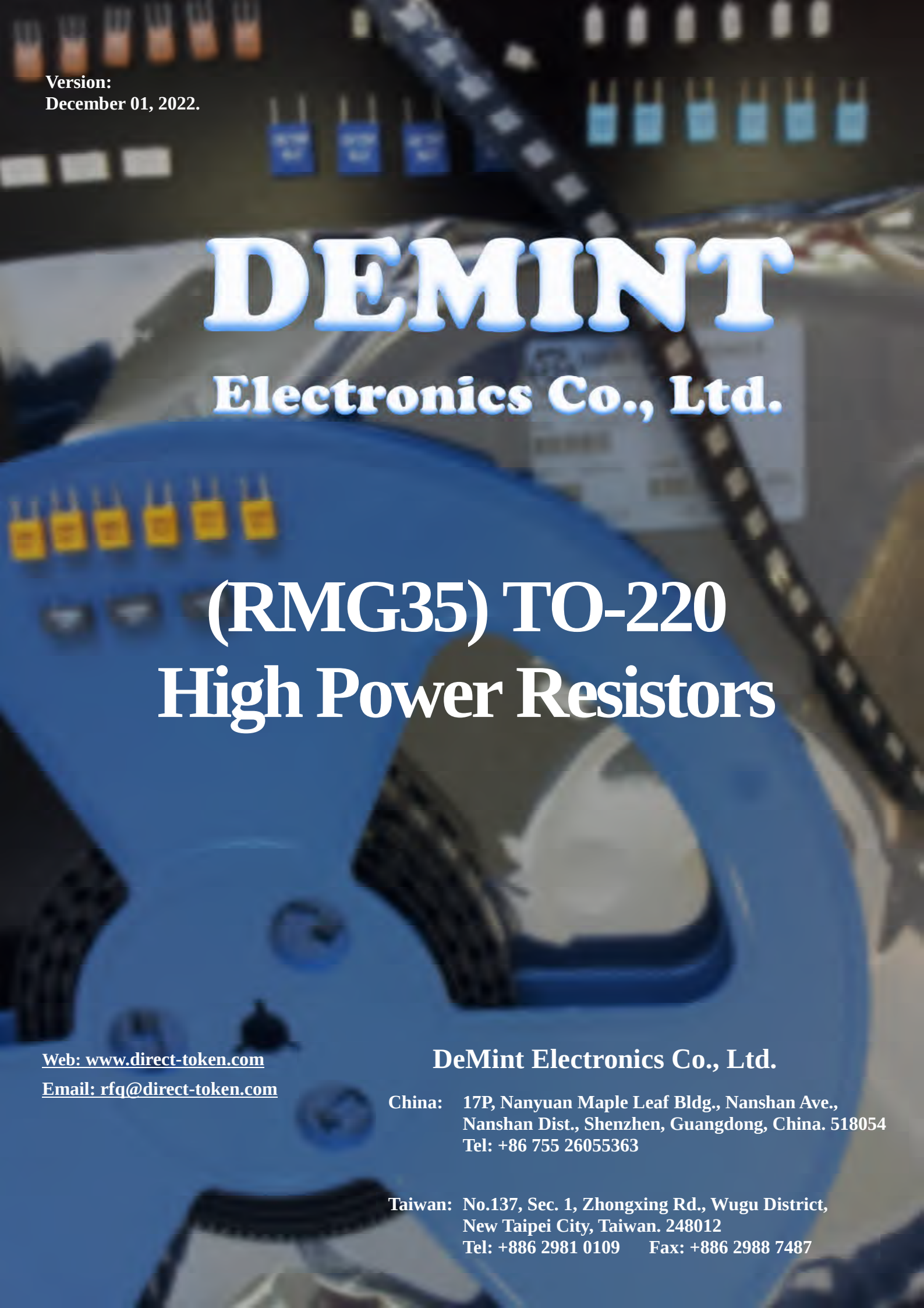


Version:
December 01, 2022.

DEMINT
Electronics Co., Ltd.

(RMG35) TO-220 High Power Resistors

Web: www.direct-token.com
Email: rfq@direct-token.com

DeMint Electronics Co., Ltd.

China: 17P, Nanyuan Maple Leaf Bldg., Nanshan Ave.,
Nanshan Dist., Shenzhen, Guangdong, China. 518054
Tel: +86 755 26055363

Taiwan: No.137, Sec. 1, Zhongxing Rd., Wugu District,
New Taipei City, Taiwan. 248012
Tel: +886 2981 0109 Fax: +886 2988 7487

Product Introduction

TO220 High Power Resistors boast superior thermal performance.

Features :

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

Applications :

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

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, DeMint Electronics has released a series of non-inductive 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℃ to +150℃.

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.

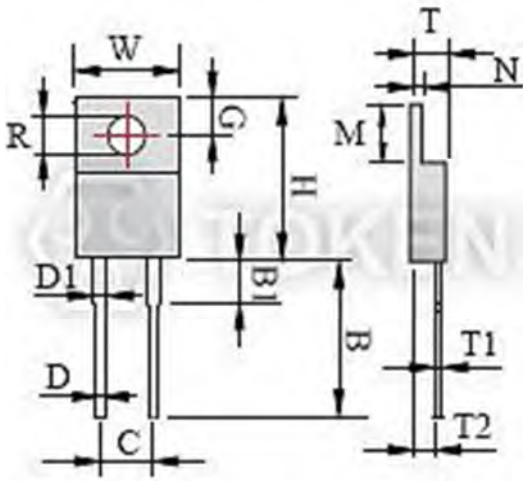
The RMG35 Series resistors feature thermally enhanced two-leaded industry standard packages designed for mounting directly to a heat-sink. DeMint Electronics will also produce devices outside these specifications to meet customer requirements, with comprehensive application engineering and design support 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. Please link to DeMint official website "Power Resistors" for more information.

Dimensions

Dimensions (Unit: mm) (RMG35) TO220

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



TO-220 Style Resistors (RMG35)
Dimensions (Unit: mm)

Specifications

Electrical Characteristics Specifications (RMG35) TO220

Resistance Range	Resistance Tolerance	TCR(PPM/℃)
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

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

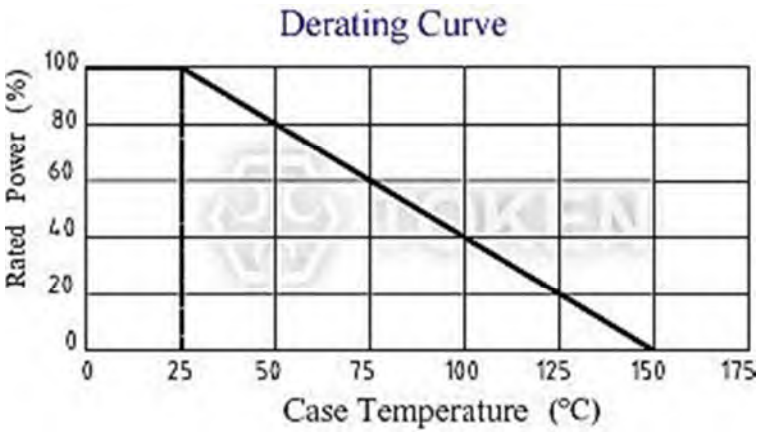
Characteristics

Environmental Characteristics (RMG35) TO220

Test Item	Specification	Test Method
Temperature Coefficient of Resistance	10Ω and above, ±50ppm/℃ 1Ω and 10Ω, (±100ppm)/℃	Referenced to 25℃, ΔR taken at +105℃
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℃, 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℃~150℃,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. Without a Heat Sink, when in Free Air at 25℃, the RMG20 is Rated for 2.25W.**
- **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



(RMG35) Power Derating Curve

Order Codes

Order Codes (RMG35) TO220

RMG	35	J	P	D	10R
Part Number	Power Rating (W)	Resistance Tolerance (%)	Package	TCR (PPM/℃)	Resistance (Ω)

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

Package	
T	Tube
P	Bulk

TCR (PPM/℃)	
D	±50PPM/℃
E	±100PPM/℃
F	±200PPM/℃
-	No specified

Resistance (Ω)	
0R1	0.1Ω
10R	10Ω
1K	1KΩ
10K	10KΩ

General Information

Compact TO-Style Resistors are Low Cost

DeMint 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 DeMint'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

DeMint'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

DeMint'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 DeMint'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.