

Version:
December 14, 2018



TOKEN

(TAP120) Thick Film Non-Inductive Power Resistors

Token Electronics Industry Co., Ltd.

Taiwan: No.137, Sec. 1, Zhongxing Rd., Wugu District,
New Taipei City, Taiwan, R.O.C. 24872
Tel: +886 2981 0109 Fax: +886 2988 7487

China: 12F, Zhong Xing Industry Bld., Chuang Ye Road,
Nan Shan District, Shen Zhen City,
Guang Dong, China 518054
Tel: +86 755 26055363; Fax: +86 755 26055365

Web: www.token.com.tw

Email: rfq@token.com.tw



▶ Product Introduction

New high-power non-inductive resistor (TAP120) enforces mechanical stability available.

Features :

- Thick film, Non-inductive.
- Small size and high power.
- High stability, Wide range of resistance.
- High insulation & partial discharge performance.

Applications :

- Variable Speed Drives.
- Power Supplies, Control Devices.
- Telecommunications, Robotics.
- Motor Controls and other Switching Devices.

Token is devoting in the development of thick film non-inductive power resistors in particularly and powerful compact.

Non-inductive Thick Film (TAP120) Ultra-High-Power Resistors packaged in SOT247 with alumina ceramic metalized on the bottom for optimum discharge and improved heat transfer. Case encapsulates with resin-filled epoxy and enables large air distance between the terminals to achieve high insulation resistance.

Power Resistor (TAP120) handles power peaks, including those that happen whenever high-end electronic products are switched on and off, and it redirect power surges. Also Non-inductive (TAP120) help handle the rotational speed of electric motors such as those used in vehicles like locomotives and trams and in industrial equipment.

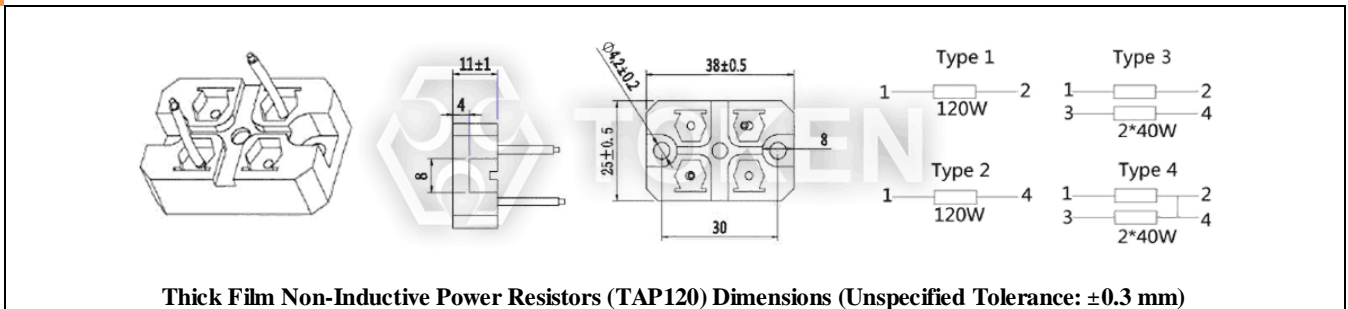
The thick flim resistor (TAP120) series consists of 4 connection options. Operating voltage can reach 1500V. Precision tolerance has 0.5%、1%、2%、5%、10% alternative. While the center temperature of the bottom plate lower than 85°C, the type 1 and type 2 can remain full power of 120W.

For customed designs, tighter tolerances, non-standard technical requirements, or custom special applications, please contact our sales for more information. Or link to Token official website "[Power Resistors](http://www.token.com.tw)" for more information.



► Dimensions & Electrical Characteristics

TAP120 Construction & Dimensions (Unit: mm)



TAP120 Technical Specifications

Technical Specifications	Values
Rated Power (W) (Base Plate Center Temp ≤ 85°C)	120W
Resistance range (Ω)	0.1Ω ~ 1MΩ
Tolerance (%)	±0.5% ~ ±10%
TCR (ppm/°C) (25°C ~ 105°C)	±500 ppm (±50 ppm on request.)
Max.working voltage (VDC)	1500 V
Mounting-torque for contacts	M4 screw 1.5 Nm Max
Temperature range (°C)	-55°C ~ +125°C

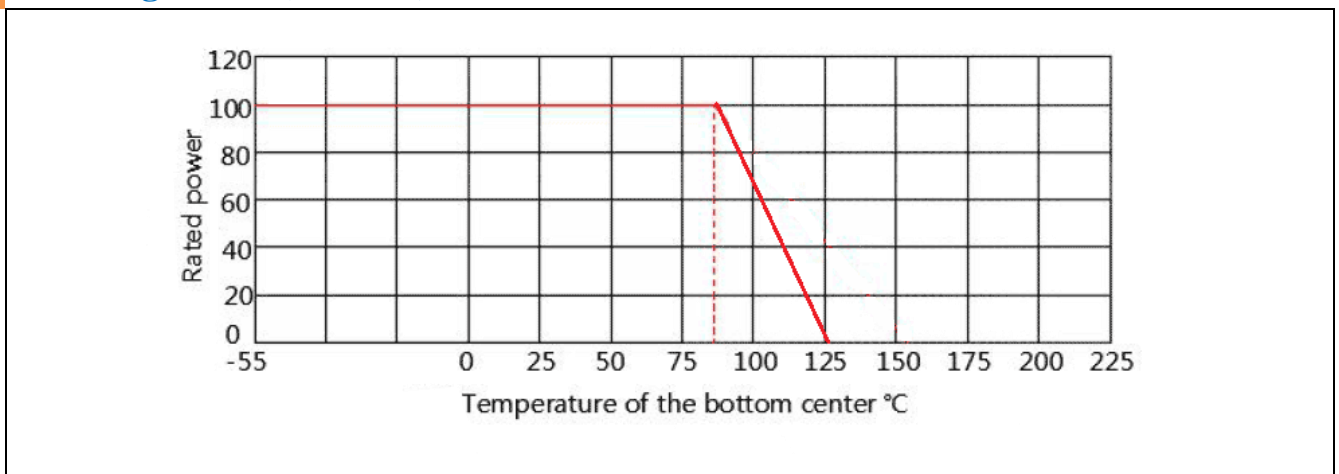
▶ Test Condition

Test Condition (TAP120)

Test Item	Test Methods	Characteristics
Short Time Overload	JIS-C-5201-1 4.13 1.5P amount does not exceed 1.5UMax/5s	$\Delta R/R \leq \pm(0.25\%+0.1\Omega)$
Insulation resistance	JIS-C-5261 6-1 500VDC	10G Ω Min.
Dielectric withstanding voltage	JIC-C-5261 7-1 3000VAC 1 minute between terminal and axis.	Free of appearance or structural irregularity.
Vibration	JIS-C-5261 6-6 50HZ, amplitude 2mm, lasting 4Hrs.	$\Delta R/R \leq \pm(0.1\%+0.1\Omega)$
Load life	JIS-C-5261 7-7 Rated power 1000Hrs.	$\Delta R/R \leq \pm(1\%+0.1\Omega)$
Temperature Cycling	JIS-C5201-1 4.19 -55°C ~ 125°C, 5 cycles	$\Delta R/R \leq \pm(0.3\%+0.1\Omega)$
Humidity	JIS-C5201-1 4.24 +40°C/95%RH for 240Hrs. with 1.5Hrs 'ON', 0.5Hr 'OFF'	$\Delta R/R \leq \pm(0.25\%+0.1\Omega)$

▶ Derating Curve

Derating Curve (TAP120)



Order Codes

Order Codes (TAP120)

TAP120	1		10R		K	
Part Number	Configurations		Resistance (Ω)		Resistance Tolerance (%)	
TAP120	1	Type 1, 120W	10R	10 Ω	D	$\pm 0.5\%$
	2	Type 2, 120W	100R	100 Ω	F	$\pm 1\%$
	3	Type 3, 40W x 2	1K	1000 Ω	G	$\pm 2\%$
	4	Type 4, 40W x 2	1M	1000000 Ω	J	$\pm 5\%$
					K	$\pm 10\%$

General Information

Compact TO-Style Resistors are Low Cost

Token Electronics TO-Style power film heat sink mountable resistors, TO-220 and TO-247 Style Packages, are designed for intermediate power applications and combines performance with an economical price.

TO-220 Power Resistors, TO-247 Power Resistors RMG series are ultra-precision and high power resistors encapsulated in the TO-220, TO-247 style power package. Power resistors are manufactured in 20W, 30W, 35W, 50W and 100W. Resistance element is electrically insulated from metal heat sink mounting tab. When properly mounted Token's RMG** TO220/TO247 packaged power resistors provide up to 50/100 watts of steady state power. These very low inductance resistors are ideal for many industrial applications: power supplies, power controls and inrush/bleeder resistors.

Non-Inductive Design for High Frequency Applications

Token's TO-Style Series satisfy demanding applications for accurate and stable power resistors housed in the convenient TO-Style case. The resistance element is isolated from the mounting tab by an alumina ceramic layer, providing very low thermal resistance and ensuring high insulation resistance between terminals and tab.

These isolated resistor element are constructed and packaged in a high temperature plastic case with a single screw metal tab for easy mounting to the heat sink. The non-inductive design makes these products especially useful in high frequency and high speed pulse applications.

Pulse-Loading Applications as Snubber or Bleeder Resistors

Token's TO-Style resistors are designed for use in pulse-loading applications, as bleeder or snubber resistors in switching power supplies, industrial power drives, medical, test equipment, high power equipment such as uninterruptible power supplies (UPS), and other power distribution and power conversion applications.

The Power Film Resistors use an optimized process of Token's thick film technology on an alumina substrate to achieve tolerances as low as $\pm 0.5\%$, and up to $\pm 10\%$. The Non-Inductive design and resistance values as low as 0.05 ohms are also ideal for current sensing applications.

