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

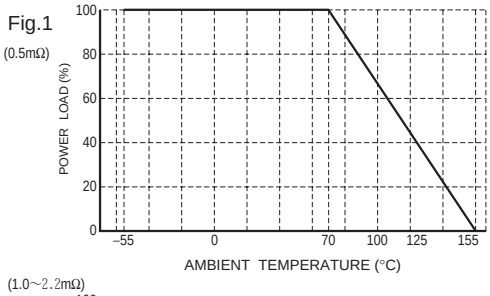
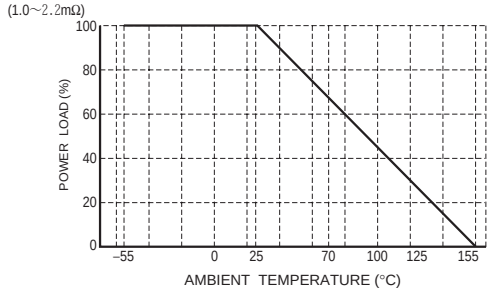
Item	Conditions	Specifications
Rated power	The load shall be derated in accordance with Fig.1 Fig.1 (0.5mΩ)  (1.0～2.2mΩ)  	(0.5mΩ) 2W (1.0 to 2.2mΩ) 3W at 25°C 2W at 70°C
Rated voltage Rated current	Rated voltage and current are determined from the following. $E=\sqrt{P\times R}$ $I=\sqrt{P/R}$ E: Rated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

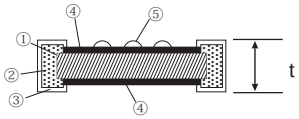
Item	Guaranteed value Resistor type	Test conditions (JIS C 5201-1)
Resistance	J : ±5%	JIS C 5201-1 4.5
Variation of resistance with temperature	See Table.1	JIS C 5201-1 4.8 Measurement : 25 / –55 / +25 / +125°C
Overload	±(2.0%+0.0001Ω)	JIS C 5201-1 4.13 Rated power ×2.5, 2s.
Solderability	A new uniform 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±5°C Duration of immersion : 2.0±0.5s.
Resistance to soldering heat	±(1.0%+0.0001Ω) No remarkable abnormality on the appearance.	JIS C 5201-1 4.18 Soldering condition : 260±5°C Duration of immersion : 10±1s.
Rapid change of temperature	±(1.0%+0.0001Ω)	JIS C 5201-1 4.19 Test temp. : –55°C to +125°C 5cyc
Damp heat, steady state	±(3.0%+0.0001Ω)	JIS C 5201-1 4.24 40°C, 93%RH Test time : 56days
Endurance at 70°C	±(3.0%+0.0001Ω)	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	±(3.0%+0.0001Ω)	JIS C 5201-1 4.25.3 155°C Test time : 1,000h to 1,048h
Component solvent resistance	±(0.5%+0.0001Ω)	JIS C 5201-1 4.29 23±5°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 ± 0.25	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					
1.5mΩ			0.40		
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

P	M	L	1	0	0	H	Z	P	J	V			

Part No.

Resistance tolerance

J	±5%

Special part number

Nominal resistance

Resistance code, 3 digits.

Resistance Value	3 digits(J)
0.5mΩ	0L5
1mΩ	1L0
1.5mΩ	1L5
2mΩ	2L0
2.2mΩ	2L2

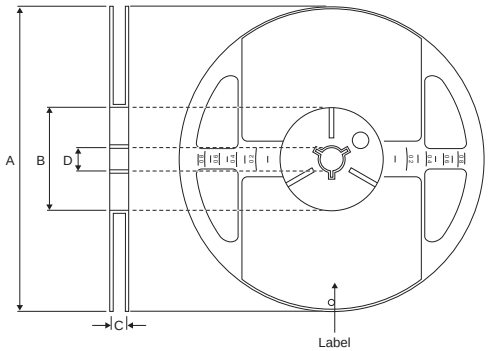
Packaging Specifications Code

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

Reel

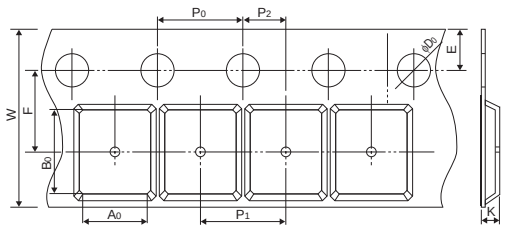


EIAJ ET-7200B compliant

(Unit : mm)

A	B	C	D
ϕ180 $^{0}_{-1.5}$	ϕ60 $^{+1}_{0}$	13 $^{+1.0}_{0}$	ϕ13±0.2

Taping



(Unit : mm)

W	F	E	A_0	B_0
12.0±0.3	5.5±0.05	1.75±0.1	3.5±0.2	6.7±0.2
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

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