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

PML10

●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

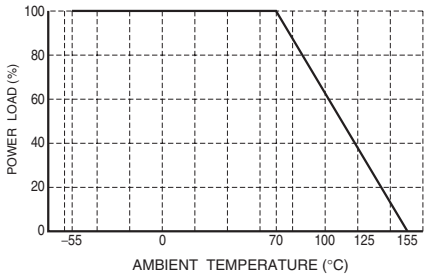
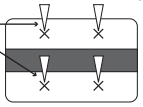
Item	Conditions	Specifications
Rated power	For resistors operated at the ambient temperature in excess of 70°C, the load shall be derated in accordance with Fig.1  Fig.1	0.66W at 70°C
Rated voltage Rated current	Rated voltage and current are determined from the following. $E=\sqrt{P\times R}$ $E=\sqrt{P/R}$ 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, 1.5	G (±2%) J (±5%)	V	±200

●Characteristics

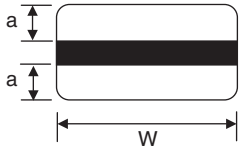
Item	Guaranteed value Resistor type	Test conditions (JIS C 5201-1)
Resistance	G : ±2% J : ±5%	JIS C 5201-1 4.5 Measuring method : Measure under terminations by 4 probes. Fig.2 (Under terminations) probes 
Variation of resistance with temperature	See Table.1	JIS C 5201-1 4.8 Measurement : +25 / −55 / +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)

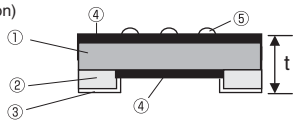
Resistance	Measure			
	L ± 0.15	W ± 0.15	t ± 0.15	a ± 0.25
1.0mΩ	1.20	2.0	0.42	0.45

(The back)



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)

(The cross section)



●Part No. Explanation

P M L 1 0 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
1.5mΩ	1L5	1L50

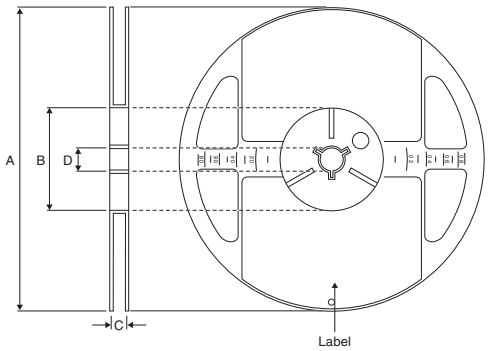
Packaging Specifications Code

Part No.	Code	Resistance tolerance		Packaging specifications	Reel	Basic ordering unit (pcs)
		J(±5%)	G(±2%)			
PML10	EZP	◎	◎	Paper tape (4mm Pitch)	ϕ180mm	5,000

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

●Packaging

Reel

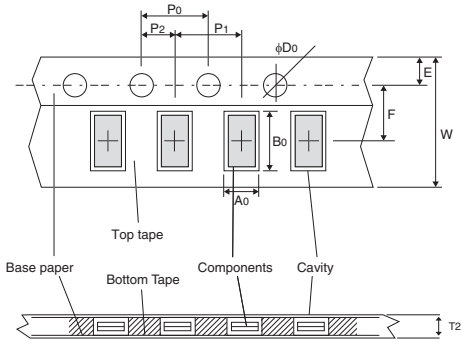


EIAJ ET-7200B compliant

(Unit : mm)

A	B	C	D
$\phi 180\ ^{0}_{-1.5}$	$\phi 60\ ^{+1}_{0}$	$9\ ^{+1.0}_{0}$	ϕ13±0.2

Taping



(Unit : mm)

W	F	E	A_0	B_0
8.0±0.3	3.5±0.05	1.75±0.1	$1.65\ ^{+0.2}_{-0.1}$	$2.4\ ^{+0.2}_{-0.1}$
D_0	P_0	P_1	P_2	T_2
$\phi 1.5\ ^{+0.1}_{0}$	4.0±0.1	4.0±0.1	2.0±0.05	Max. 1.1

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