

瓷棒绕线电阻(Wirewound Resistors) KNP/NKNP、KNZ/NKNZ 1/2W-30W

体积小，短时抗脉冲性能优，阻值经年无变化

Small Size, stable resistance value, excellent performance to withstand short-time pulses



■ 特点(Features)

1. 具有体积小、耐热性好、温度系数小、阻值精度高、短时间超短时间超负载性能优、阻值经年无变化等特性、可制作成无感型NKNP。

Small size, good heat resistant, low TCR, high precision, good performance to withstand short-time overload, stable resistance value, non-inductive type NKNP/NKNZ is available.

2. 功率范围:1/2W-30W

Power Rating Range: 1/2W-30W.

3. 引出端采用引针式焊接或脚片式。

Terminals: copper lead wire or steel plug.

■ 结构 (Structure)

1. 通过专业的封帽或压帽设备将带铜线的帽盖与电阻瓷体紧密结合，确保电阻的稳定性。

The cap with copper wire is closely combined with the porcelain bar through professional cap sealing or capping equipment.

2. 缠绕金属合金丝，再采用不燃性涂漆密封。

Resistance wire is wound on the porcelain bar, two ends of wire are welded to the caps, then coated with non combustible silicone coating.

3. 1/2W-5W小型化外表采用绿色绝缘漆涂覆，色环标识规格。5W-30W采用绿色绝缘漆涂覆，印字标识相应规格。

1/2W-5WS: coating is green, marked with color rings;

5W-30W, coating is green, marked with letters.

4. 1/2W-5W小型化可以编带包装,5W-30W以上功率由于功率大采用非编带散装包装，KNZ/NKNZ散装。

Package: 1/2W-5WS: taped; 5W-30W: bulk; KNZ/NKNZ type: bulk.

■ 适用范围 (Application)

深圳市正阳兴电子的系列绕线电阻生产周期为2-3周，广泛应用于电子、电器、电源、音响、家电等交直流电路中，是电子电路中最常见的理想电子元件之一

Lead Time: 2-3 weeks

Widely used in AC and DC circuits, such as electronics, electrical appliances, power supply, audio and household appliances, ect. It is one of the most common ideal electronic components in electronic circuits.

■ 产品尺寸图表5W (Dimension Chart)



功率	阻值范围	精度	尺寸Size (mm)		尺寸 Dimensions(mm)						绝缘电压(V)	净重(g)	温度系数
					KNP/NKNP		KNZ/NKNZ						
Power	Resistance Range	Tolerance	D±0.5	L±1	Φ±0.2	Y±1	P±1	H±1	F±1	G±1	Isolation Voltage	N.W	T.C.R
1/2W	0.1Ω-100Ω	K(±10 %) J(±5 %) G(±2 %)	3.5	9	0.65	25					300	0.50	±200PPM ~ ±400PPM
1Ws	0.1Ω-100Ω		3.5	9	0.65	25					300	0.50	
1W	0.1Ω-100Ω		4.5	10.5	0.65	30					300	0.90	
2Ws	0.1Ω-100Ω		4.5	10.5	0.65	30					300	0.90	
2W	0.5Ω-220Ω		5	15	0.78	30					350	1.20	
3Ws	0.5Ω-220Ω		5	15	0.78	30					350	1.20	
3W	0.5Ω-220Ω		6	17	0.78	38					400	1.50	
5Ws	0.5Ω-220Ω		6	17	0.78	38					400	1.50	
5W	0.5Ω-510Ω		8	24	0.78	30	14	23	3	4.5	500	3.00	
7Ws	0.5Ω-510Ω		8	24	0.78	30	14	23	3	4.5	500	3.00	
7W	0.5Ω-680Ω		8	31	0.78	30	22	23	3	4.5	500	3.80	
8Ws	0.5Ω-510Ω		8	24	0.78	30	14	23	3	4.5	500	3.00	
8W	0.5Ω-680Ω		8	31	0.78	30	22	23	3	4.5	500	3.80	
10Ws	0.5Ω-680Ω		8	31	0.78	30	22	23	3	4.5	500	3.80	
10W	1.5Ω-680Ω		8	41	0.78	30	32	23	3	4.5	500	5.00	
15Ws	1.5Ω-680Ω		8	41	0.78	30	32	23	3	4.5	500	5.00	
15W	1.5Ω-820Ω		8	52	0.78	30	41	23	3	4.5	500	6.40	
20Ws	1.5Ω-820Ω		8	52	0.78	30	41	23	3	4.5	500	6.40	
20W	2.2Ω-1KΩ		8	62	0.78	30	52	23	3	4.5	500	7.80	
25W	2.2Ω-1KΩ		8	62	0.78	30	52	23	3	4.5	500	7.80	
30W	2.2Ω-1KΩ		8	72	0.78	30	62	23	3	4.5	500	9.00	

■ 定货示例 (How to order)

KNP	10W	20R	J
↓	↓	↓	↓
系列	功率	标称阻值	精度 (K: ±10%, J: ±5%, G: ±2%)
Series	Power	Nominal value	Tolerance

■ 绕线电阻性能实验参数 (Performance Characteristics)

项目 Test	试验条件 Conditions of Test	性能要求 Testing Results
电阻值容许误差 Resistance Tolerance	测试电压≤3V,环境温度25℃ Testing Voltage ≤3V,Ambient Temperature 25℃	K--J--G
温度系数 T.C.R	$\frac{R1-R0}{R0-(T1-T0)} \times 10^{-6} (\text{PPM}/^{\circ}\text{C})$ R0:常温(T0)下阻值 R0:Room Temperature(T0)Resistance R1:常温T0+100℃(T1)下阻值 R1:Room Temperature T0+100℃(T1)Resistance	±200PPM-±400PPM
额定负荷 Rated Load	40℃额定电压, 1小时 40℃,rated voltage,1hour	$\Delta R \leq \pm(2\%R+0.1\Omega)$
短时间过负荷 Short Time Overload	5倍额定功率, 10秒钟 (KN); 2.5倍额定功率, 5秒 (MO). 5times rated power for 10s(KN); 2.5times rated power for 5s(MO)	$\Delta R \leq \pm(2\%R+0.1\Omega)$
引出端强度 Terminal Tensile Strength	引出线直径0.8以下10N Wire diameter ≤0.8with 10N	无脱落 No off
耐湿性 Humidity Resistance	温度: 40±2℃, 湿度: 90%-95%, 1000小时 Temp.:40±2℃,Humidity: 90%-95%.1000hours	$\Delta R \leq \pm(2\%R+0.1\Omega)$
室温耐久性 Load Life	温度: 40±2℃, 湿度: 90%-95%, 加额定电压1.5小时, 停止0.5小时, 连续1000小时. Temp.:40±2℃,Humidity: 90%-95%,rated voltage 1.5hours 30 min "Off",continuous 1000hours	$\Delta R \leq \pm(5\%R+0.1\Omega)$
耐热性 Heat Resistance	锡温:350±10℃,时间:3±0.5秒,浸入深度:距元件主体2±0.5mm Tin Temp.:350±10℃,time:3±0.5s,immersion depth:distance from component body 2±0.5mm	$\Delta R \leq \pm(1\%R+0.05\Omega)$
可焊性 Solderability	锡温:235±5℃,时间: 3±0.5秒 Tin Temp.:235±5℃,time:3±0.5s	焊锡面积≥95% Solder area≥95%
不燃性 Non-flammability	10倍额定功率, 通电5分钟 10 times rated power, power on for 5Minutes	允许开路, 但不燃烧 Without combustio

■ 绕线电阻降功耗曲线图 (Derating Curve)

