

Ultra low ohmic resistors for current detection

PMR03

●Features

- 1) Metal-plate, which is an excellent material in view of electrical characteristics, is employed as resistive element by Rohm's unique production method.
- 2) 0.25W is achieved; the industry's first for 0603 sized metal-plate type.
- 3) 0 to +150ppm/°C of TCR (Temperature Coefficient of Resistance) is realized at ultra-low resistance of 10mΩ
- 4) Completely Pb free product

●Rating

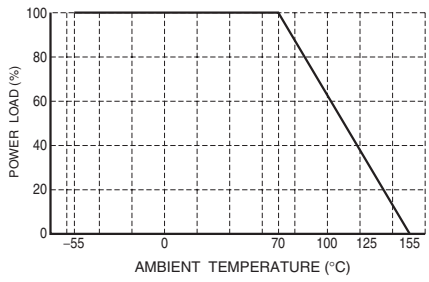
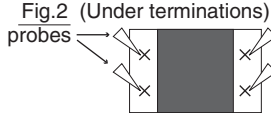
Item	Conditions	Specifications
Rated power	For resistors operated at the ambient temperature in excess of 70°C, the load shall be derated in accordance with Fig.1	0.25W (1/4W) at 70°C
	 <p style="text-align: center;">Fig.1</p>	
Rated voltage Rated current	Rated voltage and current are determined from 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)
10	F (±1%) J (±5%)	U	0 to +150

●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) 
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°C Duration of immersion : 2.0 \pm 0.5s.
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°C Duration of immersion : 10 \pm 1s.
Rapid change of temperature	$\pm (1.0\%+0.0005\Omega)$	JIS C 5201-1 4.19 Test temp. : -55°C to +125°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°C \pm 5°C Solvent : 2-propanol
Bend strength of the end face plating	Without open.	JIS C 5201-1 4.33

●Dimensions&Construction

(The Surface)



(UNIT:mm)

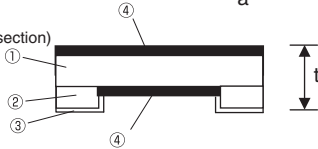
Resistance	Measure			
	L±0.15	W±0.15	t±0.10	a±0.15
10mΩ	1.60	0.80	0.25	0.35

(The back)

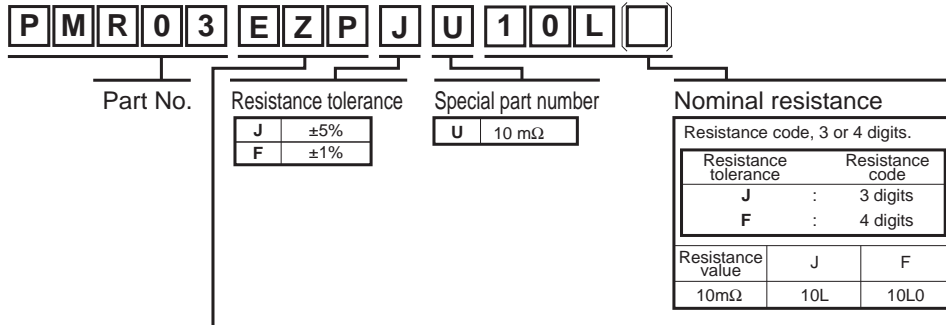


No.	Material
①	Resistive metal element (Ni-Cu/Ni-Cr Alloy)
②	Primary electrode(Cu)
③	External electrode(Sn)
④	Overcoat (Resin : Black)

(The cross section)



●Product designation



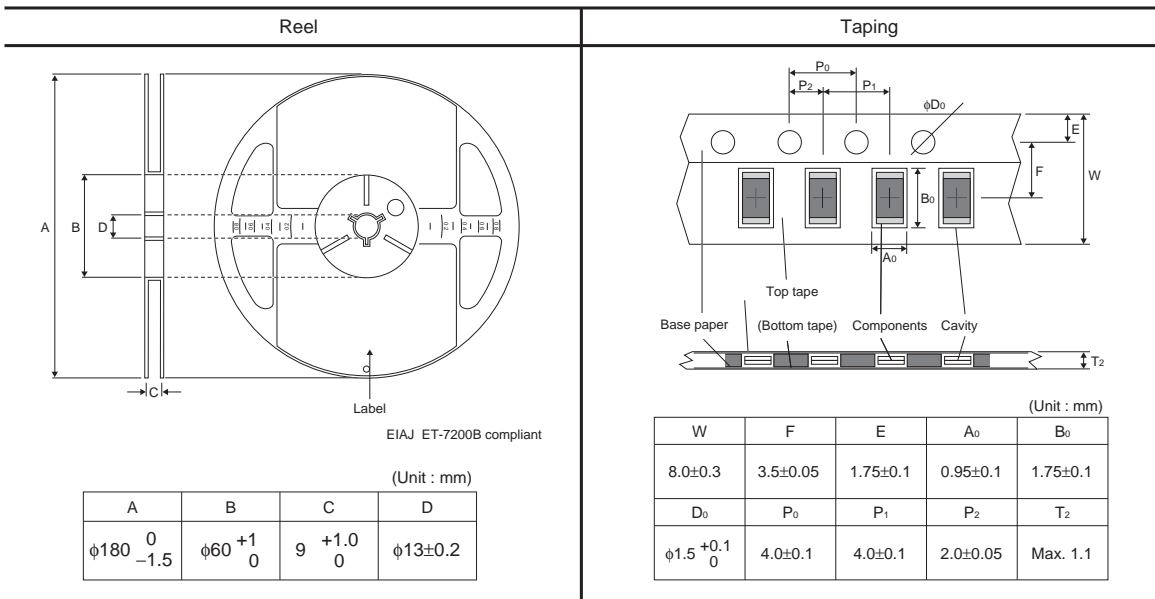
Packaging Specifications Code

Part No.	Code	Resistance tolerance		Packaging specifications	Reel	Basic ordering unit (pcs)
		J (±5%)	F (±1%)			
PMR03	EZP	◎	◎	Embossed tape (4mm Pitch)	φ180mm (7inch)	5,000

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

◎ : Standard product

●Packaging



Notes

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