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

PML18

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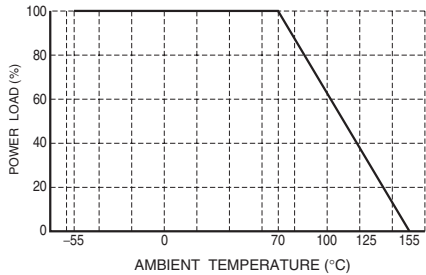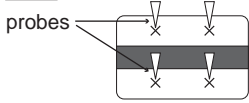4) ISO9001- / ISO/TS 16949- approved

● **Rating**

Item	Conditions	Specifications
Rated power	For resistors operated at the ambient temperature in excess of 70°C, the load shall be derated in accordance with Fig.1 Fig.1	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 (ppm / ˚C) COEFFICIENT
1.0, 1.2 1.5, 2.0	G (±2%) J (±5%)	V	±150

● **Characteristics**

Item	Guaranteed value	Test conditions (JIS C 5201-1)
	Resistor type	
Resistance	G : ±2% J : ±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	± 2.0%	JIS C 5201-1 4.13 Rated voltage (current) ×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% 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%	JIS C 5201-1 4.19 Test temp. : −55°C to +125°C 5cyc
Damp heat, steady state	± 3.0%	JIS C 5201-1 4.24 40°C, 93%RH Test time : 56days
Endurance at 70°C	± 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	± 3.0%	JIS C 5201-1 4.25.3 155°C Test time : 1,000h to 1,048h
Component Solvent Resistance	± 0.5%	JIS C 5201-1 4.29 23°C±5°C Solvent : 2-propanol
Bend strength of the end face plating	Without open.	JIS C 5201-1 4.33

●Dimensions&Construction

(The Surface)

1L00

(The back)

(The cross section)

Resistance	Measure			
	L ± 0.15	W ± 0.15	t ± 0.15	a ± 0.25
1.0mΩ	1.60	3.20	0.42	0.55
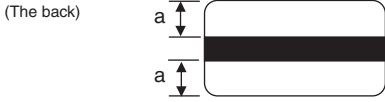
No.	Material
①	Resistive metal element (Ni-Cr Alloy)
②	Primary electrode(Cu)
③	External electrode(Sn)
④	Overcoat (Resin : Black)
⑤	Marking (Resin : Yellow)
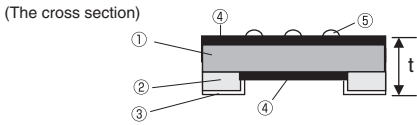
●Part No. Explanation

| P | M | L | 18 | E | Z | P | J | V | | | |

Part No.

Resistance tolerance

G	±2%
J	±5%

Special part number

Nominal resistance

Resistance code, 3 or 4 digits.

Resistance tolerance		Resistance code
J	:	3 digits
G	:	4 digits

Resistance Value	Resistance Tolerance	
	J	G
1mΩ	1L0	1L00
1.2mΩ	1L2	1L20
1.5mΩ	1L5	1L50
2mΩ	2L0	2L00

Packaging Specifications Code

Part No.	Code	Resistance tolerance		Packaging specifications	Reel	Basic ordering unit (pcs)
		J(±5%)	G(±2%)			
PML18	EZP	◎	◎	Paper tape (4mm Pitch)	φ180mm	5,000

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

◎ : Standard product

●Packaging

Reel	Taping

Top tape

Base paper

Bottom Tape

Components

Cavity

Label

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	A0	B0
8.0±0.3	3.5±0.05	1.75±0.1	1.95 $^{+0.1}_{-0.05}$	3.5 $^{+0.15}_{-0.05}$
D0	P0	P1	P2	T2
φ1.5 $^{+0.1}_{0}$	4.0±0.1	4.0±0.1	2.0±0.05	Max. 1.1

Notes

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