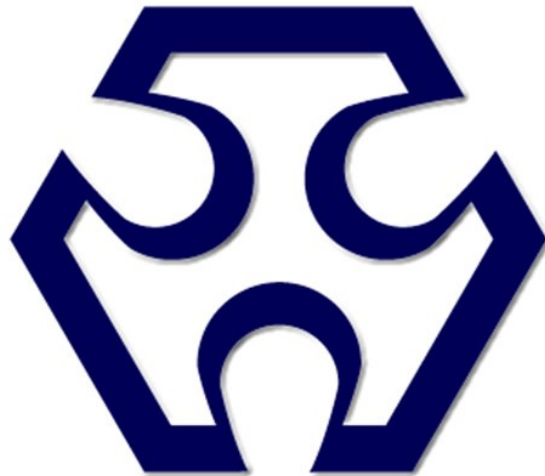


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# TOKEN

## **(RMG30) TO-220 Snubber Power Film Bleeder Resistors**

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## ▶ Product Introduction

### ||| TO-220 Power Resistors take on transistor outlines.

#### Features :

- Isolated Case, Non Inductive, TO-220 Style Power Package.
- Single Screw Mounting to Heat Sink, Molded Case for Protection and Easy to Mount.
- 30 Watt at 25°C Case Temperature Heat Sink Mounted.

#### Applications :

- Gate Resistors in Power Supplies, Terminal Resistance in RF Power Amplifiers.
- UPS, Snubbers, Voltage Regulation, Low Energy
- Pulse Loading, Load and Dumping Resistors in CRT Monitors.

A wide range of TO-style power film resistors that are designed for use in power electronic circuits such as snubber, current limiting, bleeder, current sensing and other power resistor applications, is available from Token Components.

Their compact heat sink-mountable construction ensures that they are ideal for high-power-density applications, and the non-inductive form allows these TO-style resistors to operate at up to 30 Watt at 25°C case temperature.



RMG30 Series values as low as 0.05Ω make them particularly suited for current sensing applications with Pb-free Terminations Meet RoHS Requirements.

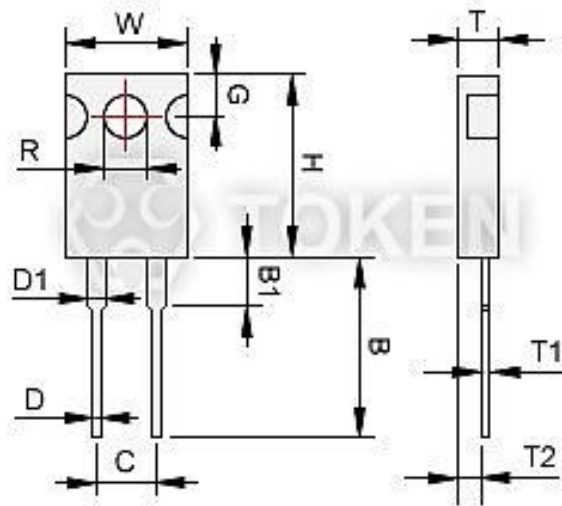
The resistance range of these resistors is from 0.05Ω to 10KΩ and tolerances are standard at 1% for most resistance values, although 5% tolerances are available.

Many standard values are available from Token. Contact us with your specific needs. Please link to Token official website "[Power Resistors](http://www.token.com.tw)" for more information.

## ► Dimensions

### Dimensions (Unit: mm) (RMG30) TO220

Type	W	H	T	T1	T2	B	B1	C	D	D1	G	R
RMG30	10.15	16.00	2.92	0.40	1.52	11.43	2.54	4.82	0.66	1.14	2.92	3.08
	~ 10.67	~ 16.52	~ 3.44	~ 0.60	~ 2.04	~ 13.97	~ 4.06	~ 5.34	~ 0.86	~ 1.40	~ 3.44	~ 3.28



TO-220 Style Resistor (RMG30)  
Dimensions (Unit: mm)

## ► Specifications

### Electrical Characteristics Specifications (RMG30) TO220

Resistance Range	Resistance Tolerance	TCR(PPM/°C)
0.05Ω~1Ω	±5.00% ±10.0%	-
2Ω~5Ω	±1.00% ±5.00% ±10.0%	±200
5Ω~10Ω	±1.00% ±5.00% ±10.0%	±100 ±200
11Ω~10KΩ	±0.50% ±1.00% ±5.00% ±10.0%	±50 ±100 ±200

- Operating Voltage:350V Max. Dielectric Strength: 1800VAC. Insulation Resistance: 10GΩmin.
- Working Temperature Range:-65°C to +150°C. Resistance Value < 1Ω is Available

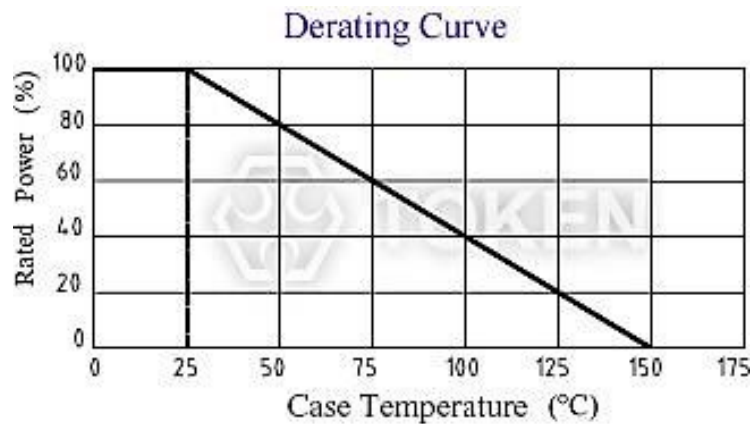
► **Characteristics**

**Environmental Characteristics (RMG30) TO220**

Test Item	Specification	Test Method
Temperature Coefficient of Resistance	10Ω and above, ±50ppm/°C 1Ω and 10Ω, (±100ppm)/°C	Referenced to 25°C, ΔR taken at +105°C
Short Time Overload	Δ R±0.3%	2 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds.
Load Life	Δ R±1.0%	MIL-R-39009, 2,000 hours at rated power.
Humidity (Steady State)	Δ R±0.5%	MIL-STD-202F, Method 103B 40°C, 90~95%RH, RCWV 1.5hours ON, 0.5hours OFF. total 1000~1048 hours.
Thermal Shock	Δ R±0.3%	MIL-STD-202, Method 107G. -65°C~150°C, 100 cycle
Terminal Strength	Δ R±0.2%	MIL-STD-202, Method 211, Cond.A(Pull Test) 2.4N.
Vibration, High Frequency	Δ R±0.2%	MIL-STD-202, Method 204, Cond.D.

- **Lead Material: Tinned Copper. Maximum Torque: 0.9 Nm.**
- **Without Heat Sink, When in Free Air at 25°C, the RMG30 is rated for 2.25W.**
- **The Case Temperature is to be used for the Definition of the Applied Power Limit.**
- **The Case Temperature Measurement Must be Made with a Thermocouple Contacting the Center of the Component Mounted on the Designed Heat Sink.**
- **Thermal Grease Should be Applied Properly.**

► **Derating Curve**



(RMG30) Power Derating Curve

▶ **Order Codes**

**Order Codes (RMG30) TO220**

RMG	30	J	P	D	10R				
Part Number	Power Rating (W)	Resistance Tolerance (%)		Package	TCR (PPM/°C)	Resistance (Ω)			
		D	±0.5%	T	Tube	D	±50PPM/°C	0R1	0.1Ω
		F	±1%	P	Bulk	E	±100PPM/°C	10R	10Ω
		G	±2%			F	±200PPM/°C	1K	1KΩ
		J	±5%			-	No specified	10K	10KΩ
		K	±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 ± 0.5 %, and up to ± 10 %. The Non-Inductive design and resistance values as low as 0.05 ohms are also ideal for current sensing applications.