begin{smallmatrix} +0.2 \\ -0.1 \end{smallmatrix}$	$2.4 \begin{smallmatrix} +0.2 \\ -0.1 \end{smallmatrix}$
D ₀	P ₀	P ₁	P ₂	K
$\phi 1.5 \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$	4.0 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	Max. 1.1

Notes

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