

## FEATURES

- | High surge current handling capability
- | High energy absorption capability
- | Wide operating voltages ranging from 300V
- | Fast response time of less than 25ns, instantly clamping the transient over voltage
- | Low clamping voltages, providing better surge protection
- | Low capacitance values, providing digital switching circuitry protection
- | High insulation resistance, preventing electric arcing to the adjacent devices or circuits



10D

## APPLICATIONS

- | Surge protection of consumer equipment
- | Surge protection of communication, measuring and controller instrument
- | Surge protection in electronic home appliances, gas and petroleum appliances
- | Relay and electromagnetic valve surge absorption
- | Transistor, Diode, IC, Thyristor or Triac semiconductor protection

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## GENERAL CHARACTERISTICS DEFINITION

- | Operating Temperature Range : -40°C ~ +125°C
- | Storage Temperature Range : -40°C ~ +150°C
- | Working Surface Temperature : +115°C
- | Insulation Resistance : >100MΩ

## MATERIAL

- | Coating: Epoxy Resin
- | Lead Wire: The Copper Wire
- | Electrode: Silver Solder
- | Disk: Zinc Oxide

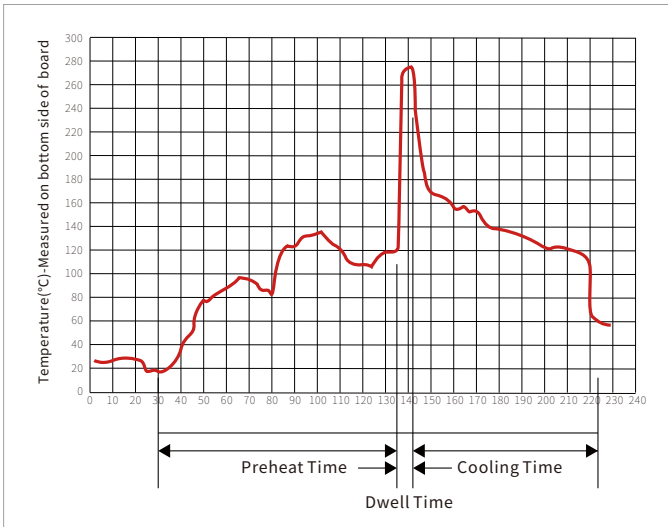
## ELECTRICAL CHARACTERISTICS

电性规格项目	性能要求	单位	说明及测试方法
MAX ALLOWABLE VOLTAGE 可容许之最大电压	300	VAC 交流	压敏电阻能够长期承受的最大持续 正弦交流电压有效值或最大直流电压。
	385	VDC 直流	
VARISTOR VOLTAGE 压敏电压	427-517	(V)	压敏电阻中電流 1mA 直流电流时, 压敏电阻两电极间的电压降。
RATED WATTAGE 额定功率及脉冲电流稳定性	0.4	(W)及10 <sup>4</sup> 次	在波形为8/20μs、时间间隔为6.3sec、次数为 10 <sup>4</sup> 的电流 脉冲群作用下,压敏电阻器能承受最大平均功率。 “能够承受”指:冲击后的压敏电压U <sub>1mA</sub> 与冲击前 的相比不大于±10%,且不能发生目视可见的机械损伤。
MAX CLAMPING VOLTAGE 最大抑制电压	775	(V)	波形为8/20μs、峰值为 25A 的浪涌电流流入 压敏电阻器时,两电极间的电压峰值。
WITHSTANDING SURGE CURRENT 突波电流耐量最大峰值电流	6KV/3KA	40 Times 间隔 60 秒	波形为 1.2/50μs+8/20μs, 4 个相位角 0/90/180/270 冲击后的压敏电压U <sub>1mA</sub> 与冲击前的相比不大于±10% 或单一浪涌波形为 8/20μs 的最大浪涌电流峰值。
	4500	(A) 1 TIME	
MAX ENERGY 最大能量	137	JOULE	对压敏电阻施加一次10/1000μs方波电流时,它能够承受 最大浪涌能量。“能够承受”指:冲击后的压敏电压U <sub>1mA</sub> 与冲击前的相比不大于±10%,且不能发生目视可见的机 械损伤。
TEMPFRATURE COEFFICIENT 电压温度系数	0-0.05	%/°C	$\frac{U_{1mA}(25^{\circ}\text{C})-U_{1mA}(125^{\circ}\text{C})}{U_{1mA}(25^{\circ}\text{C})} \times \frac{1}{60} \times 100\%$
TYPICAL CAPACITANCE 电容量 (参考值) (reference)	210	PF	频率:1kHz±10%、信号电平≤1VRMS、零偏压。
LEAKAGE CURRENT 漏电流	≤20	μA	两端被施加最大持续直流工作 电压时,流过压敏电阻的电流。
Impulse Response Time 响应时间	< 25	nSec	
封装材料	蓝色阻燃型环氧树脂 (符合UL 94 V-0标准要求)		
主要材料	氧化锌		
外观	无污迹、无裂纹、标志清晰		
标准测试环境条件	除非另有规定,所有项目的测试应在以下环境条件下进行:温度:20±8°C,相对湿度:50±20%		

# MECHANICAL & ENVIRONMENTAL REQUIREMENTS

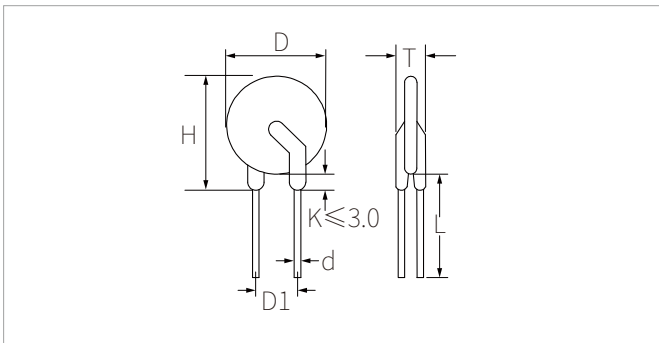
项目	性能要求	说明及测试方法
环境特性	气候顺序 $\frac{\Delta U_{1MA}}{U_{1MA}} \leq \pm 5\%$ 无明显机械损伤	IEC 68-2-4, 试验 Db 干热: (125±2°C) × 16hrs, 循环湿热: 一个循环(55±2°C) × 24hrs、95~100%RH 寒冷: (-40±2°C) × 2hrs 循环湿热: 一次(55±2°C) × 24hrs、95~100%RH、 剩余的循环5次, 24hrs/循环。
	稳态湿热 $\frac{\Delta U_{1MA}}{U_{1MA}} \leq \pm 5\%$ 无明显机械损伤	IEC68-2-3 温度/时间:(40±2°C)/500hrs、湿度:90~95%RH。
	温度快速变化 $\frac{\Delta U_{1MA}}{U_{1MA}} \leq \pm 5\%$ 无明显机械损伤	IEC 68-2-14, 试验Na TA=-40°C, TB=+125°C 共五个循环, 每个极限温度下放置30分钟。
	上限类别温度 耐久性 $\frac{\Delta U_{1MA}}{U_{1MA}} \leq \pm 10\%$ 无明显机械损伤	IEC 68-2-2 温度:125°C±2°C、时间:1000hrs。 电压:最大持续工作电压(交流)
	湿热环境耐久性 $\frac{\Delta U_{1MA}}{U_{1MA}} \leq \pm 10\%$ 无明显机械损伤	IEC68-2-3 温度:125°C±2°C、时间:500hrs、湿度:90~95%RH。 电压:最大持续工作电压(交流)。
机械特性	振动 $\frac{\Delta U_{1MA}}{U_{1MA}} \leq \pm 5\%$ 无明显机械损伤	IEC68-2-6, 试验Fc方法 B4 总持续时间:6hrs(三个方向, 每方向各2hrs)。 频率范围:10 Hz~55 Hz、振幅:0.75mm或加速度 98 m/s <sup>2</sup>
	冲击 $\frac{\Delta U_{1MA}}{U_{1MA}} \leq \pm 5\%$ 无明显机械损伤	IEC 68-2-27, Test Ea 脉冲波形:半正弦波、加速度:490m/s <sup>2</sup> 脉冲宽度:11ms, 三个方向, 每方向各6次。
	可焊性 浸渍部分的95% 被焊锡覆盖	IEC 68-2-20, 试验Ta 方法1 槽温:235±5°C浸渍时间:2±0.5sec
	耐焊接热 无明显机械损伤	IEC 68-2-20, 试验Tb 方法1A 锡温:260°C、持续时间:5sec
	引出端强度 $\frac{\Delta U_{1MA}}{U_{1MA}} \leq \pm 5\%$ 无明显机械损伤	IEC68-2-21, 试验Ua 拉伸—力量:10 N (Φ0.6和Φ0.8mm引线) 20N(Φ1.0mm引线)持续时间:10 sec. 弯折—力量:5N(Φ0.6和Φ0.8mm引线)、 10N(Φ1.0mm引线)弯折次数:2次
总体特性	使用温度范围 (-40°C ~+125°C)	压敏电阻无须降额使用的温度范围
	贮存温度范围 (-40°C ~+150°C)	压敏电阻无负载情况下
	绝缘耐压 ≥2500VAC	压敏电阻的电极引线与其包封层表面之间, 1 min。

## WAVE SOLDERING



Wave Parameter		Lead-free assembly
Pre Heat	Temperature Min	100°C
	Temperature Max	150°C
	Time(min to max)	60 – 180 secs
Solder pot Temperature		280°C Max
Solder Dwell Time		2-5 seconds

## PACKAGE INFORMATION



Symbol	Dimension(mm)
H(max)	17.0
L(min)	20.0
D(max)	13.5
D1(±0.8)	7.5
T(max)	6.2
d(±0.05)	0.8

## ORDERING INFORMATION

Part Number	Component Package	Package
10D471KSC	10D	500PCS

**Headquarters**

No.3387 Shendu Road  
Pujiang I&E Park  
Minhang Shanghai China  
201000

**Hotline**

400-021-5756

**Web**

<https://www.semiware.com>

**Sales Center**

Tel: 86-21-3463-7458  
Email: [sales18@semiware.com](mailto:sales18@semiware.com)

**Customer Service**

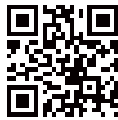
Tel: 86-21-5484-1001  
Email: [sales17@semiware.com](mailto:sales17@semiware.com)

**Technical Support**

Tel: 86-21-3463-7654  
Email: [fae01@semiware.com](mailto:fae01@semiware.com)

**Complaint & Suggestions**

Tel: 86-21-3463-7172  
Ext: 8868  
Email: [cs03@semiware.com](mailto:cs03@semiware.com)

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