

高精度焊脚型采样电阻-HSR系列

High Precision Sampling Resistor -HSR Series



特征 Features

1-7瓦	1-7watts
精度 $\pm 5\%$, $\pm 2\%$ 和 $\pm 1\%$	Tolerance $\pm 5\%$, $\pm 2\%$ and $\pm 1\%$
电阻温度系数低至 $\pm 40\text{ppm}/^{\circ}\text{C}$	TCR down to $\pm 40\text{ppm}/^{\circ}\text{C}$
低电感	Low inductance
可焊性好	Excellent Solderability
符合ROHS要求	RoHS compliant
特殊规格可以订做	Customizable

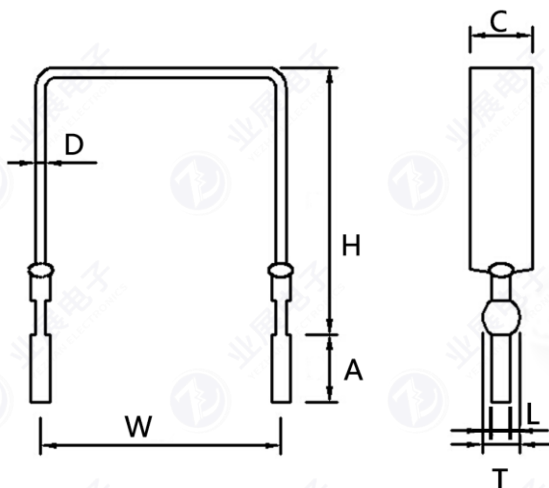


应用范围 Applications

电流采样	Current Sensing
驱动技术	Drive technology
功率电子	Power Electronic
家电控制器	Home Appliance
汽车电子	Automotive electronics
通讯系统	Communication System

标准尺寸规格 Standard Size

C/mm	W/mm	H/mm	A/mm	L/mm	T/mm
2.4~3.5	10~30	7.5~30	3.5 ± 0.5	1.0 ± 0.1	1.5 ± 0.2



订货请提供:
1.跨距" W"
2.高度范围 "H"
3.额定电流或额定功率高度范围
NOTE:
Contact YeZhan for:
1.Variations of "W"
2.Variations of "H"
3. Rated current or rated power

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焊脚型采样电阻 (HSR) 线厚宽、跨距及可选阻值 (mΩ) 对照表Type Data

线厚宽 /mm	过电流 /A	跨距及对应阻值范围 (mΩ)					材料 Material	TCR /ppm/°C
		10	15	20	25	30		
1.3×3.5	30	2.5~7	2.8~7.6	3.6~8.4	4~8.8	4.4~9	Constantan	±40
1.3×3.5	28	7~19	7.8~21	10~23	11~24	12~25	Karma	±40
1.1×3.3	30	2~5.5	2.5~6	3~6.5	3.5~7	4~7.5	Copper-Nickel	±200
	25.5	8.5~25	10~25	12~28	13~29	16~31	Karma	±40
	28	3~9	3.5~10	4.5~10	5~11	5.5~11	Constantan	±40
1.1×2.8	25.5	2.4~6.5	3~7	3.5~7.7	4.2~8.2	4.8~8.8	Copper-Nickel	±200
1.0×4	33	2~5	2.3~5.5	2.8~6	3.2~6.5	3.7~7	Copper-Nickel	±200
0.9×4	28	3.3~9.5	4~10	5~10	5.5~11	6.5~12	Constantan	±40
0.9×2.7	19	5~14	6~15	7.5~15	8.5~16	10~17.5	Constantan	±40
0.85×2.4	15	5~16	6~17	7.5~18	9~19	10~20	Constantan	±40
0.8×3.3	20	4~12	5~13	6~14	7~15	8~16	Constantan	±40
0.8×3.3	19	11~33	13~35	17~38	19~40	22~44	Karma	±40
0.8×3	19	4.5~13	5.5~14	6.6~15	7.7~16	8.8~17	Constantan	±40
0.8×2.4	15	6~17	7.5~18	9~20	11~21	12~22	Constantan	±40
0.8×2	11	19~55	22~58	28~64	31~66	37~69	Karma	±40
0.7×6	32	3.5~6.8	3.5~7.7	4.3~8.5	4.3~8.5	5~9.5	Constantan	±40
0.6×6	28	4~8	4~9	5~10	5~10	6~11	Constantan	±40
0.6×5	21	11~29	13~30	15~33	16~34	20~37	Karma	±40
0.6×2.4	11.5	9~22	10~24	12~25	13~26	15~28	Constantan	±40
0.6×2.4	10	26~60	29~66	34~69	37~71	42~77	Karma	±40
0.5×6	23.5	3.5~10	4.4~11	5.3~12	6.2~13	7~14	Constantan	±40
0.5×3.5	13.5	6~18	7.5~19	9~20.5	11~22	12~24	Constantan	±40
0.5×3.3	13	6~20	8~22	9~23	11~24	12~26	Constantan	±40
0.5×3.3	11	14~44	16~47	20~50	23~53	27~58	NiCr	±120
0.5×3	12	9~22	10~24	11~25	13~26	14~28	Constantan	±40
0.4×3.3	10	8~25	10~27	12~29	14~31	16~33	Constantan	±40
0.4×3.3	9	21~56	25~60	29~65	33~69	38~74	NiCr	±120
0.4×3	9.5	10~27	13~29	14~31	16~34	19~36	Constantan	±40
0.4×3	8.5	23~60	30~65	32~69	36~76	43~81	NiCr	±120
0.4×2.4	7.5	13~35	15~37.5	17.5~40	20~42	23~45	Constantan	±40
0.4×2.4	7	29~78	34~84	40~90	45~95	51~101	NiCr	±120
0.36×2.4	6	28~80	33~87	40~94	48~100	55~107	NiCr	±120
0.3×6	14	5~24	7~25	8~26	9~28	11~29	Constantan	±40
0.3×4	9	8~36	10~38	12~40	14~43	16~44	Constantan	±40
0.3×3.5	8.5	9~41	11~43	13~45	16~48	18~50	Constantan	±40
0.3×3.3	8	9~43	12~46	14~48	16~50	19~53	Constantan	±40
0.3×3.3	7	25~120	32~126	39~134	45~140	52~147	Karma	±40
0.3×3	7	10~45	13~50	15~53	18~56	21~58	Constantan	±40

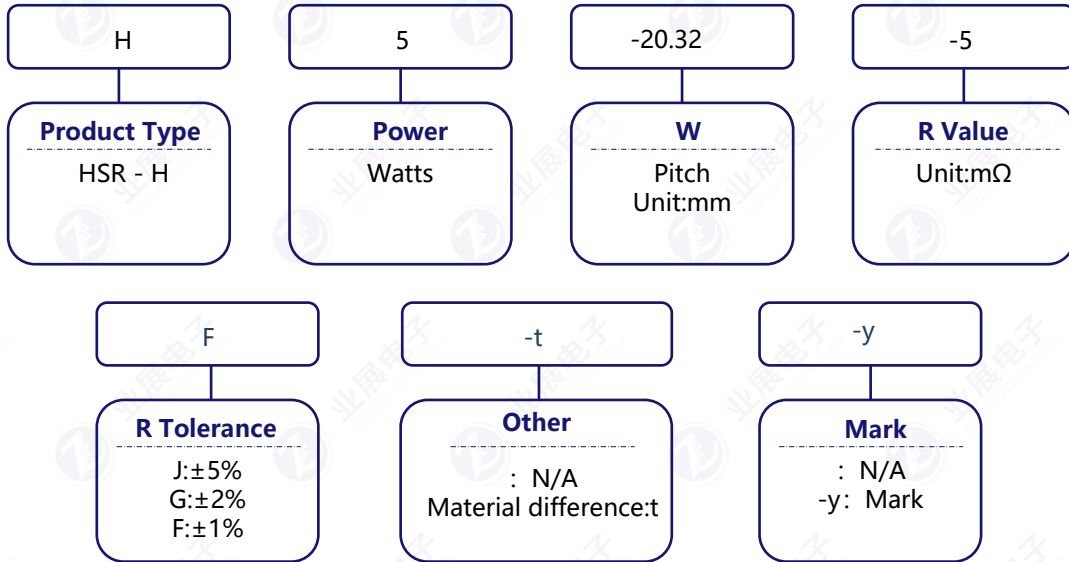
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业展电子
YEZHAN ELECTRONICS

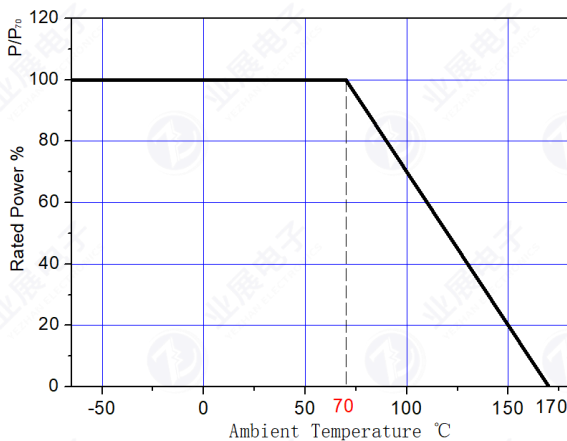
订购信息 Ordering Information



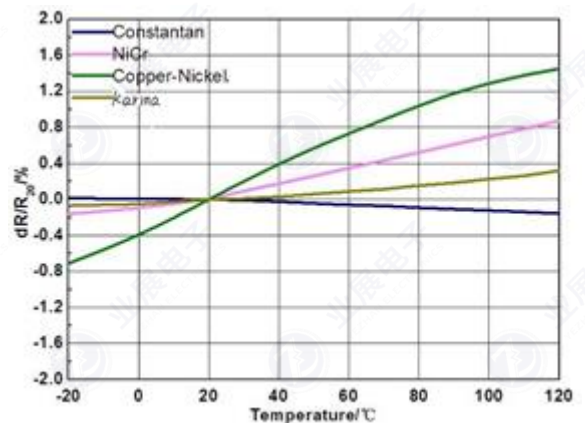
代号 Symbol	材料 Materials	电阻率 Resistance Rate
1	康铜 Constantan	48μΩ. cm
n	镍铬 NiCr	108μΩ. cm
6	铜镍 Copper-Nickel	30μΩ. cm
K	卡玛 Karma	133μΩ. cm

工作特性 Performance Data

降功率曲线 Power Derating



温度系数曲线 TCR Derating



TCR (ppm/°C) : Test conditions at 20°C~120°C.

产品尺寸和性能 Product Size And Performance

项 目 Items	参 数 Parameters
材料 Material	康铜 Constantan/镀锡铜 Tinned Copper
图 解 Diagrammatize	The diagram illustrates the physical dimensions of the HSR series sampling resistor. It shows a U-shaped component with a central vertical section and two side sections. Dimension A is the height of the base. Dimension H is the total height of the U-shape. Dimension W is the width of the base. Dimension D is the width of the central vertical section. Dimension C is the width of the side sections. Dimension L is the length of the central vertical section. Dimension T is the thickness of the central vertical section. A Test point is indicated on the side section.
A	3.5 mm±0.5mm
H	17mm±2.0mm
W	20.32 mm±0.5mm
C	3.5 mm±0.2mm
D	1.3mm±0.1mm
L	1.0 mm±0.1mm
T	1.5~ 1.7mm
阻 值 resistance value	5mΩ±1%
额 定 功 率 Rated power	5W
印 字 Mark	R005F
使用 温 度 Operating temperature	-65℃ ~ 170℃

耐久性测试 Endurance Test

项目 Items	极限值 Limits	技术条件 Additional Requirements
短时间过负荷 Short time overload	$\pm 1\%$ 以内。 不得有机械损伤。 within $\pm 1\%$ No evidence of mechanical damage.	额定功率 X 5倍, 5秒。 Rated power X 5 times, 5s
端子强度 Terminal strength	不得有机械损伤。 No evidence of mechanical damage.	> 13kg
振动 vibration	阻值偏差 $< \pm 0.5\%$, 外观无损伤 Resistance deviation $< \pm 0.5\%$, no appearance damage	频率在1min内从10Hz到2000Hz, 试验按照10g 振动量级, X-Y-Z三个方向, 每个方向24H。 The frequency was from 10Hz to 2000Hz within 1min. The test was conducted in three directions of 10g vibration magnitude, X-Y-Z, and 24H in each direction.
焊锡耐热性 Resistance to soldering heat	$\pm 0.5\%$ 以内。 不得有机械的损伤。 within $\pm 0.5\%$ No evidence of mechanical damage.	$260 \pm 5^\circ\text{C}$, 10 ± 1 秒, 试验后放置 3 小时。 $260 \pm 5^\circ\text{C}$, 10 ± 1 s After test leave for 3h.
焊锡附着性 Solderability	导线至少95%以上新锡覆盖。 Covered with new solder by 95% at least.	焊锡温度: $245 \pm 5^\circ\text{C}$ 。 浸锡时间: 5 ± 0.5 秒。 Test temperature of solder: $245 \pm 5^\circ\text{C}$ Dipping time in solder: 5 ± 0.5 s
温度循环 Temperature cycle	$\pm 1\%$ 以内。 不得有机械的损伤。 within $\pm 1\%$ No evidence of mechanical damage.	$-55^\circ\text{C} \sim +125^\circ\text{C}$, 1000 循环 $-55^\circ\text{C} \sim +125^\circ\text{C}$, 1000 circulation
偏高湿度 Biased Humidity	$\pm 1\%$ 以内。 within $\pm 1\%$	1000小时, 85°C / 85% 湿度。注:规定条件:10% 额定功率。 1000hrs 85°C /85%RH. Note:Specified conditions:10% of operating power.
负荷寿命 Load life	$\pm 1\%$ 以内。 within $\pm 1\%$	$70 \pm 2^\circ\text{C}$, 1000 小时 定格电压(90 分钟ON, 30 分钟OFF) $70 \pm 2^\circ\text{C}$, 1000h Rated voltage (90 min ON, 30 min OFF)

包装 Packaging

散装, 内外双包装 Bulk, Internal And External Package

版本信息 Version History

版本 Version	日期 Date	修正描述 Description of amendment	备注 Remarks
A1.0	21-Sep-2022	First issue	