

Ultra-low Ohmic Resistors for Current Detection(Wide terminal type)

PML100

●Features

- 1) Ultra-low resistance range (0.5mΩ-)
- 2) Wide terminal configuration for high joint reliability.
- 3) Unique trimless structure utilized for improved current detection accuracy.
- 4) ISO9001- / ISO/TS 16949- approved

●Rating

Item	Conditions	Specifications
Rated power	<p>The load shall be derated in accordance with Fig.1</p> <p>Fig.1 (0.5mΩ)</p> <p>(1.0~2.2mΩ)</p>	<p>(0.5mΩ) 2W</p> <p>(1.0 to 2.2mΩ) 3W at 25°C 2W at 70°C</p>
Rated voltage Rated current	<p>Rated voltage and current are determined from the following.</p> $E = \sqrt{P \times R}$ $I = \sqrt{P / R}$ <p>E: Rated voltage (V) I: Rated current (A) P: Rated power (W) R: Resistance (Ω)</p>	
Resistance	See Table 1.	
Temperature		-55°C to +155°C

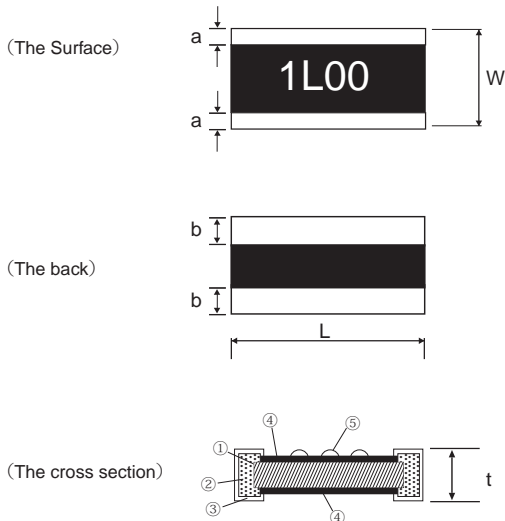
Table.1

RESISTANCE (mΩ)	TOLERANCE	SPECIAL CODE	TEMPERATURE COEFFICIENT (ppm / °C)
0.5	J (±5%)	V	±150
1.0,1.5,2.0,2.2			±100

●Characteristics

Item	Guaranteed value	Test conditions (JIS C 5201-1)
	Resistor type	
Resistance	J : $\pm 5\%$	JIS C 5201-1 4.5
Variation of resistance with temperature	See <u>Table.1</u>	JIS C 5201-1 4.8 Measurement : 25 / -55 / +25 / +125°C
Overload	$\pm(2.0\%+0.0001\Omega)$	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 : $235\pm 5^\circ\text{C}$ Duration of immersion : $2.0\pm 0.5\text{s}$.
Resistance to soldering heat	$\pm(1.0\%+0.0001\Omega)$ 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	$\pm(1.0\%+0.0001\Omega)$	JIS C 5201-1 4.19 Test temp. : -55°C to $+125^\circ\text{C}$ 5cyc
Damp heat, steady state	$\pm(3.0\%+0.0001\Omega)$	JIS C 5201-1 4.24 40°C , 93%RH Test time : 56days
Endurance at 70°C	$\pm(3.0\%+0.0001\Omega)$	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	$\pm(3.0\%+0.0001\Omega)$	JIS C 5201-1 4.25.3 155°C Test time : 1,000h to 1,048h
Component solvent resistance	$\pm(0.5\%+0.0001\Omega)$	JIS C 5201-1 4.29 $23\pm 5^\circ\text{C}$ Solvent : 2-propanol
Bend strength of the end face plating	Without open	JIS C 5201-1 4.33

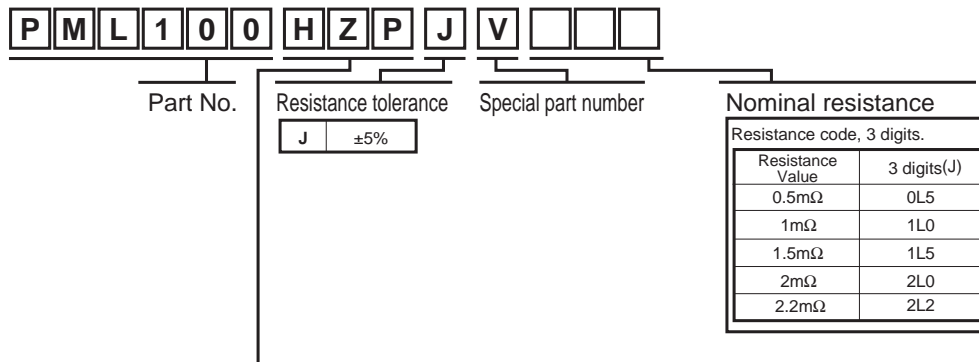
●Dimensions&Construction



Resistance	Measure				
	L ± 0.25	W ± 0.25	t ± 0.15	a ± 0.25	b ± 0.25
0.5mΩ	6.40	3.20	0.50	0.45	0.90
1.0mΩ			0.40		
1.5mΩ					
2.0mΩ			0.36		
2.2mΩ				0.70	

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

●Part No. Explanation

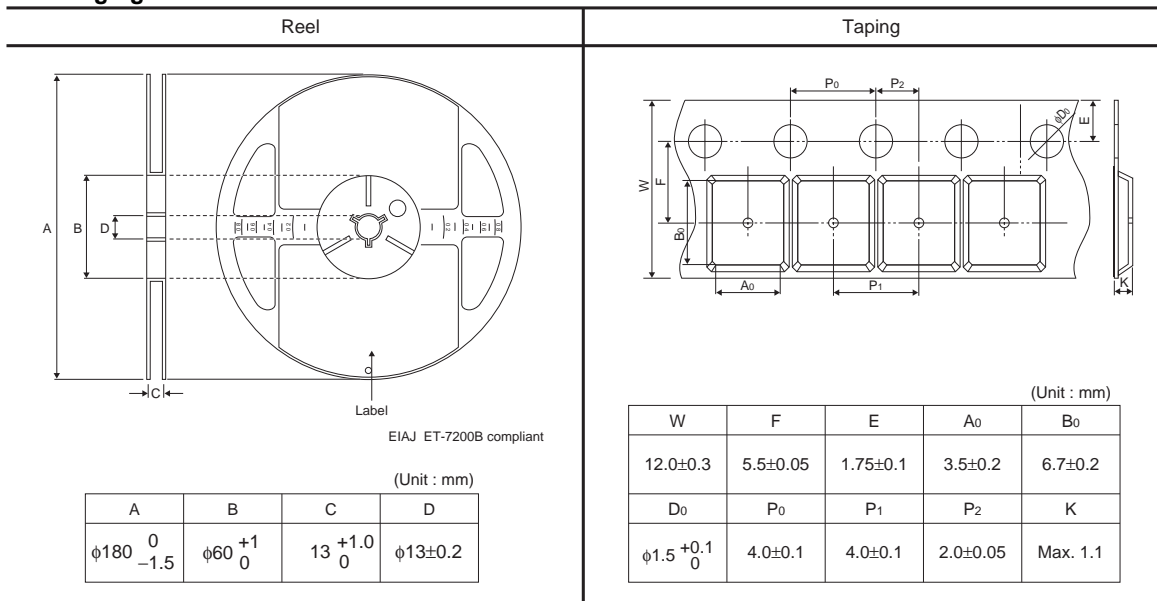


Packaging Specifications Code

Part No.	Code	Resistance tolerance J(±5%)	Packaging specifications	Reel	Basic ordering unit (pcs)
PML100	HZP	◎	Embossed tape (4mm Pitch)	φ180mm (7inch)	2,000

Reel (φ180mm) : Compatible with JEITA standard "EIAJ ET-7200B"
 ◎ : Standard product

●Packaging



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