

Anti-surge thick film chip resistors RPZ series

RPZ10 (0805) RPZ18 (1206) RPZ33 (1210)

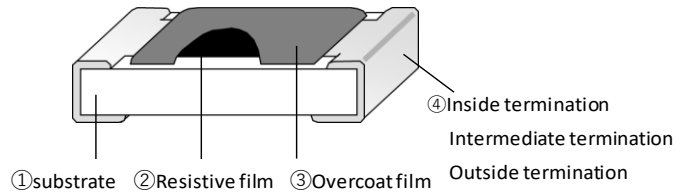
*(): Inch size

Not recommended : RPZ18(1206) , RPZ33(1210)

■ Features

- 0805 size 0.25W
- RoHS qualified
- ELV qualified
- AEC-Q200 qualified

■ Structure



*This is only a schematic drawing of the structure.

■ Part No. Explanation (Example)

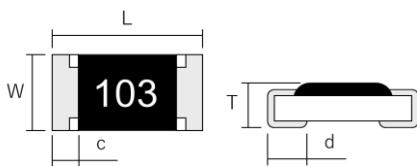
R	P	Z	1	0	T	1	0	3	J
Product type			Rated power and Size		Packaging form	Nominal resistance value(*)			Resistance tolerance
RPZ : Anti-surge			10:0.25W,0805 18:0.33W,1206 33:0.5W,1210		T : 4mm pitch taping φ 180 reel	The resistance value is indicated by 3-digit numbers.			J ± 5% F ± 1%

*The first two numbers are significant numbers,

and the third one is the number of zeros "0" following to the first two numbers (multiple of 10).

*If there is a decimal point in resistance value, it is indicated by "R" and all numbers are significant numbers.

■ Dimensions



* External dimensions are for reference only.

Overcoat film color : Red

The resistance value is indicated by 3-digit numbers.

	L	W	T	c	d
RPZ10	2.00 ± 0.15	1.25 ± 0.15	0.55 ^{+0.10} _{-0.05}	0.25 ^{+0.20} _{-0.10}	0.40 ± 0.15
RPZ18	3.10 ^{+0.20} _{-0.10}	1.55 ± 0.15	0.55 ^{+0.10} _{-0.05}	0.35 ± 0.20	0.50 ^{+0.20} _{-0.15}
RPZ33	3.10 ^{+0.20} _{-0.10}	2.60 ± 0.15	0.60 ± 0.10	0.35 ± 0.20	0.50 ^{+0.20} _{-0.15}

Not recommended : RPZ18(1206) , RPZ33(1210)

(Unit: mm)

■ Ratings

	Rated power	Limiting element voltage(*1)	Maximum overload voltage(*2)	Range of rated resistance	Tolerance on rated resistance	Category temperature range	Temperature Coefficient of Resistance(T.C.R)	
RPZ10	0.25W	150V	200V	1.0Ω~10MΩ	J(±5%)	-55°C~+155°C	1.0Ω~9.1Ω	±250×10 ⁻⁶ /°C
							10Ω~10MΩ	±200×10 ⁻⁶ /°C
				1.0Ω~1.5MΩ	F(±1%)	-55°C~+155°C	1.0Ω~9.1Ω	±250×10 ⁻⁶ /°C
RPZ18	0.33W	200V	400V	1.0Ω~10MΩ	J(±5%)	-55°C~+155°C	1.0Ω~9.1Ω	±250×10 ⁻⁶ /°C
							10Ω~10MΩ	±200×10 ⁻⁶ /°C
				1.0Ω~1MΩ	F(±1%)	-55°C~+155°C	1.0Ω~9.1Ω	±250×10 ⁻⁶ /°C
RPZ33	0.5W	200V	400V	1.0Ω~10MΩ	J(±5%)	-55°C~+155°C	1.0Ω~9.1Ω	±250×10 ⁻⁶ /°C
							10Ω~1.5MΩ	±200×10 ⁻⁶ /°C
				1.0Ω~10MΩ	F(±1%)	-55°C~+155°C	1.0Ω~10MΩ	±200×10 ⁻⁶ /°C

(*1) Rated voltage = $\sqrt{\text{Rated power} \times \text{Resistance value}}$

In the case of rated voltage over above limiting element voltage, limiting element voltage will be the maximum.

(*2) The applied voltage in short time overload test = 2.5 × rated voltage

In the case of the applied voltage in short time overload test over above maximum overload voltage, maximum overload voltage will be the maximum.

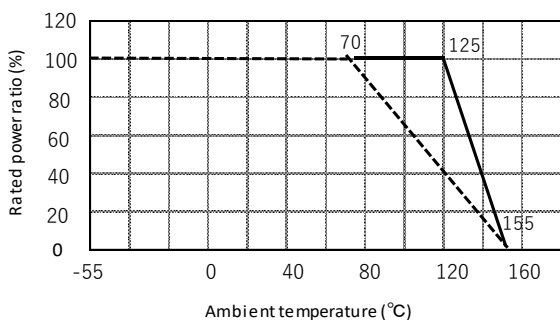
* There are the supplementary information about rating on reference page.

* Temperature Coefficient of Resistance (T.C.R) is based on JIS C5201-1 6.2 between two points: 25°C and 125°C.

■ Specifications and test methods

Item	Specifications	Test method
Overload	± (2%+0.05Ω)	JIS C5201-1 8.1 2.5 × Rated voltage, for 5 seconds
Bend strength of the face plating	± (1%+0.05Ω)	JIS C5201-1 9.8 Bending distance : 3mm
Resistance to soldering heat	± (1%+0.05Ω)	JIS C5201-1 11.2 260 ± 5°C.10(sec.)
Solderability	Covered with more than 95%	JIS C5201-1 11.1 245 ± 3°C.2(sec.)
Rapid change of temperature	± (1%+0.05Ω)	JIS C5201-1 10.1 -55°C⇄+125°C,1000(times)
Loadlife in humidity	± (3%+0.05Ω)	60 ± 2°C.90~95% R.H 1000h
Endurance at 70°C	± (3%+0.05Ω)	JIS C5201-1 7.1 70 ± 2°C.1000h

■ Derating curve



* Rated power of the resistor is the maximum power which can be loaded continuously at the ambient temperature of 70 °C. For the ambient temperature above 70 °C, please use according to the load derating curve (dotted line). Please note that the component surface temperature does not exceed operating temperature range.

* When the component temperature is 155°C or less, the load reduction beginning temperature can be changed to 125°C of the dotted line.(solid line)