

Anti-pulse thick film chip resistors TPC series

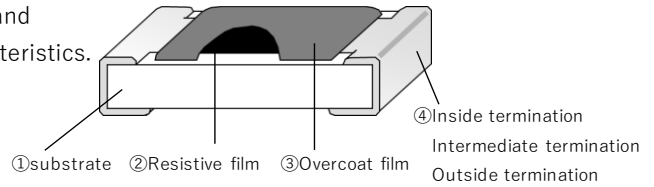
TPC10 (0805) *(): Inch size

Recommendation

■ Features

- The use of accurate resistive film printing technology and trimming has dramatically improved anti-pulse characteristics.
- Also guaranteed high rated power 0.60W
- RoHS qualified
- ELV qualified
- AEC-Q200 qualified

■ Structure



*This is only a schematic drawing of the structure.

■ Part No. Explanation (Example)

T	P	C	1	0		T	1	0	3	J
Product type			Rated power and Size		T.C.R	Packaging form	Nominal resistance value(*)			Resistance tolerance
TPC : Anti-pulse			10 : 0.6W,0805		V: ±100 (10 ⁻⁶ /°C)	T : 4mm pitch taping φ 180 reel	The resistance value is indicated by 3-digit numbers. E96 sequence products are indicated by a 4-digit.			J: ±5% F: ±1% D: ±0.5%

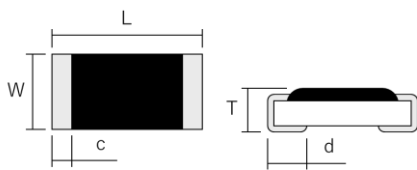
*The first two numbers are significant numbers,

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

*In the case of the E96 sequence, the first three values mean the significant figures and the fourth one represents the number of 0 following to them (multiplier of 10).

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

■ Dimensions



	L	W	T	c	d
TPC10	2.00 ± 0.15	1.25 ± 0.15	0.55 +0.10 -0.05	0.25 +0.20 -0.15	0.40 ± 0.15

* External dimensions are for reference only.

(Unit: mm)

Overcoat film color : Black

■ 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)	
TPC10	0.6W	200V	400V	1Ω~1MΩ	J (±5%)	-55°C~+155°C	+25°C~+155°C	±200 × 10 ⁻⁶ /°C
					F (±1%)	-55°C~+155°C	+25°C~+155°C	±200 × 10 ⁻⁶ /°C
					D (±0.5%)	-55°C~+155°C	V +25°C~+155°C	±100 × 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.

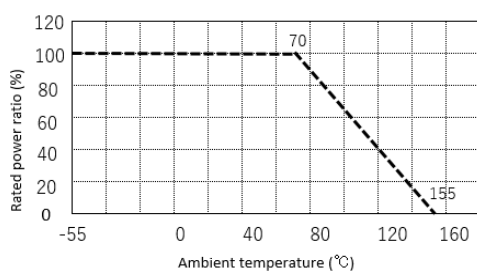
* There are the supplementary information about rating on reference page.

* 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	± (2%+0.05Ω)	60 ± 2°C. 90~95% R.H 1000h
Endurance at 70°C	± (2%+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.

* If the component temperature is below 155°C, the power rating can be used according to the load derating curve in the solid line.