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DIRECT

Electronics Tech.

(RMG100) TO247 Power Pulse-loading Resistors

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▶ Product Introduction**||| TO-247 Power Resistors handle high-speed pulses.****Features :**

- TO-247 Style Power Package.
- Single M3 Screw Mounting to Heat Sink.
- Molded Case for Protection and Easy to Mount.
- Non-Inductive Design, Electrically Isolated Case.
- 100 Watts at 25°C Case Temperature Heat Sink Mounted.

Applications :

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

Providing design engineers with a high-power resistive device in a stable transistor style package, Direct Electronics RMG100 Series TO-247 power resistors are available in 100W.

The resistors are specified for applications that require accuracy and stability. The RMG100 Series resistors are designed with an alumina ceramic layer that separates the resistance element and mounting tab.

This construction provides very low thermal resistance while ensuring high insulation resistance between the terminals and the metal back plate. As a result, the resistors feature a very low inductance, making them ideal for high frequency and high-speed pulse applications.

Additional applications for the RMG100 Series TO-247 resistors include automation test equipment, high frequency snubber and pulse handling circuits, motor control and drive circuits, switch mode power supplies, load resistors, automotive electronics, industrial power equipment, UPS systems and industrial computers.

RMG100 Series 100W resistors feature a resistance range of 0.1Ω to 10KΩ and operating temperature range is -65°C to +175°C.

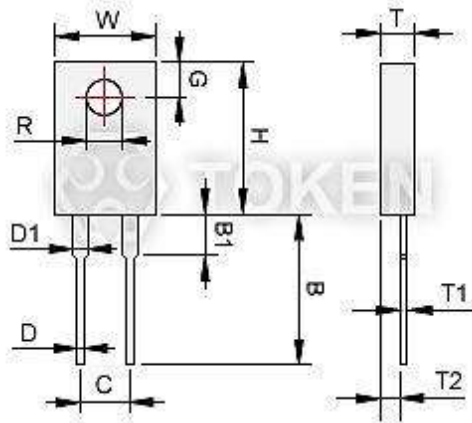
Direct will also produce devices outside these specifications to meet customer requirements. The RMG100 Series power resistors are RoHS-compliant with Pb-free Terminations. Contact us with your specific needs. Please link to Direct official website "[Power Resistors](#)" for more information.



► Dimensions

Dimensions (Unit: mm) (RMG100) TO247

Type	W	H	T	T1	T2	B	B1	C	D	D1	G	R
RMG100	15.49	20.44	4.69	0.55	2.15	13.21	2.03	9.90	1.42	3.45	5.07	3.53
	~ 16.01	~ 20.96	~ 5.21	~ 1.07	~ 2.67	~ 15.75	~ 3.55	~ 10.42	~ 1.62	~ 3.81	~ 5.59	~ 3.73



Pulse Loading TO-247 Power Resistor
RMG100 Dimensions (Unit: mm)

► Specifications

Electrical Characteristics Specifications (RMG100) TO247

Resistance Range	Resistance Tolerance	TCR(PPM/°C)
0.1Ω~1Ω	±5% ±10%	-
>1Ω~3Ω	±1%	±300
>3Ω~10Ω	±1% ±5% ±10%	±100 ±200
>10Ω~10KΩ	±1% ±5% ±10%	±50 ±100 ±200

- Operating Voltage: 350V Max. Dielectric Strength: 1800V AC
- Insulation Resistance: 10GΩ min. Working Temperature Range: -65°C to +175°C



► Characteristics

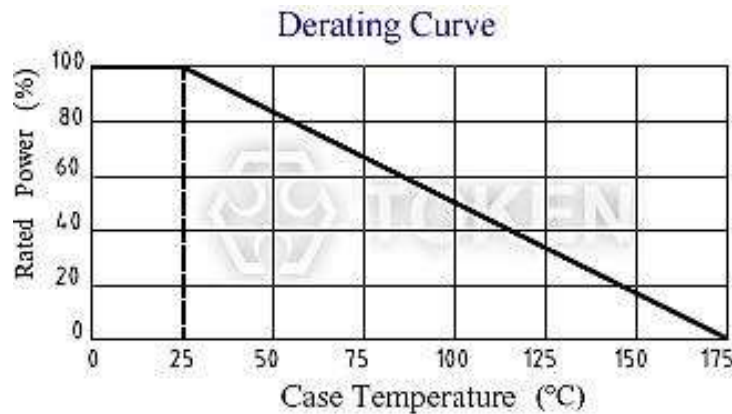
Environmental Characteristics (RMG100) TO247

Test Item	Specification	Test Method
Temperature Coefficient of Resistance	As spec.	Referenced to 25°C, ΔR taken at +105°C
Short Time Overload	ΔR±0.5%	1.5 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds.
Dielectric strength	ΔR±0.15%	MIL-STD-202F Method 301(1800V AC, 60s)
Load Life	ΔR±1.0%	MIL-PRF-39009D, 4.8.13 Rated power, 2,000 hours.
Moisture resistance	ΔR±0.5%	-10°C ~+65°C, RH>90%, cycle 240 hours.
Thermal Shock	ΔR±0.5%	MIL-STD-202, Method 107G. -65°C ~150°C, 100 cycle
Terminal Strength	ΔR±0.2%	MIL-STD-202F, Method 211, Cond. A (Pull Test) 2.4N
Vibration, High Frequency	ΔR±0.42%	MIL-STD-202F, Method 204, Cond.D
Solderability	90% min coverage	MIL-STD-202F Method 208H 245°C ±5°C, 3±0.5 (sec)

- **Lead Material: Tinned Copper. Thermal Grease Should be Applied Properly.**
- **When in Free Air at 25°C, the RMG100 is Rated for 3.5W.**
- **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.**

► Derating Curve

Power Derating Curve (RMG100) TO247



TO-247 (RMG100) Power Derating Curve



▶ Order Codes

Order Codes (RMG100) TO247

RMG	100	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%		G ±300PPM/°C	10K 10KΩ
		K ±10%		- No specified	

▶ General Information

Compact TO-Style Resistors are Low Cost

Direct 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 Direct'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

Direct'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

Direct'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 Direct'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.

