

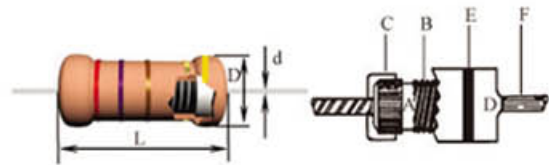
## METAL GLAZE FILM RESISTORS(MGR)



### ●特点 Features:

- 1、高阻值、体积小、耐高温、高压、防潮性能好、过负荷能力强。High resistance value, small size, endure high temperature, high voltage, good performance in enduring moisture, and good overload capability.
- 2、使用环境温度 Operating ambient temperature:  $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ 。
- 3、表面为不燃性面漆, 1/4W-2W 用色环标识阻值, 涂漆颜色为砖红或灰白色。3W 以上用印字标识阻值, 涂漆颜色为砖红色。
- 4、阻值误差 Resistance tolerance:  $\pm 1\%$ 、 $\pm 2\%$ 、 $\pm 5\%$ 、 $\pm 10\%$ 。

### ●产品结构图 Construction Drawing:



- A、陶瓷基体 Ceramic core
- B、玻璃釉层 Glaze Film
- C、铁帽 Iron Cap
- D、硅树脂涂料 Silicon resin coating
- E、色环 Color Ring
- F、镀锡铜线 Tinned copper lead wire

### ●规格尺寸及耐压性能 Dimensions and Voltage Performance:

| 料号<br>PartNo. | 功率<br>Power | 阻值范围<br>Resistance<br>range | 尺寸 Dimensions(mm) |             |              | 最大工作电压<br>Max. working<br>voltage | 最大负荷电压<br>Max. overload<br>voltage | 最高脉冲电压<br>Max. Pulse<br>voltage | 最高绝缘电压<br>Max. insulation<br>voltage |
|---------------|-------------|-----------------------------|-------------------|-------------|--------------|-----------------------------------|------------------------------------|---------------------------------|--------------------------------------|
|               |             |                             | L $\pm 1$         | D $\pm 0.5$ | d $\pm 0.05$ |                                   |                                    |                                 |                                      |
| MGR014        | 1/4W        | 1K~100M                     | 6.0               | 2.3         | 0.52         | 350V                              | 700V                               | 700V                            | 500V                                 |
| MGR12S        | 1/2WS       | 1K~100M                     | 6.0               | 2.3         | 0.52         | 350V                              | 700V                               | 700V                            | 500V                                 |
| MGR012        | 1/2W        | 1K~100M                     | 9.0               | 3.2         | 0.58         | 500V                              | 1000V                              | 1000V                           | 750V                                 |
| MGR01S        | 1WS         | 1K~100M                     | 9.0               | 3.2         | 0.58         | 500V                              | 1000V                              | 1000V                           | 750V                                 |
| MGR01B        | 1W          | 1K~100M                     | 11.0              | 4.5         | 0.75         | 700V                              | 1400V                              | 1400V                           | 1000V                                |
| MGR02S        | 2WS         | 1K~100M                     | 11.0              | 4.5         | 0.75         | 700V                              | 1400V                              | 1400V                           | 1000V                                |
| MGR02B        | 2W          | 1K~100M                     | 15.0              | 5.0         | 0.75         | 750V                              | 1500V                              | 1500V                           | 1100V                                |
| MGR03S        | 3WS         | 1K~100M                     | 15.0              | 5.0         | 0.75         | 750V                              | 1500V                              | 1500V                           | 1100V                                |
| MGR03B        | 3W          | 1K~100M                     | 18.0              | 7.0         | 0.8          | 800V                              | 1600V                              | 1600V                           | 1200V                                |
| MGR05S        | 5WS         | 1K~100M                     | 18.0              | 7.0         | 0.8          | 800V                              | 1600V                              | 1600V                           | 1200V                                |

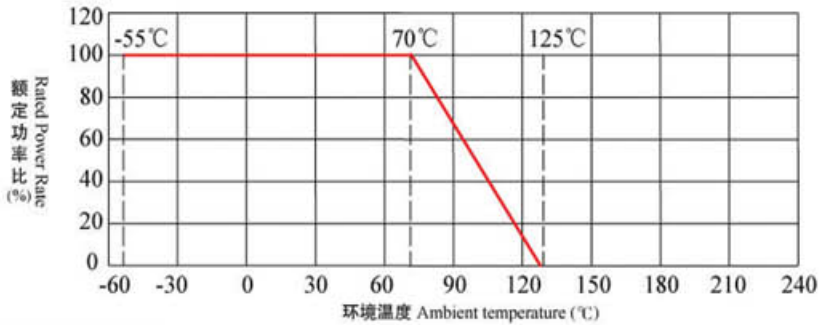
#### 备注Note:

- a、功率后面的“S”表示小型化。“S”means small size.
- b、额定电压 Rated voltage =  $\sqrt{\text{功率Power} \times \text{阻值Resistance Value}}$
- c、当计算得出的额定电压大于最大工作电压电压, 使用时取二者较小值。If the calculated rated voltage is higher than max. working voltage, it will be got the lower value.



# METAL GLAZE FILM RESISTORS(MGR)

## ● 额定功率递减图 Rated Power Derating Curve:



## ● 性能测试 Performance Test:

| 测试项目 Test Item                       | 测试条件 Test Condition   | 性能 Performance  |
|--------------------------------------|---|---|
| 温度系数<br>Temperature coefficient      | 在常温及常温+100℃时分别测量电阻值并计算每度的阻值变化率。Test the resistance value at normal temperature and normal temperature added 100℃, calculate per °C resistance value change rate.  | ±200ppm/°C  |
| 短时间过负荷<br>Short time overload        | 施加2.5倍额定电压或最高负荷电压(取较小者)5秒。<br>2.5 × rated voltage or Max. overload voltage ( get the lower ) for 5 seconds.   | $\Delta R \leq \pm ( 2\%R_0+0.05\Omega )$                   |
| 断续过负荷<br>Pulse overload              | 4倍额定电压或最高断续负荷电压(取较小者)测试1秒,停止25秒,循环10000±200次<br>At 4× rated voltage or Max pulse overload voltage (get the Lower) cycle 10000±200 times ( 1 second on,25 seconds off ) .  | $\Delta R \leq \pm ( 1\%R_0+0.05\Omega )$                   |
| 耐焊接热<br>Resistance to soldering heat | 在350±10℃的锡炉中浸入2-3秒。<br>Immerge into the 350±10°C tin stove for 2~3 seconds.   | $\Delta R \leq \pm ( 1\%R_0+0.05\Omega )$                   |
| 可焊性<br>Solderability                 | 在245±3℃锡炉中浸入2-3秒。<br>Immerge into the 245±3°C tin stove for 2~3 seconds.  | 焊锡面积覆盖率95%以上<br>The soldering area is over 95%              |
| 温度循环<br>Temperature cycling          | 在-55℃时放置30分钟,然后在+25℃时放置10-15分钟,然后在+125℃时放置30分钟,然后在+25℃时放置10-15分钟,共循环5次。At -55°C for 30 min, then at +25°C for 10~15 min, then at +125°C for 30 min, then at +25°C for 10~15 min, total 5 cycles.                                  | $\Delta R \leq \pm ( 0.5\%R_0+0.05\Omega )$                 |
| 耐湿负荷寿命<br>Load life in humidity      | 在温度为40±2℃,相对湿度为90-95%的恒温恒湿箱中,施加额定电压或最大工作电压(取较小者)共1000小时(通1.5小时,断0.5小时)。Overload rated voltage or Max. working voltage (get the lower) for 1000 hours (1.5 hours on and half-hour off) at the 40±2°C and 90~95% relative humidity. | $\Delta R \leq \pm ( 5\%R_0+0.05\Omega )$                   |
| 耐温负荷寿命<br>Load life in heat          | 在70±2℃恒温恒湿箱中施加额定电压或最大工作电压(取较小者)1000小时(通1.5小时,断0.5小时)。Overload rated voltage or Max. working voltage (get the lower) for 1000 hours (1.5 hours on and half-hour off) at the 70±2°C.  | $\Delta R \leq \pm ( 5\%R_0+0.05\Omega )$                   |
| 尖峰脉冲耐压<br>Aiguille overload          | 施加直流电压 over load 5~9KV DC Voltage.<br>2.5秒通2.5 seconds power on; 2.5秒断2.5 seconds power off; 10个周期10 cycles.  | $\Delta R \leq \pm 10\%R_0$ 无可见机械损伤<br>No mechanical damage |
| 难燃性<br>Nonflammability               | 分别按5、10、16倍额定功率加交流负荷5分钟。Respectively load AC voltage by 5, 10, 16 times rated power for 5 minutes.  | 不可有明显火焰<br>No visible flame                                 |

## ● 料号规则 Part No. Regulation:

|                                   |  |   |                  |   |   |
|-----------------------------------|--|---|------------------|---|---|
| MGR                               | 01B  | J   | 0                | T520  | 100K0   |
| 产品名称 Product Name                 | 功率 Power   | 精度 Tol.                                   | 特殊码 Special Code | 成型 Forming  | 阻值 Ohm  |
| 金属玻璃釉电阻器<br>Metal Glaze Resistors | 014 = 1/4W<br>012 = 1/2W 12S = 1/2WS<br>01B = 1W 01S = 1WS<br>02B = 2W 02S = 2WS<br>03B = 3WS 03S = 3WS<br>05S = 5WS | F = ±1%<br>G = ±2%<br>J = ±5%<br>K = ±10% |                  | T260 = T26<br>T520 = T52<br>T710 = T71<br>M001= M<br>F001= F<br>B001= B | 100K0 = 100KΩ<br>1M000 = 1MΩ<br>39M00 = 39MΩ<br>100M0 = 100MΩ |