

DATASHEET

Product Name **Metal Glaze Capped Ceramic Rod**

Part Name **MGC/MGD Series**

File No. **DIP-SP-078**

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1. Scope

- 1.1 This specification for approve relates to the Metal Glaze Capped Ceramic Rod manufactured by UNI-ROYAL.
- 1.2 Good performance against Humidity environment.
- 1.3 Wide IRV range, can be sorted accurately.
- 1.4 Best choice for Anti-surge product.

2. Explanation of Part No. System

The standard Part No. includes 14 digits with the following explanation:

- 2.1 The 1st to 2rd digits are to indicate the product type .

Example: MG= Metal Glaze

- 2.2 The 3th digit is the type.

Example: C= Capped Filming Rod ; D= Uncapped Filming Rod

- 2.3 The 4th digit is the Alumina Content.

Example: 1= Alumina 70% ; 2= Alumina 80% ; 3= Alumina 85%

- 2.4 The 8th to 11th digits is to denote the Size of Rod.

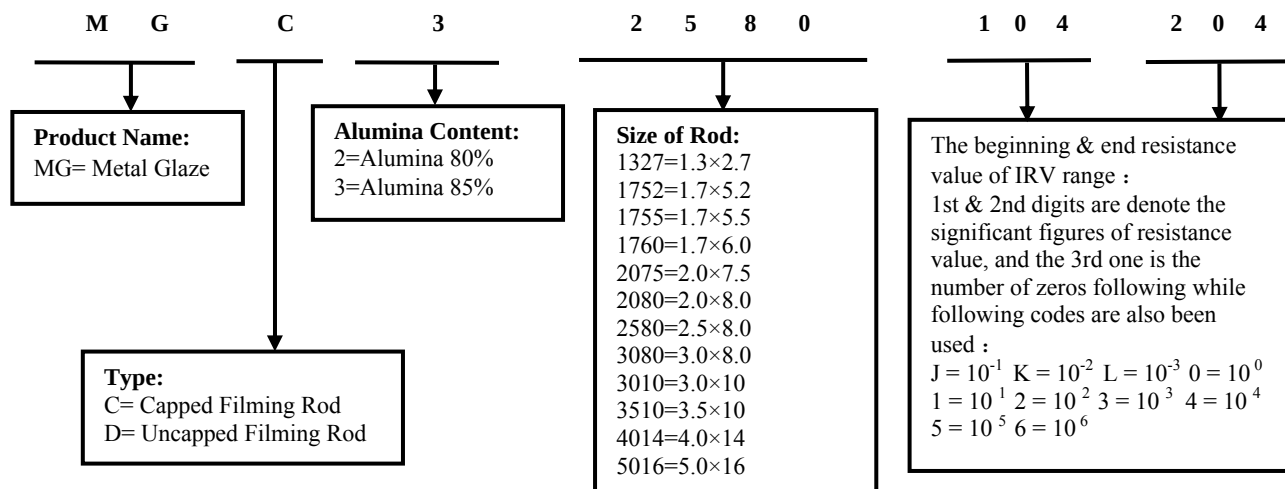
Example: 1327=1.3×2.7 ; 1752=1.7×5.2 ; 1755=1.7×5.5 ; 1760=1.7×6.0 ; 2075=2.0×7.5 ; 2080=2.0×8.0 ; 2580=2.5×8.0 ; 3080=3.0×8.0 ; 3010=3.0×10 ; 3510=3.5×10 ; 4014=4.0×14 ; 5016=5.0×16

- 2.5 The 9th to 14th digits is to denote the beginning & end resistance value of IRV range

1st & 2nd digits are denote the significant figures of resistance value, and the 3rd one is the number of zeros following while following codes are also been used:

J = 10^{-1} K = 10^{-2} L = 10^{-3} 0 = 10^0 1 = 10^1 2 = 10^2 3 = 10^3 4 = 10^4 5 = 10^5 6 = 10^6

3. Ordering Procedure: (Example: MG 85% 2.5×8.0 100-200K Ω)



4. Material:

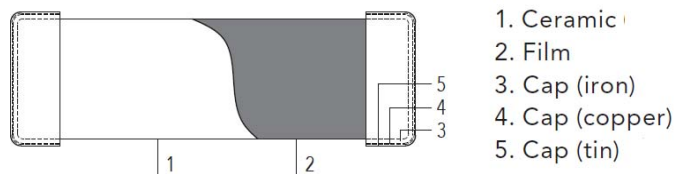
- (1) Ceramic rod's main ingredient: AL₂O₃ 80%、 AL₂O₃85% tolerance: ±3 % (mark alumina content 80%、 85%)

or customer requirement.

- (2) Iron cap main material: Iron

Plating of iron cap main ingredient: pure Cu and pure Sn

5. Dimension



Unit: mm

NO	Size	Uncapped Filming Rod		Capped Filming Rod		MIN PULLING FORCE (KG)
		D	L	D	L	
1	1.3x2.7	1.30±0.02	2.7±0.1	1.54~1.67	2.86~3.16	2
2	1.7x5.2	1.70±0.03	5.2 ^{+0.1} _{-0.2}	2.03~2.18	5.36~5.76	3
3	1.7x5.5	1.70±0.03	5.5±0.2	2.03~2.18	5.66~6.16	3
4	1.7x6.0	1.70±0.03	6.0±0.2	2.03~2.18	6.16~6.66	3
5	2.0x7.5	2.00 ^{+0.04} _{-0.03}	7.5±0.2	2.33~2.73	7.66~8.27	5
6	2.0x8.0	2.00±0.03	8.0±0.2	2.33~2.60	8.16~8.77	5
7	2.5x8.0	2.50±0.04	8.0±0.2	2.82~3.11	8.16~8.77	6
8	3.0x8.0	3.00±0.04	8.0±0.2	3.32~3.60	8.16~8.77	6
9	3.0x10	3.00±0.04	10.0±0.3	3.32~3.60	10.06~10.89	6
10	3.5x10	3.50 ^{+0.04} _{-0.05}	10.0±0.3	3.81~4.10	10.06~10.89	6
11	4.0x14	4.00±0.05	14.0±0.3	4.31~4.67	14.06~14.89	6
12	5.0x16	5.00±0.05	16.0±0.3	5.41~5.62	16.16~16.89	6

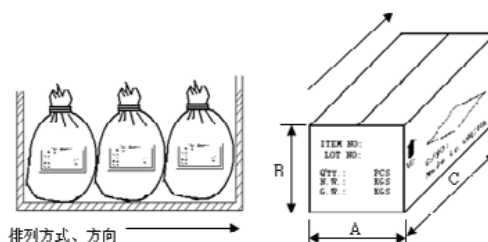
6. IRV (Initial Resistance Value) Range

Code	Initial value range	Code	Initial value range	Code	Initial value range
R01	15Ω-25Ω	R14	600 Ω -900 Ω	R27	30K Ω -60K Ω
R02	20Ω-30Ω	R15	800 Ω -1.3K Ω	R28	40K Ω -80K Ω
R03	30Ω-50Ω	R16	1K Ω -2K Ω	R29	50K Ω -100K Ω
R04	40Ω-60Ω	R17	1.5K Ω -2.5K Ω	R30	60K Ω -120K Ω
R05	50Ω-80Ω	R18	2K Ω -4K Ω	R31	80K Ω -160K Ω
R06	60Ω-100Ω	R19	3K Ω -5K Ω	R32	100K Ω -200K Ω
R07	80Ω-130Ω	R20	4K Ω -7K Ω	R33	150K Ω -300K Ω
R08	100Ω-200Ω	R21	5K Ω -10K Ω	R34	200K Ω -400K Ω
R09	150Ω-250Ω	R22	6K Ω -12K Ω	R35	300K Ω -500K Ω
R10	200Ω-400Ω	R23	8K Ω -16K Ω	R36	400K Ω -700K Ω
R11	300Ω-500Ω	R24	10K Ω -20K Ω	R37	500K Ω -800K Ω
R12	400Ω-600Ω	R25	15K Ω -30K Ω	R38	600K Ω -900K Ω
R13	500Ω-800Ω	R26	20K Ω -40K Ω	R39	800K Ω -1.3M Ω

7. Standard for testing:

- (1) Appearance: Inspect appearance with eyes and sense of touch
 - ① Film layer without film bubble 、 rods pitted 、 uneven film distribution 、 protective film spots 、 protective film too thin 、 uneven film color etc
 - ② May promise range of initial resistance value : reference to initial resistance value specification list.
 - ③ Temperature coefficient resistor : according to customer order
- (2) Size: Measure it with vernier caliper and micrometer

9. Packing



No.	Type	Size (mm)			Quantity (KPCS)	
		A	B	C	Pouch	Box
1	1.3x2.7	25	20	45	600	1800
2	1.7x5.2	25	20	45	200	600
3	1.7x5.5	25	20	45	200	600
4	1.7x6.0	25	20	45	200	600
5	2.0x7.5	25	20	45	100	300
6	2.0x8.0	25	20	45	100	300
7	2.5x8.0	25	20	45	60	180
8	3.0x8.0	25	20	45	40	120
9	3.0x10	25	20	45	40	120
10	3.5x10	25	20	45	25	75
11	4.0x14	25	20	45	12.5	37.5
12	5.0x16	25	20	45	7.5	22.5

11. Note

- 11.1 UNI-ROYAL recommend the storage condition temperature: 15℃~35℃, humidity :25%~75%
(Put condition for individual product)
Even under UNI-ROYAL recommended storage condition, solderability of products over 1 year old (Put condition for each product) may be degraded.
- 11.2 Store / transport cartons in the correct direction, which is indicated on a carton as a symbol.
Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.
- 11.3 Product performance and soldered connections may deteriorate if the products are stored in the following places:
 - a. Storage in high Electrostatic
 - b. Storage in direct sunshine 、 rain and snow or condensation
 - c. Where the products are exposed to sea winds or corrosive gases, including Cl₂, H₂S₃ NH₃, SO₂, NO₂.

12. Record

Version	Description of amendment	Page	Date	Amended by	Checked by
1	First issue of this specification	1~7	Jun.12,2018	Chen Haiyan	Chen Nana