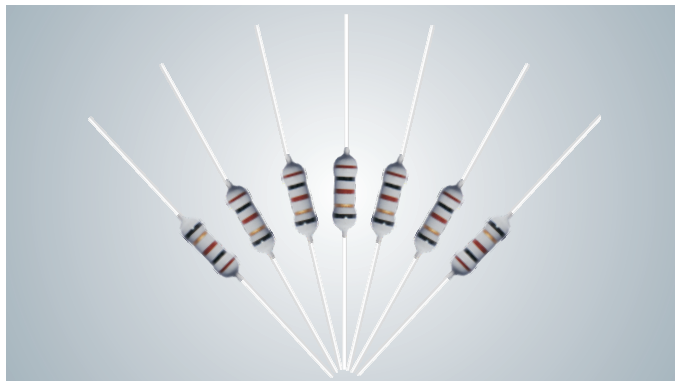


FUSING RESISTOR

FKN 线绕保险电阻器 WIRE WOUND FUSIBLE RESISTOR



本体颜色: Body Color

标准品: Standard (Gray 灰色)

标示: Marking

色环: Color Code (1/4W-3W)

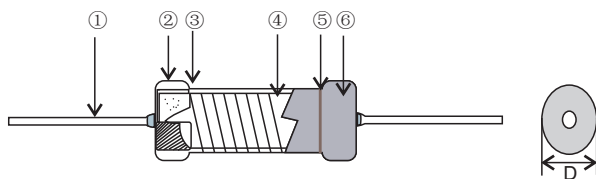
(根据客户要求提供相应标识)

(According to the customer request to provide corresponding identification)

特性 Feature

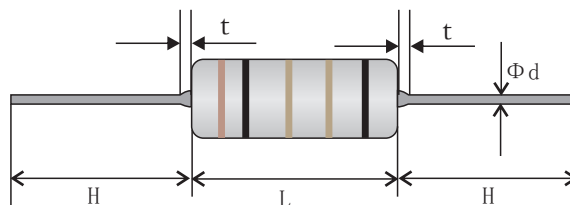
- (1) 正常情况下具备电阻功能。Function as a resistor in normal operation condition.
- (2) 异常过负荷时可快速熔断。Quick fusing protects circuit from excessive over load.
- (3) 产品认证UL 1412 证书号 E341249。Approvals awarded; UL 1412 File No. E341249.
- (4) 产品符合欧盟RoHS要求。Products meet EU-RoHS.

结构图 Construction



①	②	③	④	⑤	⑥
端子线	线帽	瓷棒	绕线	标示	绝缘涂料
Lead wire	Cap	Ceramic base	wire wound	marking or color code	insulation coat

外形尺寸 Dimensions



规格 Type	尺寸Dimensions(mm)					重量Weight(g) (1000pcs)
	$L \pm 1.0$	$t \text{ Max}$	$D \pm 0.5$	$\Phi d \pm 0.05$	$H \pm 3$	
FKN 1/4	6.50	1.5	2.5	0.50	25.0	140
FKN 1/2	8.0	2.0	3.0	0.60	25.0	360
FKN 1	10.0	2.5	3.5	0.70	30.0	540
FKN 2	12.0	2.5	4.5	0.70	30.0	860
FKN 3	15.0	2.5	5.0	0.75	30.0	1500
FKN 5	17.0	2.5	6.0	0.75	30.0	2100
FKN 7	22.0	2.5	7.0	0.75	30.0	2600
FKN 10	24.0	2.5	8.0	0.80	30.0	3900

提供更多规格的产品, 请向我们的工程师咨询 kwx@kwxcom.com

For other specification, please contact with our engineer kwx@kwxcom.com

● 产品认证 Approvals Awarded

UL 1412 File NO.E341249

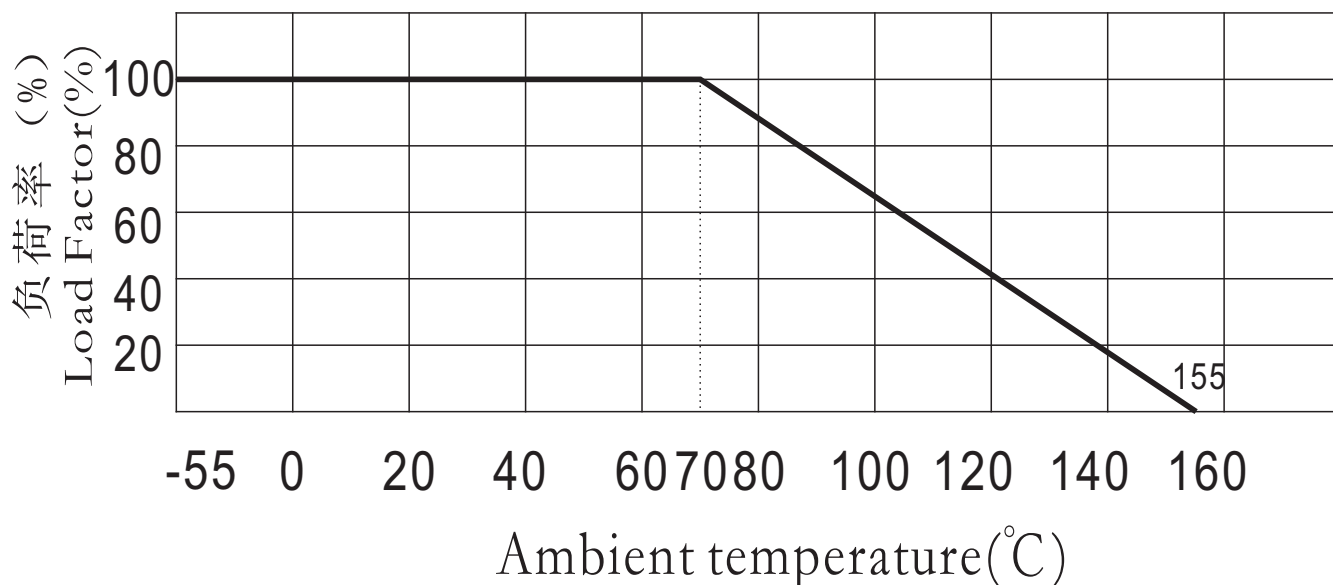
● 参考规格 Reference Standards

JIS C 5201-1

● 功率、阻值范围与耐电压 Power And Resistance etc

规格 Type	阻值范围 Resistance Range(Ω)	最高使用电压 MaxWorking Voltage	最高负荷电压 MaxOverload Voltage	耐电压Dielectric Withstanding Voltage	温度系数 T.C.R
	J $\pm$ 5%(E24)				
FKN 1/4	0.1~100 Ω	$\sqrt{PR}$	150V	200V	$\pm 100\text{PPM}/^{\circ}\text{C}$
FKN 1/2	0.1~100 Ω	$\sqrt{PR}$	300V	250V	
FKN 1	0.1~100 Ω	$\sqrt{PR}$	300V	300V	
FKN 2	0.1~100 Ω	$\sqrt{PR}$	300V	300V	
FKN 3	0.1~1000 Ω	$\sqrt{PR}$	500V	500V	
FKN 5	0.1~1000 Ω	$\sqrt{PR}$	1000V	700V	
FKN 7	0.1~1000 Ω	$\sqrt{PR}$	1000V	700V	
FKN 10	0.1~1000 Ω	$\sqrt{PR}$	1000V	700V	

● 额定温度下降曲线图 Derating Curve



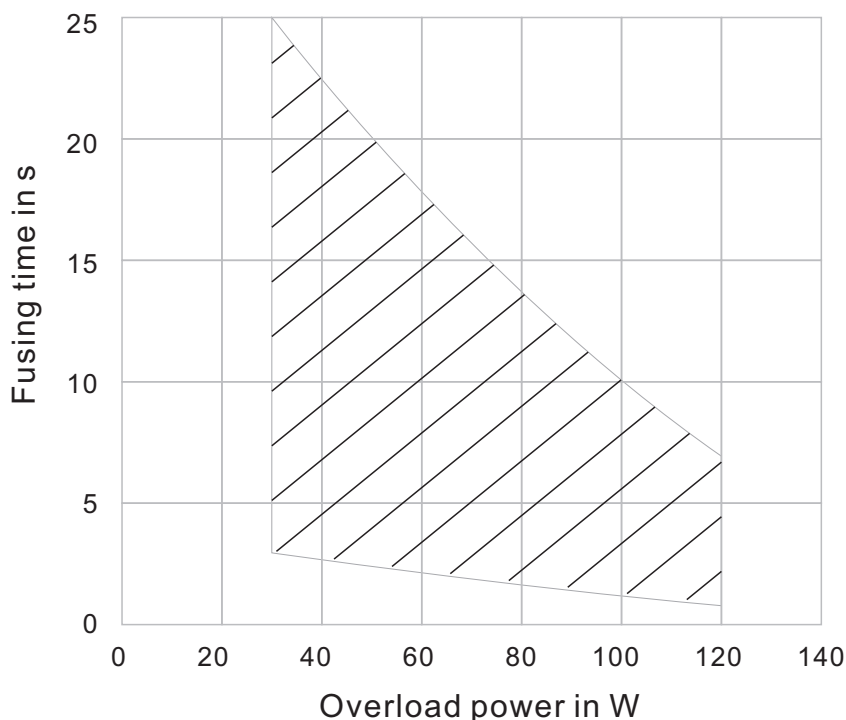
● 熔断特性 Fusing Characteristics (参考用 Preference)

FUSING characteristics 熔断特性 (Residual resistance ≥ 100 times nominal resistance 残留阻值为公称阻值5万倍以上)

规格 Type	阻值范围 Resistance Range	$\sqrt{48PR}$	$\sqrt{36PR}$	$\sqrt{25PR}$	熔断时间 Fusing Time
FKN 1/4	0.1~100Ω	0.1~10Ω	4.7~56Ω	10~100Ω	30sMAX
FKN 1/2	0.1~100Ω	0.1~10Ω	4.7~56Ω	10~100Ω	30sMAX
FKN 1	0.1~100Ω	0.1~10Ω	4.7~56Ω	10~100Ω	30sMAX
FKN 2	0.1~100Ω	0.1~10Ω	4.7~56Ω	10~100Ω	30sMAX
FKN 3	0.1~1000Ω	0.1~10Ω	4.7~56Ω	10~1000Ω	30sMAX
FKN 5	0.1~1000Ω	0.1~10Ω	4.7~56Ω	10~1000Ω	30sMAX
FKN 7	0.1~1000Ω	0.1~10Ω	4.7~56Ω	10~1000Ω	30sMAX
FKN 10	0.1~1000Ω	0.1~10Ω	4.7~56Ω	10~1000Ω	30sMAX

产品熔断特性可由双方根据实际应用协商确定，具体请向我们的工程师咨询 kwx@kwxcom.com
 Fusing characteristics can be fixed according to customers needs, more inquiry please contact with our engineer kwx@kwxcom.com

● 熔断曲线图 Fusing Curve



每个产品的熔断曲线图都有区别，请向我们的工程师询问 kwx@kwxcom.com
 The Fusing curve is different from each other. More information, please contact with our engineer kwx@kwxcom.com

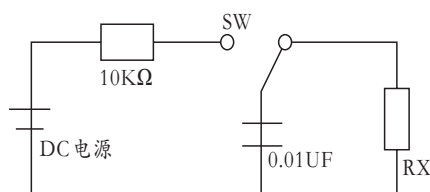
● 性能 Performance

试验项目 Test Items	规格值 Performance Requirements	试验方法 Test Methods(JIS C 5201-1)
电阻值 Resistance	规定的误差值内 Within specified tolerance	测量点从端盖10mm Measuring points are 10mm from the end cap
温度系数 T.C.R.	规定值内 Within specified T.C.R	室温+100℃ Room temperature+100℃
短时间过负荷 Short time overload	$\pm (2\%R+0.05\Omega)$	4倍额定功率, 5秒 4 times the rated power for 5 seconds
负荷寿命 Load life	$\pm (5\%R+0.1\Omega)$	Rated voltage at 70℃ for 1,000 hours 1.5hr ON/0.5hr OFF Cycles
耐湿负荷寿命 Load life in humidity	$\pm (5\%R+0.1\Omega)$	额定电压40℃, 95% RH, 1000小时 Rated voltage at 40℃, 95%RH for 1,000 hours
耐湿性 Moisture resistance	$\pm (1\%R+0.05\Omega)$	40℃, 95% RH, 240小时 40℃, 95%RH for 240 hours
温度循环 Temperature cycle	$\pm (1\%R+0.05\Omega)$	At -55℃ for 30min, time at +25℃ for 10-15min, time at +155℃ for 30min, time at +25℃ for 10-15min, total 5cycles.
焊锡效果 Solderability	95%(min)coverage	Temp. of solder 245℃ $\pm 5^\circ\text{C}$ duration of immersion 3s $\pm 0.5\text{s}$
焊锡耐热 Resistance to soldering heat	$\pm (1\%R+0.05\Omega)$	260℃ $\pm 5^\circ\text{C}$ for 10 seconds(焊锡槽) 350℃ $\pm 10^\circ\text{C}$ for 3.5 seconds(手焊锡)
绝缘电阻 Insulation resistance	> 1,000M Ω	500V绝缘测试1分钟 500V insulation test 1min.

● 脉冲高压过载试验 Pulse Voltage Overload test

- (1) 绕线保险丝电阻, 在充电器工作时, 能够承受接通电源的瞬间产生的十几倍甚至几十倍的冲击电流, 并保证充电器内部及其它性能较弱的元器件不受损坏。
- (2) 当电网受到雷电感应, 或供电线路中电感负载切断时自感电动势等兼脉冲产生的浪涌干扰, 绕线保险丝电阻器完全能够抑制冲击电流、浪涌电流对充电器的影响, 确保电器安全。
- (3) 浪涌电流, 是指电网中出现的时间象“浪”一样的由高电压引起的大电流, 这种高电压, 其脉宽为微秒, 峰值在0.8-3KV的高压脉冲, 大电流的强度最小为40安培, 最大为600安培, 持续时间最短为10微秒, 最长为100微秒。

脉冲高压过载电路
Single-pulse high-voltage overload



试验前先量RX电阻值, DC3KV, 按左电路重复10次通过2.5秒, 断电2.5秒, 去掉试验电压后经30-45分钟后, 按规定测量电阻, $\Delta R/R \leq (\pm 3\% + 0.05\Omega)$

Measure Rx before test, swith for left handside to test under DC3KV for 2.5 seconds and then swith to left handside to break for 2.5seconds, Repeat 10 times, and than off the measure to cool down for 30-45 minutes, Measure the resistance $\Delta R/R \leq (\pm 3\% + 0.05\Omega)$

● 料号编号 Ordering Information

例 example

FKN	14	J	R100	A520	NH
型号 Type	额定功率 Rated Power	误差值 Tolerance	电阻值 (Ω) Resistance	二次加工 Forming	端子线 Lead Wire
	14: 1/4W 12: 1/2W 01: 1W 02: 2W 03: 3W	J $\pm 5\%$	R100=0.1 1R00=1 10R0=10 1M00=1M		热镀线 Heat Plated