Power TO-Style Resistors

TO-220 Power TO-Style Resistors - RMG35 Series Boast Superior Thermal Performance

Preview

Giving power electronics design engineers a comprehensive range of high-wattage surface mount and through-hole resistors designed to provide superior thermal performance in densely populated power supply circuits, Token Electronics has released a series of noninductive power resistors with power ratings 35W, in popular transistor-style packages (TO-220).

The RMG35 resistors are designed to provide complete thermal flow from the resistive element to the integral metal flange of the TO-style packages, giving design engineers the ability to specify them for high-wattage power electronics circuits that can experience elevated temperatures during operation.

The devices are all rated for operation from -65°C to +150°C.

Their superior thermal performance and extreme power ratings make the RMG35 Series resistors ideal for switch-mode power supply circuits, motor control and drive circuits, automotive electronics, industrial power equipment and UPS systems. In addition, their non-inductance exhibit excellent high frequency characteristics for use in high frequency industrial RF power sources, RF linear amplifiers, termination resistor of RF circuit etc.

The RMG35 Series resistors feature thermally enhanced two-leaded industry standard packages designed for mounting directly to a heatsink. Token Electronics will also produce devices outside these specifications to meet customer requirements, with comprehensive application engineering and design support available for customers worldwide.

All RMG35 Series devices are RoHS-compliant, and compatible with high temperature soldering processes normally employed for lead free solders.
Contact us with your specific needs.

Applications

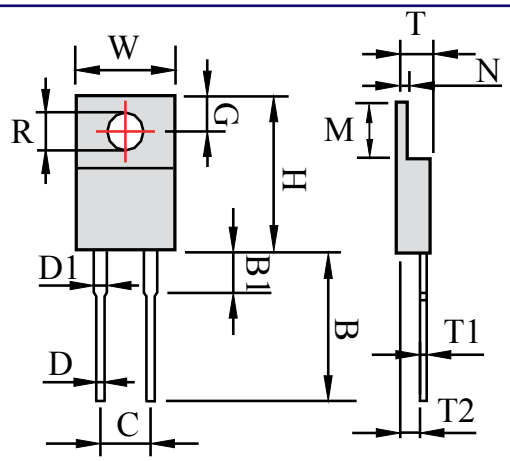
- RF Power Amplifier.
- Switching Power Supplies.
- Low Energy Pulse Loading.
- Automated Machine Controller.
- UPS, Snubbers Circuits, Voltage Regulation.



Features

- Single Screw Mounting to Heat Sink.
- Molded Case for Protection and Easy to Mount.
- 35 Watt at 25°C Case Temperature Heat Sink Mounted.
- TO-220 Style Power Package, Isolated Case, Non Inductive.
- Low Thermal Resistance to Heat Sink at Rth < 4.28°C/W.

Dimensions (Unit: mm)



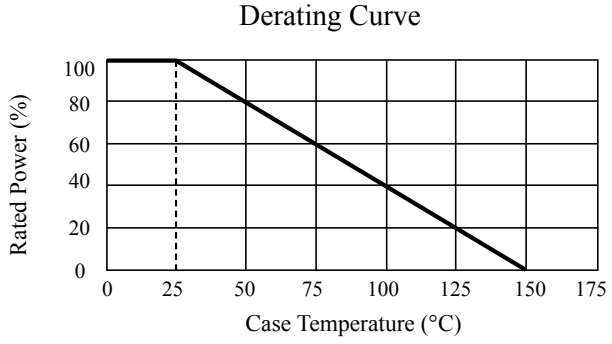
Type	W	H	T	T1	T2	B	B1	C	D	D1	G	R	M	N
RMG35	9.91 ~ 10.41	14.50 ~ 15.00	4.06 ~ 4.82	0.55 ~ 0.70	2.05 ~ 2.52	12.70 ~ 14.70	4.00	4.83 ~ 5.33	0.70 ~ 0.86	1.17 ~ 1.37	2.85 ~ 3.05	3.55 ~ 3.75	5.85 ~ 6.35	1.20 ~ 1.40

Electrical Characteristics Specifications

Resistance Range	Resistance Tolerance	TCR(PPM/°C)
0.05Ω~1Ω	±5.00%; ±10.0%	-
>0.1Ω~1Ω	±1.00%; ±5.00%; ±10.0%	-
>1Ω~3Ω	±1.00%; ±5.00%; ±10.0%	±300
>3Ω~10KΩ	±1.00%; ±5.00%; ±10.0%	±100 ±200
>10Ω~10KΩ	±0.50%; ±1.00% ±5.00%; ±10.0%	±50 ±100 ±200

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

Power Derating Curve



Environmental Characteristics

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.

Note:1.Lead Material: Tinned Copper. Maximum Torque: 0.9 Nm.
2.Without Heat Sink, When in Free Air at 25°C, the RMG35 is Rated for 2.50W.
3.The Case Temperature is to be used for the Definition of the Applied Power Limit.
4.The Case Temperature Measurement Must be Made with a Thermocouple Contacting the Center of the Component Mounted on the Designed Heat Sink.
5.Thermal Grease Should be Applied Properly.

How to Order

RMG ❶ | 35 ❷ | J ❸ | P ❹ | D ❺ | 10R ❻

❶ Part Number

❷ Power Rating

❸ Resistance Tolerance (%)

Code	Resistance Tolerance
D	±0.5%
F	±1%
G	±2%
J	±5%
K	±10%

❹ Package

Code	Package
T	Tube
P	Bulk

❺ TCR (PPM/°C)

Code	TCR
D	±50PPM/°C
E	±100PPM/°C
F	±200PPM/°C
-	No specified

❻ Resistance

Code	Resistance
0R1	0.1Ω
10R	10Ω
1K	1KΩ
10K	10KΩ

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