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

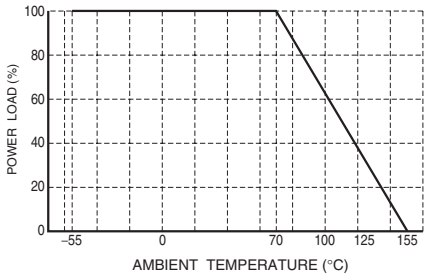
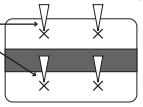
Item	Conditions	Specifications
Rated power	For resistors operated at the ambient temperature in excess of 70°C, the load shall be derated in accordance with Fig.1  Fig.1	0.66W at 70°C
Rated voltage Rated current	Rated voltage and current are determined from the following. $E=\sqrt{P\times R}$ $E=\sqrt{P/R}$ 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, 1.2, 1.5 1.8, 2.0, 2.4, 2.5	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

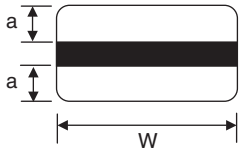
●Dimensions&Construction

(The Surface)

Measure			
L ± 0.15	W ± 0.15	t ± 0.15	a ± 0.2
1.20	2.0	0.42	0.45 to 0.3*

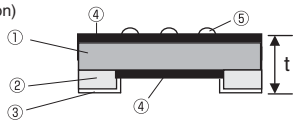
*Each value range varies with the resistance.

(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
1.2mΩ	1L2	1L20
1.5mΩ	1L5	1L50
1.8mΩ	1L8	1L80
2mΩ	2L0	2L00
2.4mΩ	2L4	2L40
2.5mΩ	2L5	2L50

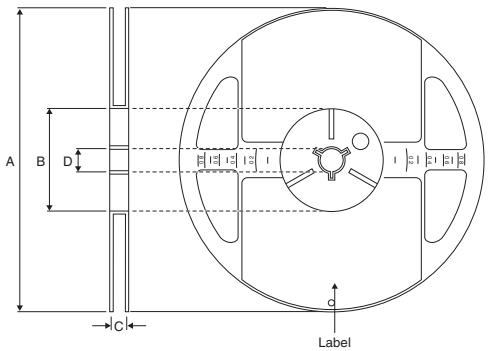
Packaging Specifications Code

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

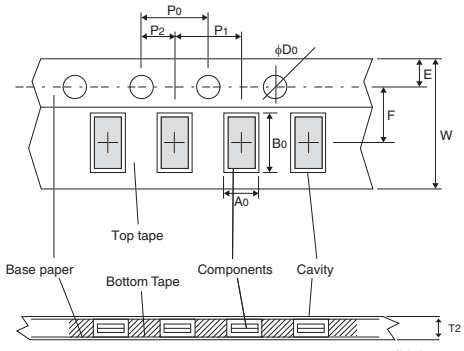


EIAJ ET-7200B compliant

(Unit : mm)

A	B	C	D
ϕ180 $^{0}_{-1.5}$	ϕ60 $^{+1}_{0}$	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
ϕ1.5 $^{+0.1}_{0}$	4.0±0.1	4.0±0.1	2.0±0.05	Max. 1.1

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