

规格承认书

APPROVED SHEET

客户 CUSTOMER:

立创商城

品名 PRODUCT :

金膜电阻

规格 TYPE :

客户承认印
CUSTOMERAPPROVED



东莞市粤翔电子科技有限公司
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一式二份

粤翔一份

客户一份

出图
DRAWING

发行	业务	审核	核准
ISSUE	SALES	AUDITING	APPROVED

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粤翔电子科技品保部

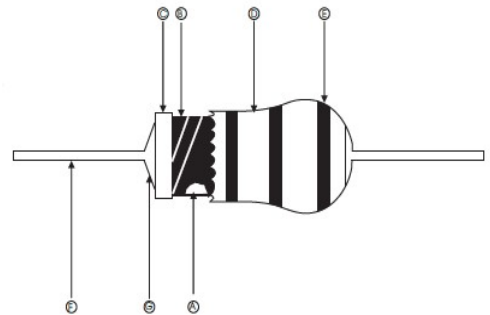
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FEATURES 特点

- 1 HIGH QUALITY
高品质.
- 2 WITHSTAND VOLTAGE, SHOCK RESISTANCE
耐电压, 耐冲击
- 3 STANDARD TOLERANCE : $\pm 1\%$ ($\pm 0.5\%$, $\pm 0.1\%$).
误差标准 $\pm 1\%$ ($\pm 0.5\%$, $\pm 0.1\%$)
- 4 VARIETY OF PACKAGING-BULK 26mm AND 52mm TAPE, CUT AND FORMED
可供散装, 带装26mm/52mm, 成型剪脚.
- 5 HIGH RESISTANCE RANGE (0Ω 1-10M Ω).
阻抗范围高 (0Ω 1-10M Ω).

CONSTRUCTION 结构图

- 1 CERAMIC CORE (HIGH CONDUCTIVITY)
陶瓷棒心 (高热传导)
- 2 HIGH STABILITY FILM
高稳定性皮膜
- 3 END CAP (HIGH RELIABILITY FITTING BY ORIGINAL CAP-PRESSING METHOD)
端帽 (卯和度信赖性高)
- 4 HIGH INSULATION AND SOLVENT RESISTANCE OF EPOXY RESIN COATING
(BULK POWER TO KHAKI, MINIATURE PINK)
高绝缘及耐溶剂之环氧树脂涂料 (本体功率为土黄色, 小型化为粉红色)
- 5 COLOR CODE (PER MIL & EIA STANDARDS).
符合MIL & EIA规定之标准色码带。
- 6 LEAD WIRE (EXCELLENT SOLDER ABILITY)
焊锡性良好的导线
- 7 WELDING (LONG RELIABILITY GUARANTEE)
信赖性良好的焊接



SPECIFICATION: 规格描述

EXAMPLE 例:

MF1W-9 Ω 1 \pm 5%-TT52

MF	1W	9 Ω 1	$\pm 5\%$	T	T52
品名 PRODUCT	额定功率 RATED POWER	阻值范围 RESISTANCE RANGE	误差值 TOLERANCE	线径 WIRE DIAMETER	形状 SHAPE
CR 碳膜电阻	1/8W 1/4WS	0 Ω 1-22M Ω	$\pm 5\%$	0:0.43CU S:0.43CP	T26 编带26MM
MF 金属膜电阻	1/4W 1/2WS	阻值表示方法	$\pm 2\%$	2:0.53CU X:0.53CP	T52 编带52MM
MO 氧化膜电阻	1/2W 1WS	RESISTANCE VALUE	$\pm 1\%$	6:0.63CU T:0.63CP	T63 编带63MM
MGR 高压玻璃釉电阻	1W 2WS	REPRESENTATION	$\pm 0.5\%$	9:0.73CU Q:0.73CP	T73 编带73MM
KNP 绕线电阻	2W 3WS	阻值单位按 Ω , K, M	$\pm 0.1\%$	C:0.83CU D:0.83CP	T93 编带93MM
NKNP 无感绕线电阻	3W 5WS	1000 Ω =1K 1000K=1M		A:0.75CU	P 散装
FR 保险电阻	5W 7WS	例: 9 Ω 1/5K6/4M7			M、F 成型
FRKNP 绕线保险电阻					EK/MB/TF 成型
SCF 高压脉冲电阻					

NOTE1注解: RATED VOLTAGE 额定电压 =

$\sqrt{\text{POWER RATING 额定功率} * \text{RESISTANCE VALUE 公称阻值}}$

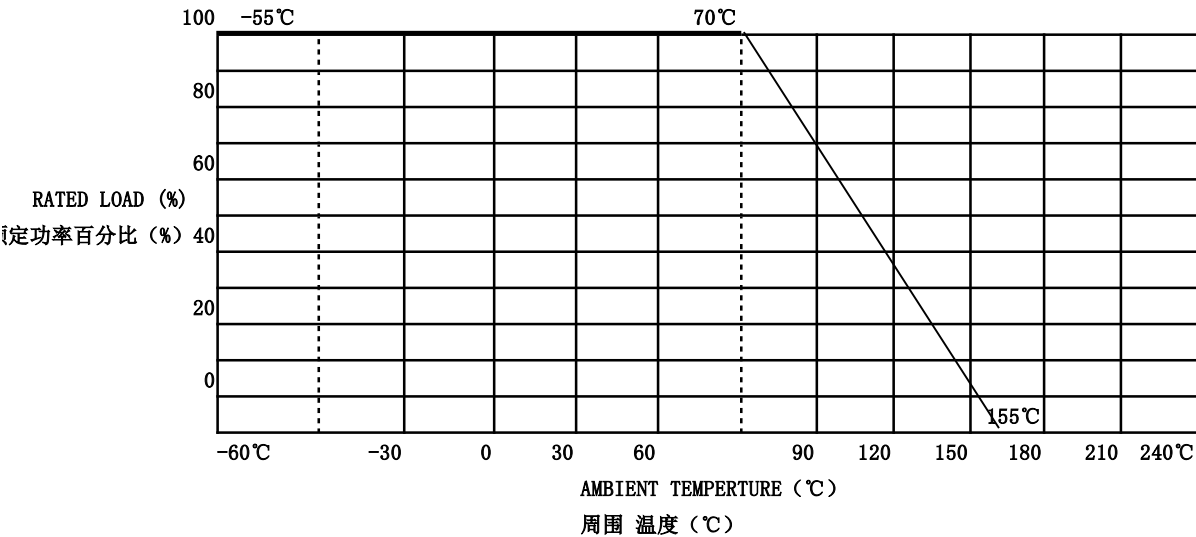
CHARACTERISTICS 特性项目	SPECIFICATIONS 规格值		TEST METHODS JIS C 5202 测试方法 JIS C 5202标准
DC RESISTANCE 直流阻抗值	F (±1%)		RESISTANCE VALUE TEST AT ROOM TEMPERATURE 25℃ 阻值测试在室温25℃
T. C. R温度系数	1/8W 1/4WS 1/4W 1/2WS 1/2W 1WS 1W 2WS 2W 3WS 3W 5WS 5W 7WS	<10Ω±300PPM 10Ω-1M±100PPM >1M±100PPM	$\frac{R2-R1}{R1(T2-T1)} \times 10^6 \text{PPM/}^\circ\text{C}$ R1: RESISTANCE VALUE AT ROOM TEMPERATURE (T1) 常温 (T1) 阻抗值 R2: RESISTANCE VALUE AT ROOM TEMPERATURE +100℃ (T2) 常温+100℃阻抗值
LOAD LIFE IN HUMIDITY 湿度寿命	RESISTANCE CHANGE RATE ±(1.5%+0.05Ω) WITH NO EVIDENCE OF RESISTOR DAMAGE. 阻抗值变化率 (1.5%±0.05Ω), 电阻器不可有损伤		RESISTANCE CHANGE AFTER 1000H(1.5H ON, 0.5H OFF) AT RATED VOLTAGE IN A HUMIDITY CHAMBER CONTROLLED AT 40+/-2℃ AND 90-95% RELATIVE HUMIDITY. (when the test voltage exceeds the working voltage, considering the working voltage) 温度40+/-2℃, 相对湿度90-95%于恒温恒湿箱中, 加额定直流电压测试1.5小时停止0.5小时, 连续1000小时。(当实验电压超过最高使用电压, 采用最高使用电压)
LOAD LIFE 温度寿命	RESISTANCE CHANGE RATE ±(1.5%+0.05Ω) MAX WITH NO EVIDENCE OF RESISTOR DAMAGE. 阻抗值变化率 (1.5%±0.05Ω), 电阻器不可有损伤		RESISTANCE CHANGE AFTER 1000H OPERATING AT RATED VOLTAGE WITH DUTY CYCLE OF 1.5H ON 0.5H OFF AT 70℃±2℃ (when the test voltage exceeds the working voltage, considering the working voltage) 温度70+/-2℃, 加额定直流电压测试1.5小时停止0.5小时, 连续1000小时 (当实验电压超过最高使用电压时, 采用最高使用电压)
SHORT TIME OVER LOAD 短时间过负荷	±(1%+0.05Ω)		RESISTANCE CHANGE AFTER THE APPLICATION OF A POTENTIAL OF 2.5T RATED VOLTAGE FOR 5 SE (when the test voltage exceeds the maximum overload, consider using the maximum overload voltage) 额定电压X2.5倍, 测试5秒 (当实验电压超过最高过负载时, 采用最高过负载电压)
PULSE OVER LOAD 断续过负荷	1/8W, 1/4W, 1/2W, 1W, 2W, 3W, 5W	±(1%+0.05Ω)	RESISTANCE CHANGE AFTER 10000C(1SEC ON, 25SEC OFF) AT 3T RATED VOLTAGE (AC) when the test voltage exceeds the maximum overload, consider using the maximum overload voltage) 额定电压*3倍 (交流电压), 测试1秒停止25秒, 测试10000次。(当实验电压超过最高过负荷电压, 采用最高过负荷电压)
	1/4WS, 1/2WS, 1WS, 2WS, 3WS, 5WS, 7WS	±(2%+0.05Ω)	RESISTANCE CHANGE AFTER 10000C(1SEC ON, 25SEC OFF) AT 3T RATED VOLTAGE (AC) when the test voltage exceeds the maximum overload, consider using the maximum overload voltage) 额定电压*3倍 (交流电压), 测试1秒停止25秒, 测试10000次。(当实验电压超过最高过负荷电压, 采用最高过负荷电压)
RESISTANCE TO SOLVENT 耐溶剂性	NO VISIBLE DAMAGES TO PROTECTIVE COATING AND MARKING (外观无异常, 标识能够清楚易辨)		SOAK 3MIN IN THE MELTING AGENT TO AGAIN AND AGAIN WIPE 10 TIMES (三氯乙稀浸泡3分钟, 再用湿布反复擦拭10次)
INSULATION RESISTANCE 绝缘阻抗	>100MΩ		
ELECTRIC WITHSTANDING VOLTAGE 绝缘耐电压	RESISTANCE CHANGE RATE ±(1%+0.05Ω) WITH NO EVIDENCE OR RESISTOR DAMAGE. 阻抗值变化率±(1%+0.05Ω), 电阻器不可有损伤		ELECTRIC RESISTANCE BOTH ENDS THE CONJUNCTION LINE PUT ON THE METALS V TYPE THE SLOT, ACCORDING TO THE ELECTRIC VOLTAGE PROVISION OF THE CHARACTERISTIC WATCH 60 SECONDS INFLECTION 电阻两端导线置于金属V型槽上, 依特性表之电压规定施加60秒
TEMPERATURE CYCLING 温度循环	RESISTANCE CHANGE RATE IS ±(1%+0.05Ω) MAX, WITH NO EVIDENCE OF RESISTOR DAMAGE. 阻抗值变化率±(1%+0.05Ω) 以内, 电阻器不可有损伤		STEP 步骤、
			TEMPERATURE 温度
			TIME (MIN) 放置时间
			1 -55℃±2℃ 30
			2 ROOM TEMP 室温 10-15
RESISTANCE TO SOLDERING HEAT 耐热性	RESISTANCE CHANGE RATE IS ±(1%+0.05Ω) MAX, WITH NO EVIDENCE OF RESISTOR DAMAGE. 阻抗值变化率±(1%+0.05Ω) 以内, 电阻器不可有损伤		3 85℃±2℃ 30
			4 ROOM TEMP 室温 10-15
SOLDERABILITY 焊锡性	95% COVERAGE MINIMUM 95%覆盖于导线上		PUT THE LEAD LINE OF RESISTANCE INTO THE SOLDERING ABOUT 3.2 TO 4.8MM PLEASE TAKE IMPLEMENTATION ON THE BASIS OF THE TABLE BELOW 将电阻两端导线浸入锡炉约3.2至4.8mm依下表规定实施
			TEMPERATURE 温度
			DIP TIME 放置时间
SOLDER JOINT PULL 焊点拉力	PULLING TEST FOR 1/8W≥1.8KG, 1/4W≥3.8KG, 1/2W BIGGER THAN ≥5KG 拉力强度 1/8W≥1.8KG, 1/4W≥3.8KG, 1/2W 含以上 ≥5KG		350℃±10℃ 3±0.5 SEC
			260℃±5℃ 10±1.0 SEC
Life & failure rate 寿命失效率	Under the rated condition Use Life ≥ 10000H 额定条件下使用寿命≥10000小时		failure rate ≤ 10PPM 失效率 ≤ 10PPM

POWER CHARACTERISTIC 电力特性

POWER PATED 额定功率 ITEM 项目	0.125W 1/8W	0.25WS 1/4WS	0.25W 1/4W	0.5WS 1/2WS	0.5W 1/2W	1WS	1W	2WS	2W	3WS	3W	5WS	5W	7WS
MAX WORKING VOLTAGE 最高使用电压	200V	250V	250V	350V	350V	500V	500V	500V	500V	500V	500V	500V	750V	750V
MAX OVERLOAD VOLTAGE 最高过负荷电压	400V	500V	500V	700V	700V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V
MAX INTERMITTENCE OVER LOAD VOLTAGE 最高断续过负荷	400V	500V	500V	700V	700V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V
ELECTRIC WITHSTANDING VOLTAGE 绝缘耐电压	300V	300V	400V	400V	500V	500V	700V	700V	700V	700V	700V	700V	700V	700V
RESISTANCE TOLERANCE 阻抗误差值	J (±5%) G (±2%) F (±1%) D (±0.5%) B (±0.1%)													
RANGE (OHM) 阻抗值范围	MIN	0.1Ω	0.1Ω	0.1Ω	0.1Ω	0.1Ω	0.1Ω	0.1Ω	0.1Ω	0.1Ω	0.1Ω	0.1Ω	0.1Ω	0.1Ω
	MAX	10MΩ	10MΩ	10MΩ	10MΩ	10MΩ	10MΩ	10MΩ	10MΩ	10MΩ	10MΩ	10MΩ	10MΩ	10MΩ

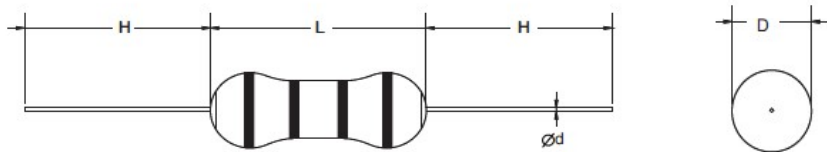
NOTE注解: 100K ohm is high risk resistance for thin film resistors.
薄膜电阻100K以上阻值为高风险阻值

POWER DERATING CURVE 负载衰减曲线



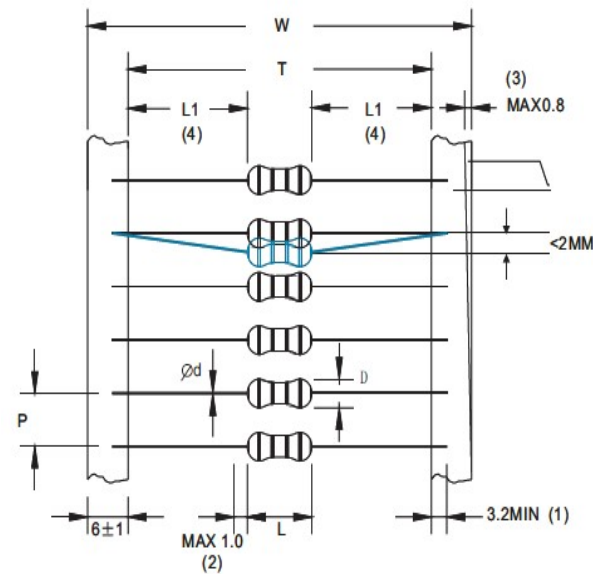
- NOTE注解:
- 1 RATED AMBIENT TEMPERATURE :70℃
额定周围温度: 70℃
 - 2 OPERATING TEMPERATURE RANGE:-55℃~+155℃
使用温度范围: -55℃~+155℃
 - 3 FOR RESISTORS IPERATED IN AMBIENT TEMPERATURE OVER 70℃,POWER RATING SHALL BE DERATED IN ACCORDANCE WITH THE FIGURE
周围温度70℃以上使用时,根据降功率曲线将减轻额定功率

BULK TYPE DIMENSION (TO TYPE)



TYPE	LEAD TYPING DIMENSION (mm)			
	L±1.0	D±1.0	Φd±0.05	H±3.0
1/8W 1/4WS	3.7	2.3	0.43	26
1/4W 1/2WS	6.2	2.7	0.43	26
1/2W 1WS	9	3.5	0.53	26
1W 2WS	11	4.5	0.63	31
2W 3WS	15.5	5	0.73	31
3W 5WS	17.5	6	0.73	31
5W 7WS	25	8	0.83	39

TO TYPE



TYPE	LEAD TYPING DIMENSION (mm)						
	T	+1.5 -0.0	D±1.0	Φd±0.05	P±0.3	L±1.0	W
1/8W 1/4WS	26		2.3	0.43	5	3.7	38
	52						64
1/4W 1/2WS	26		2.7	0.43	5	6.2	38
	52						64
1/2W 1WS	52		3.5	0.53	5	9	64
1W 2WS	63		4.5	0.63	5	11	75
2W 3WS	73		5	0.73	10	15.5	85
3W 5WS	73		6	0.73	10	17.5	85
5W 7WS	93		8	0.83	10	25	105

- 1 LEAD DIMENSIONS INCLUDED IN TAPE
纸带内缘导线长度
- 2 LEAD PAINT DIMENSION
涂漆于导线上的长度
- 3 DIFFERENCE OF A & B
A带与B带的位差
- 4 [L1-L2]<1.0MM
左右边差小于1.0MM

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