

HMR 毫欧电阻 Milliohm Resistors



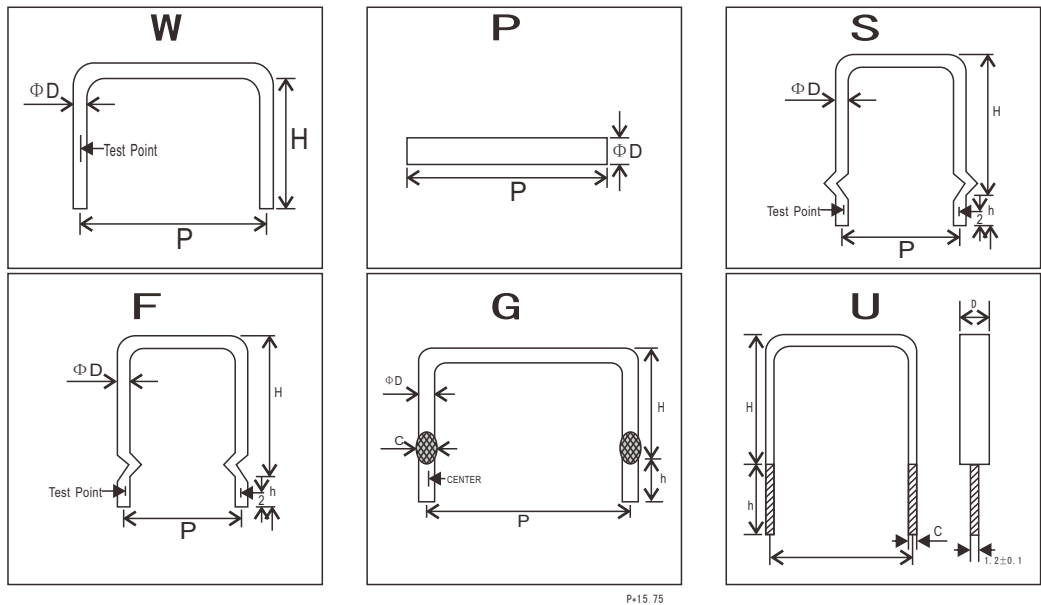
HMR毫欧电阻，由精密合金材料制做而成，用作电源等回路的限流、均流、取样检测，具有易焊接、无电感、高可靠能力的功能。

HMR Low Ohm resistor , was made up of high precision alloy material, it is used for limiting and sharing current for the return circuit of power supply ,sampling detection and etc.HMR is easily soldered, non-inductive,highly reliable.

● 特性 Feature

- (1)阻值低，最低值可以达到0.001Ω。 Low resistance value ,lowest can be reached at 0.001Ω.
- (2)使用环境温度：-55℃~+125℃。 Operating ambient temperature:-55℃~+125.
- (3)可根据客户要求制作特殊成型。 Special forming types are available according to customer 's requirement.
- (4)阻值误差:±1%、±5%、±10% Resistance tolerance:±1%,±5%,±10%
- (5)低感性 Low inductance
- (6)稳定性卓越 High stability

● 外形尺寸 Dimensions



规格 Type	代码 Code	功率 Power	尺寸Dimensions(mm)				
			ΦD±0.1	P±0.2	H±0.5	C±0.5	h±0.5
HMR	W	0.5W~5W	0.5~3.5	5~30	5~40	1~3	2.5~3.5
HMR	P	0.5W~5W	0.5~3.5	5~30	5~40	1~3	2.5~3.5
HMR	S	0.5W~5W	0.5~3.5	5~30	5~40	1~3	2.5~3.5
HMR	F	0.5W~5W	0.5~3.5	5~30	5~40	1~3	2.5~3.5
HMR	G	0.5W~5W	0.5~3.5	5~30	5~40	1~3	2.5~3.5
HMR	U	0.5W~5W	0.5~3.5	5~30	5~40	1~3	2.5~3.5

(根据客户要求提供相应的阻值和安装尺寸，请联系我们的技术支援工程师kh@khxcom.com)
Customerized products are available , engineering support please email to kh@khxcom.com

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● 参考规格Reference Standards

JIS C 5201-1

● 功率、阻值范围与耐电压Power And Resistance etc

规格 Type	代码 Code	额定功率 Rated Power (W)	阻值范围 Resistance Range(Ω)	误差值 Tolerance	温度系数 T.C.R	额定电流 Rated Current	温度范围($^{\circ}\text{C}$) Temperature Range
HMR	W	0.5W~5W	0.01~0.1 Ω	F= $\pm 1\%$ J= $\pm 5\%$ K= $\pm 10\%$	$\pm 10\text{PPM}/^{\circ}\text{C}$ $\pm 20\text{PPM}/^{\circ}\text{C}$ $\pm 50\text{PPM}/^{\circ}\text{C}$	0.5A~10A	-55 $^{\circ}\text{C}$ ~ +100 $^{\circ}\text{C}$
HMR	P	0.5W~5W	0.01~0.1 Ω			0.5A~10A	
HMR	S	0.5W~5W	0.01~0.1 Ω			0.5A~10A	
HMR	F	0.5W~5W	0.01~0.1 Ω			0.5A~10A	
HMR	G	0.5W~5W	0.01~0.1 Ω			0.5A~10A	
HMR	U	0.5W~5W	0.01~0.1 Ω			0.5A~10A	

● 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	$\pm 10\text{ppm}/^{\circ}\text{C}$ $\pm 20\text{ppm}/^{\circ}\text{C}$ $\pm 50\text{ppm}/^{\circ}\text{C}$	在常温及常温+100 $^{\circ}\text{C}$ 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 $^{\circ}\text{C}$, calculate $^{\circ}\text{C}$ resistance value change rate.
耐焊接热 Resistance to soldering heat	$\Delta R \leq \pm 0.5\%R_0$	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 Soldering area is over 95%	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	$\Delta R \leq \pm 0.5\%R_0$	在-55 $^{\circ}\text{C}$ 时放置30分钟,然后在+25 $^{\circ}\text{C}$ 时放置10~15分钟,然后在+155 $^{\circ}\text{C}$ 时放置30分钟,然后在25 $^{\circ}\text{C}$ 时放置10~15分钟,共循环5次。At-55 $^{\circ}\text{C}$ for 30min, then at +25 $^{\circ}\text{C}$ for 10~15min, then at +155 $^{\circ}\text{C}$ for 30min, then at +25 $^{\circ}\text{C}$ for 10~15, min, total 5cycles.
耐湿负荷寿命 Load life in humidity	$\Delta R \leq \pm 2\%R_0$	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	$\Delta R \leq \pm 2\%R_0$	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 $\pm 2^{\circ}\text{C}$.
额定负载 Rated load	$\Delta R/R \leq 1\%$	表面升温度: 120 $^{\circ}\text{C}$ Max Surface temperature rise: 120 $^{\circ}\text{C}$ Max
短时间负载 Short-time loading	$\Delta R/R \leq 2\%$	5倍额定功率, 5秒无火花和烧损 5 times of rated power, no spark and burning damage with in 5seconds
端子强度 Terminal intensity	$\Delta R/R \leq 1\%$	无机械性损伤, 线径1.0mm以上 5KG/10SEC 线径0.8mm以下 2KG/10SEC. No mechanical damage above $\Phi 1.0\text{mm}$, 5KG/10SEC within $\Phi 0.8\text{mm}$ 2KG/10SEC
耐振性 Resistance to vibration	$\Delta R/R \leq 1\%$	无机械性损伤(装在基板上之状况) No mechanical damage
耐热性 Heat resistance	$\Delta R/R \leq 1\%$	无损伤(200 $^{\circ}\text{C}$ 2Hrs) No damage (200 $^{\circ}\text{C}$ 2Hrs)
热冲击 Thermal shock	$\Delta R/R \leq 2\%$	无损伤(额定负载30min~40 $^{\circ}\text{C}$ 15min) No damage(Rated load for 30min~40 $^{\circ}\text{C}$ 15min)
温度周率 Temperature frequency	$\Delta R/R \leq 2\%$	无机械损伤及外观变化 (-40 $^{\circ}\text{C}$ / 200 $^{\circ}\text{C}$ 5 cycles) No mechanical damage and appearance change(-40 $^{\circ}\text{C}$ / 200 $^{\circ}\text{C}$ 5 cycles)
寿命试验 Life test	$\Delta R/R \leq 3\%$	100%负载 (90min ON 30min OFF 1000Hrs) 100% load (90min ON 30min OFF 1000Hrs)

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● 料号编号 ordering Information

例 example

HMR	W	05	CN	045	J	OR005
产品名称 Product Name	代码 Code	额定功率 Rated Power	材料 Materials	线径 Dia.	精度 Tol	阻值 Ohm
毫欧电阻 Milliohm Resistors HMP	W P S F G U	0.5W~5W	CM:锰铜Manganin NC:镍铬Nickel chrome CN:康铜Copper&nickel alloy	045=Φ0.45 100=Φ1.00 (unit=mm)	F=±1% J=±5% K=±10%	OR005=5mR OR010=10mR OR100=100mR