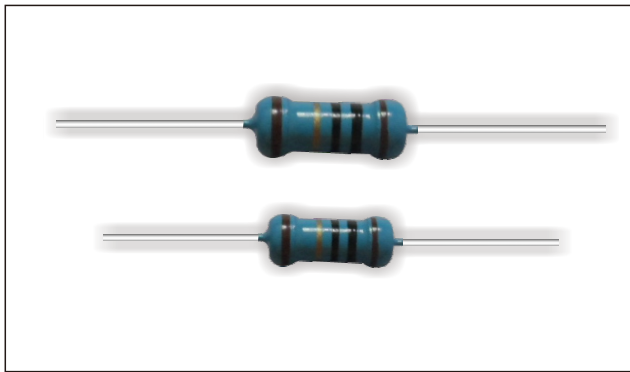
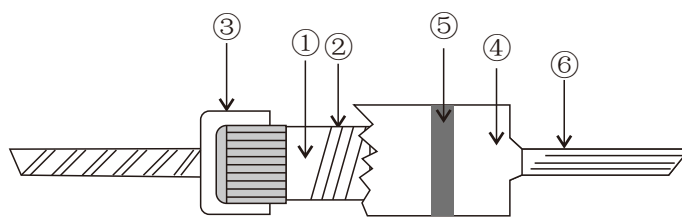


MFR金属膜固定电阻 Metal Film Fixed Resistors



本体颜色: Body Color
 标准品: Standard (Blue 蓝色)
 标示: Marking
 色环: Color Code(1/8W-5W)
 (根据客户要求提供相应标识)
 (According to the customer request to provide corresponding identification)

产品结构图 Construction Drawing



①	②	③	④	⑤	⑥
高铝瓷芯	高稳定性导电膜	铁帽	环氧树脂涂料	色环	镀锡铜线
High AL ₂ O ₃	High Stability Electric Conduction Film	Iron Cap	Epoxy Resin Coating	Color Ring	Tinned copper lead wire

特性 Feature

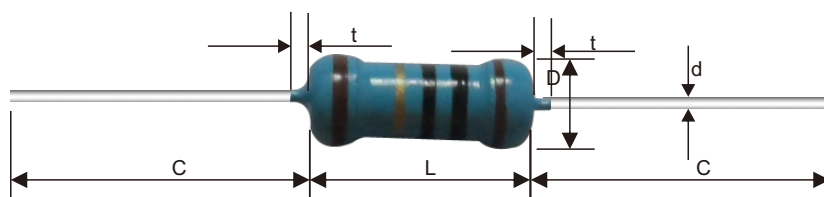
- (1) 低温度系数、精度高、高频性能好。
 Low temperature coefficient, high precision, and good high frequency performance.
- (2) 使用环境温度-55℃~+155℃
 Operating ambient temperature:-55℃~+155℃
- (3) 真空溅射金属皮膜,涂层为蓝色环氧树脂,防水性好。
 Film the metal in vacuum, the surface coating is blue resin with the good waterproof.
- (4) 阻值误差:±5%、±1%。
 Resistance tolerance:±5%、±1%.

参考规格Reference Standards

JIS C 5201-1

MFR金属膜固定电阻 Metal Film Fixed Resistors

外形尺寸 Dimensions



规格 Type	功率 Power	尺寸Dimensions(mm)				
		L±1	D±0.5	C±3	d±0.05	tMax
MFR016	1/6W	3.5	1.7	28	0.43	1.5
MFR14S	1/4WS	3.5	1.7	28	0.43	1.5
MFR014	1/4W	6.0	2.3	28	0.45	1.5
MFR12S	1/2WS	6.0	2.3	28	0.45	2.0
MFR012	1/2W	9.0	3.2	28	0.50	2.0
MFR01S	1WS	9.0	3.2	28	0.55	2.5
MFR01B	1W	11.0	4.5	30	0.60	2.5
MFR02S	2WS	11.0	4.5	30	0.60	2.5
MFR02B	2W	16.0	5.0	30	0.70	2.5
MFR03S	3WS	16.0	5.0	30	0.70	2.5
MFR03B	3W	18.0	6.0	30	0.75	2.5
MFR04	4W	18.0	6.0	30	0.75	2.5
MFR05S	5WS	18.0	6.0	33	0.75	2.5
MFR05	5W	24.0	8.0	33	0.75	2.5

功率、阻值范围与耐电压 Power and Resistance etc

规格 Type	功率 Power	阻值范围 Resistance Range (Ω)	最大使用电压 Max. working voltage	最大负荷电压 Max. overload voltage	最高脉冲电压 Max. Pulse voltage	最高绝缘电压 Max. Insulation voltage
MFR016	1/6W	0R1~22M	150V	300V	500V	300V
MFR14S	1/4WS	0R1~22M	150V	300V	500V	300V
MFR014	1/4W	0R1~22M	250V	500V	750V	500V
MFR12S	1/2WS	0R1~22M	250V	500V	750V	500V
MFR012	1/2W	0R1~22M	350V	700V	1000V	700V
MFR01S	1WS	0R1~22M	350V	700V	1000V	700V
MFR01B	1W	0R1~22M	500V	1000V	1000V	1000V
MFR02S	2WS	0R1~22M	500V	1000V	1000V	1000V
MFR02B	2W	0R1~22M	500V	1000V	1000V	1000V
MFR03S	3WS	0R1~22M	500V	1000V	1000V	1000V
MFR03B	3W	0R1~22M	700V	1200V	1200V	1000V
MFR04	4W	0R1~22M	700V	1200V	1200V	1000V
MFR05S	5WS	0R1~22M	700V	1200V	1200V	1000V
MFR05	5W	0R1~22M	700V	1200V	1200V	1000V

备注Note:

a、功率后面的"S"表示小型化,"S"means small size.

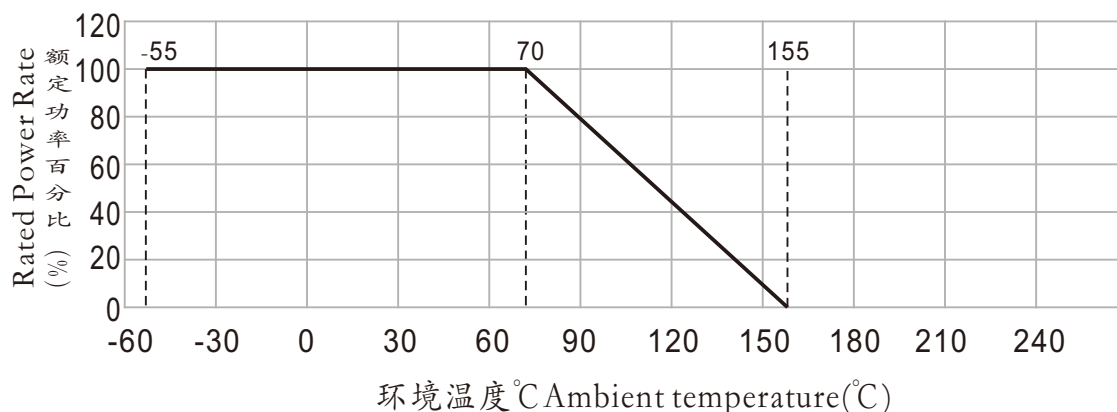
b、额定电压 Rated voltage= $\sqrt{\text{功率Power} \times \text{阻值Resistance Value}}$

c、当计算得出的额定电压大于最大工作电压，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.

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降功耗曲线 Derating Curve



性能 Performance

试验项目 Test Items	性能 Performance	试验方法 Test Methods(JIS C 5201-1)
温度系数 Temperature coefficient	$\pm 50\text{ppm}/^\circ\text{C}$ or $\pm 100\text{ppm}/^\circ\text{C}$	在常温及常温+100°C时分别测量电阻并计算每度的阻值变化率。 Test resistance value at normal temperature and normal temperature added 100°C, calculate $^\circ\text{C}$ resistance value change rate.
短时间过负荷 Short time overload	$\Delta R \leq \pm (0.5\%R_0 + 0.05\Omega)$	施加2.5倍额定功率或最高负荷电压(取较小者)5秒 2.5X rated power or Max. overload voltage(get the lower) for 5seconds.
断续过负荷 Pulse overload	$\Delta R \leq \pm (1\%R_0 + 0.05\Omega)$	4倍额定功率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, At 4Xrated power or Max. pulse overload voltage(get the lower)cycle 10000±200 times(1second on 25 seconds off)
耐焊接热 Resistance to soldering heat	$\Delta R \leq \pm (0.5\%R_0 + 0.05\Omega)$	在 $350 \pm 10^\circ\text{C}$ 的锡炉中浸入2~3秒。 Immerge into the $350 \pm 10^\circ\text{C}$ tin stove for 2~3 seconds
可焊性 Solderability	焊锡面积覆盖率95%以上 Tth soldering area is over 98%	在 $245 \pm 3^\circ\text{C}$ 的锡炉中浸入2~3秒。 Immerge into the $245 \pm 3^\circ\text{C}$ tin stove for 2~3 seconds
温度循环 Temperature cycle	$\Delta R \leq \pm (0.5\%R_0 + 0.05\Omega)$	在-55°C时放置30分钟, 然后在+25°C时放置10~15分钟, 然后再在+125°C时放置30分钟, 然后再在25°C时放置10~15分钟, 共循环5次。At -55°C for 30min, then at +25°C for 10~15min, then at +125°C for 30min, then at +25°C for 10~15min, total 5cycles.
耐湿负荷寿命 Load life in humidity	$\Delta R \leq \pm (2\%R_0 + 0.05\Omega)$	在温度为 $40 \pm 2^\circ\text{C}$, 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 1000hours(1.5hours on and half-hour off) at the $40 \pm 2^\circ\text{C}$ and 90~95% relative humidity.
耐温负荷寿命 Load life in heat	$\Delta R \leq \pm (2\%R_0 + 0.05\Omega)$	在 $70 \pm 2^\circ\text{C}$ 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 1000hours(1.5hours on and half-hour off) at the $70 \pm 2^\circ\text{C}$.

料号编号 ordering Information

例 example

MFR	01B	F	0	T520	100KΩ
产品名称 Product Name	功率 Power	精度 Tol	特殊码 Special Code	成型 Forming	阻值 Ohm
金属膜固定电阻 Metal Film Fixed Resistors	016=1/6W,14S=1/4WS 014=1/4W,12S=1/2WS 012=1/2W,01S=1WS 01B=1W,02S=2WS 02B=2W,03S=3WS 03B=3W,04=4W 05S=5WS	F=±1% J=±5%		T260=T26 T250=T25 T710=T71 M001=M F001=F B001=B	0R100=0.1Ω 0R220=0.22Ω 10R00=10Ω 10K00=10KΩ 1M000=1MΩ
MFR:铜引线Copper lead wire					