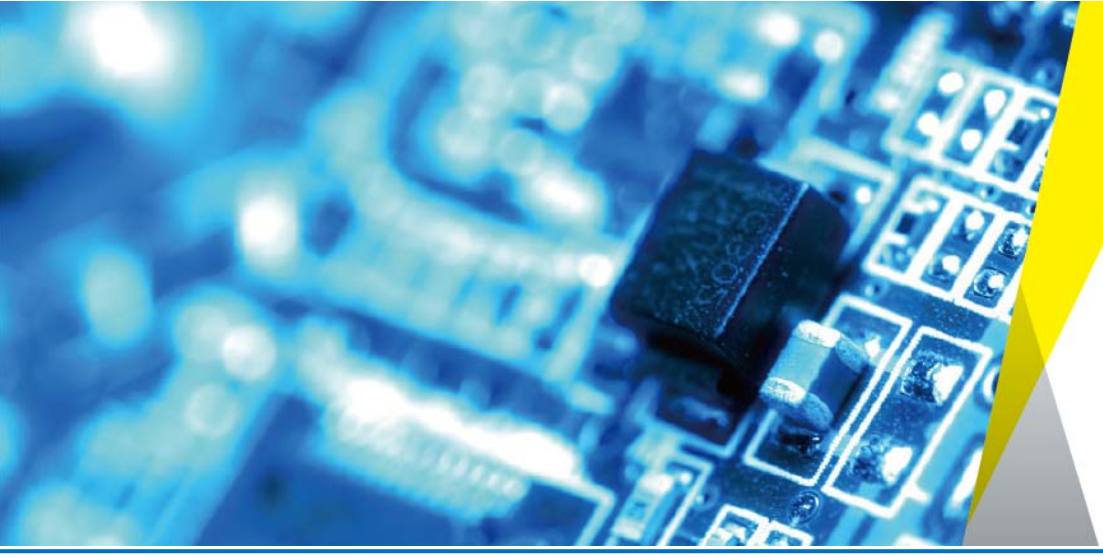

DATASHEET

Product Name	**High Power, High Current Mica Grid Resistors**
Part Name	**GRM 4kW 40Rx6+2KW 80Rx6+400W 400Rx2+800W 200Rx4+200W 800Rx2 ±5%**
Part No.	**GRM000J0400E00**
File No.	**DIP-SP-092**

Uniroyal Electronics Global Co., Ltd.

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	Aeon Technology Corporation
	Royal Electronic Factory (Thailand) Co., Ltd.
	Royal Technology (Thailand) Co., Ltd.

1. Scope

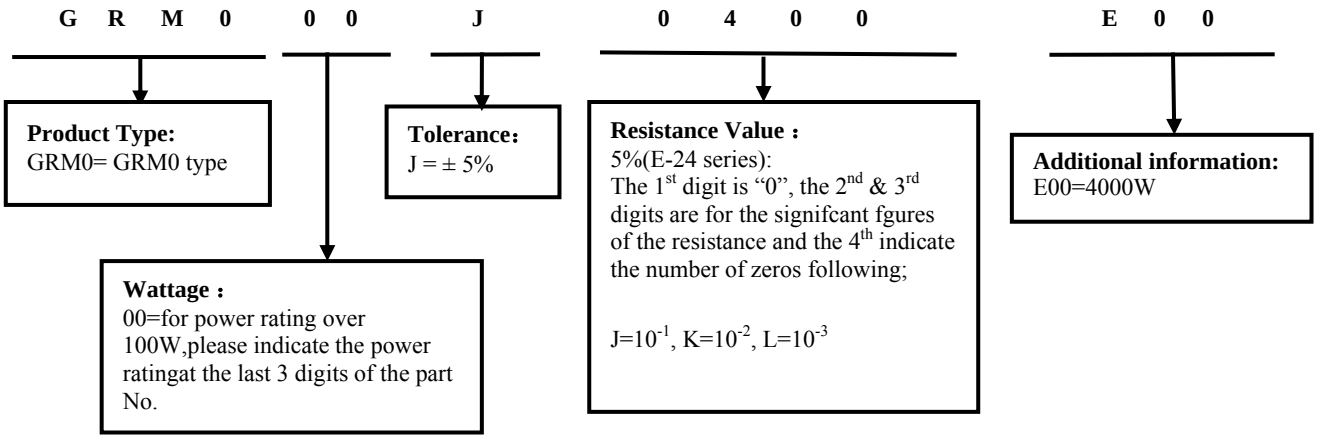
1.1 This datasheet is the characteristics of High Power,High Current Mica Grid Resistors manufactured by UNI-ROYAL.
1.2 With impact resistance, fast heat dissipation, high Stable, long service life and so on.

2. Part No. System

The standard Part No. includes 14 digits with the following explanation:
2.1 The 1st to 4rd digits are to indicate the product type.
Example: GRM0= Grid Resistors, Mica Series
2.2 5th~6th digits:
2.2.1 For power rating of 100W and over, the 5th & the 6th digits will be indicated with "00"and the actual wattage being indicated at the last 3 digits (12th~14th) of the part No.
2.3 The 7th digit is to denote the Resistance Tolerance. The following letter code is to be used for indicating the standard Resistance Tolerance.
J=±5%
2.4 The 8th to 11th digits is to denote the Resistance Value.
2.4.1For the standard resistance values of E-24 series, the 8th digit is "0",the 9th & 10th digit are to denote the significant figures of the resistance and the 11th digit is the numbers of zeros following.
Example:
0400=40Ω
2.5 The 12th, 13th & 14th digits.
2.5.1 for power rating over 100 watt, please indicate the power rating at the last 3 digits of the part no.
Example: 4KV=4000W

3. Ordering Procedure

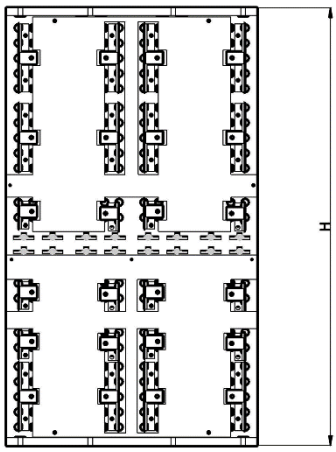
(Example: GRM 4kW 40Rx6+2KW 80Rx6+400W 400Rx2+800W 200Rx4+200W 800Rx2 ±5% B/B)

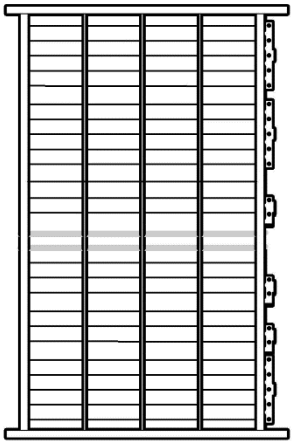


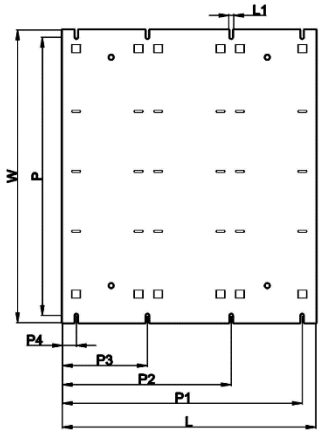
4. Rating

Type	Tolerance	Resistance	Operating Temperature
GRM0	±5%	4kW 40Rx6+2KW 80Rx6+400W 400Rx2+800W 200Rx4+200W 800Rx2	-55~+275°C

5. Dimension



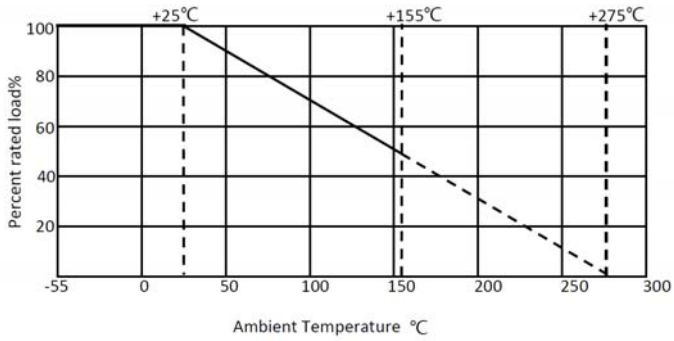




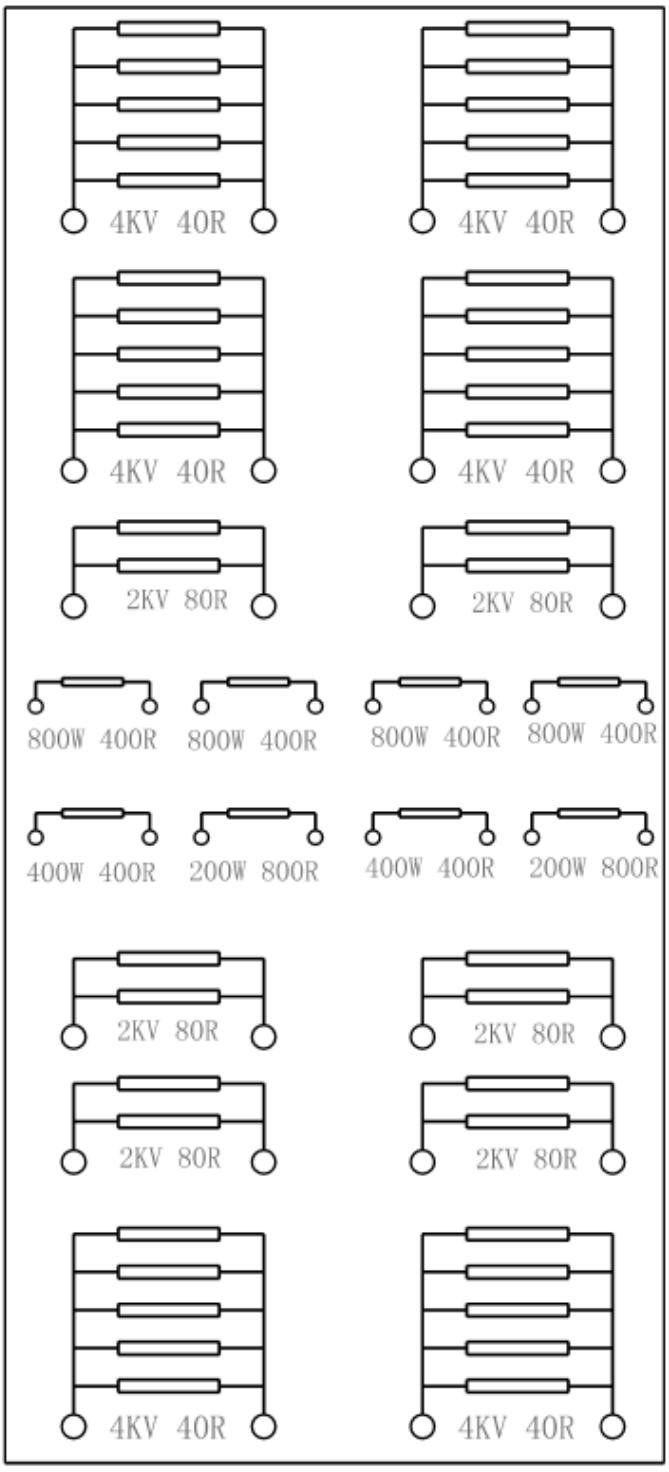
Unit : mm

Type	H±5	L±2	L1±0.5	W±2	P±1	P1±1	P2±1	P3±1	P4±1
GRM0	460	260	5	300	285	246	173	87	14

6. Derating Curve



7. Circuit Structure



8. Performance Specification

Characteristic	Limits	Test method (GB/T 5729&JIS-C-5201&IEC60115-1)
Temperature Coefficient	±500 PPM/℃	4.8 Natural resistance changes per temp. Degree centigrade $\frac{R_2-R_1}{R_1(t_2-t_1)} \times 10^6$ (PPM/℃) R_1: Resistance value at room temperature R_2: Resistance value at room temperature +100℃ t_1: Room temperature t_2: Room temperature +100℃
Short-time overload	Resistance change rate is: ±(5%+0.05Ω)Max. With no evidence of mechanical damage.	4.13 Permanent resistance change after the application of a potential of DC 10 times rated power for 5 seconds.
Vibration	With no evidence of mechanical damage Resistance change rate is: ±(0.5%+0.05Ω)Max	Condition 1: Frequency range: 10-55Hz,1octave/min,(X,Y,Z, 45/min for each of the 3 axes, 10 frequency sweep cycles), PCBA acceleration of 6g, the acceleration of the whole device 3g(working condition) Condition 2: Frequency range: 5-100Hz,100-500 Hz,(X,Y,Z, 30/min for each of the three axes), PCBA acceleration of 6g, the whole device acceleration of 3g(working condition)
Rapid change of temperature	ΔR/R ≤ ±(5%+0.05 Ω) with no evidence of mechanical damage	4.19 30 min at -55 °C and 30 min at 155°C; 5 cycles.
Low Temperature Storage	ΔR/R ≤ ±(5%+0.05 Ω)	IEC 60068-2-1 (Aa) -40℃±3℃,for 16H.
High Temperature Exposure	ΔR/R ≤ ±(5%+0.05 Ω)	MIL-STD-202 108A 70℃±2℃,for 16H.

9. Note

9.1. UNI-ROYAL recommend products store in warehouse with temperature between 15 to 35℃ under humidity between 25 to 75%RH.
Even under storage conditions recommended above, solder ability of products will be degraded stored over 1 year old.

9.2. Cartons must be placed in correct direction which indicated on carton, otherwise the reel or wire will be deformed.

9.3. Storage conditions as below are inappropriate:

a. Stored in high electrostatic environment

b. Stored in direct sunshine, rain, snow or condensation.

c. Exposed to sea wind or corrosive gases, such as Cl_2, H_2S, NH_3, SO_2, NO_2, Br etc.

10. Record

Version	Description	Page	Date	Amended by	Checked by
1	First version	1~5	Apr.27, 2023	Haiyan Chen	Yuhua Xu
2	Modified dimensional drawing	3	Jun.19, 2023	Haiyan Chen	Yuhua Xu
3	Cancel the humidity(Steady state) test	5	Sep.28, 2024	Haiyan Chen	Yuhua Xu
4	Modify the Ordering Procedure	2	Jun.19, 2025	Haiyan Chen	Yuhua Xu