



Part No: HYV3225-471KJ

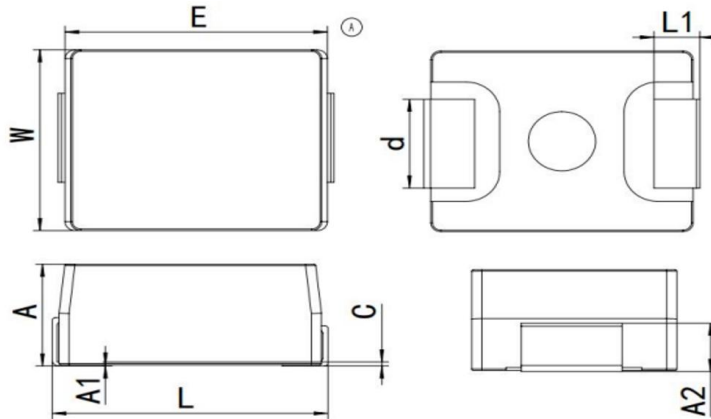
Rev: 0/A (2024-04-17)

1. Appearance 外形尺寸

1-1. Marking 标志

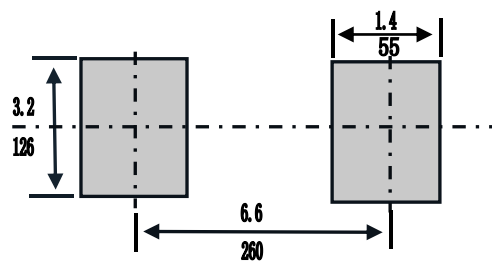
HY	Logo	公司商标
V3225-471KJ	Product Spec.	产品规格
240103	Batch no.	生产批号

1-2. Dimensional Drawing (mm) 尺寸



Unit	Item	E	W	A	L	A1	A2	C	L1	d
mm	Max.	8.3	6.6	4.0	8.7	0.12	2.16	0.18	2.0	3.50
	Min.	7.3	5.6	3.2	7.7	0.10	1.44	0.12	1.0	2.50

1-3. Recommended solder pad layout (mm) 焊盘布局

unit: $\frac{\text{mm}}{(\text{mil})}$

2. Part numbering 命名方式

HY	V	3225	471	K	J
Blue Sky Logo	Plastic Varistors	Product Size 产品尺寸 mm	Varistor Voltage 压敏电压 V	Tolerance 压敏电压允差	High flux energy 高通流能量
航昱微 Logo	塑封压敏 电阻	7.8*6.0	470	±10%	J 高焦耳



Part No: HYV3225-471KJ

Rev: 0/A (2024-04-17)

3. Electrical Characteristics 电气参数

(Ta=25℃)

SMD Types 产品型号	Maximum Allowable Voltage 可容许最大电压		Withstanding Surge Current (8/20 μs) 突波电流耐量		Energy 能量 (10/1000μs)	Rated Power 额定功率
	V _{ACRMS} [V]	V _{DC} [V]	1 time[A]	2 times[A]	(1 time)[J]	[mW]
HYV3225-471KJ	300	385	1200	800	15.0	250

SMD Types 产品型号	Varistor Voltage at 1 mA 压敏电压	Max Clamping Voltage at Class Current 最大抑制电压	Class Current 电流等级 (8/20 μs)	Capacitance 电容量
	[V](±10%)	[V]	[A]	@1kHz [pF]
HYV3225-471KJ	470	775	10	40



Part No: HYV3225-471KJ		Rev: 0/A (2024-04-17)
4. Mechanical Characteristics 机械性能		
Item 指标项目	Specification 技术要求	Description 说明
Tensile 引出端拉伸强度	The lead wire is not broken and the resistor is not damaged. Pressure sensitive voltage change rate within $\pm 5\%$. 引线无断裂，电阻器无损伤。压敏电压变化率在$\pm 5\%$以内。	Referring to GBT10193-1997 (4.10) , UA1 UUB UC and Ud are quoted in IEC 43-2-21 to carry out the strength test of the leading end. 10 n tensile force . 参照 GBT10193-1997 第 4.10，引用 IEC 43-2-21 中规定 Ua1、Ub、Uc 和 Ud 进行引出端强度试验。引出端施加10N拉力。
Vibration 振动	No significant mechanical damage. The rate of change of voltage is less than 10% . 无明显机械损伤。压敏电压变化率小于10%。	The test sample should be tested according to the GB 2423.10 Test Fe, the frequency is 10-55 Hz, the displacement amplitude is 0.75 mm, along the test sample x, Y two directions vibration 2Hr. 试验样品应根据GB 2423.10试验Fe进行试验，频率为10-55Hz，位移幅值为0.75mm，沿试验样品X，Y两个方向各振动2Hr。
Solderability 可焊性	About 95 % of the lead end is evenly covered by solder. Not less than 90 % of wetting force. 引线末端约95%被焊锡均匀覆盖。不小于润湿力的90。	Referring to GBT10193-1997(4.11) , IEC 43-2-20 test method is used to insert the varistor (5 + 1) mm / s ~ (20 + 1) mm / s) into the molten solder at the temperature of (235 $\pm$ 0.5) ° C for 5 S. 参照GBT10193-1997第4.11，引用IEC 43-2-20的试验方法，焊料温度（235 $\pm$ 0.5）℃，将压敏电阻器以（5+1）mm/s~（20+1）mm/s的速度侵入熔融焊料中1.5至规定的深度，并保持5 S。
Welding heat resistance 耐焊接热	No significant mechanical damage. Pressure sensitive voltage change rate within $\pm 5\%$. 无明显机械损伤。压敏电压变化率在$\pm 5\%$以内。	According to 4.12 of GBT10193-1997 and the test Tb method stipulated in IEC 43-2-20, the pins of the psa were impregnated in a welding groove at (260$\pm$5) ° C for (10+1) s. 参照GBT10193-1997第4.12，引用IEC 43-2-20规定试验Tb方法，将压敏电阻器的引脚浸渍于（260$\pm$5）℃的焊槽中，持续（10+1）s。



Part No: HYV3225-471KJ

Rev: 0/A (2024-04-17)

5. Environmentalb 耐候特性

Characteristicsvv 项 目	Test Methods 试验方法	Specifications 性能要求
High Temperature Storage 高温存储	The specimen shall be subjected to $125\pm2^{\circ}\text{C}$ for 1000 hours in a thermostatic bath without load and then be stored at room temperature and normal humidity for 1 to 2 hours. The change of $V_{1\text{mA}}$ shall be measured. 在 $125\pm2^{\circ}\text{C}$ 无负荷存放 1000 小时, 其后在室温状态下, 1 到 2 小时以内, 测量 $V_{1\text{mA}}$。	$ \Delta V_{1\text{mA}}/V_{1\text{mA}} \leq 10\%$
Humidity Storage 湿热湿热	The specimen shall be subjected to $40\pm2^{\circ}\text{C}$, 90~95%RH for 1000hours without load and then stored at room temperature and normal humidity for 1 to 2 hours. The change of $V_{1\text{mA}}$ shall be measured. 在温度为 $40\pm2^{\circ}\text{C}$, 湿度为 90~95%RH 中无负荷放置 1000 小时, 其后在室温状态下, 1 小时以上 2 小时以内测量 $V_{1\text{mA}}$。	$ \Delta V_{1\text{mA}}/V_{1\text{mA}} \leq 10\%$
Low Temperature Storage 低温存储	The specimen shall be subjected to $-40\pm2^{\circ}\text{C}$, for 1000 hours with-out load and then stored at room temperature and normal humidity for 1 to 2 hours. The change of $V_{1\text{mA}}$ shall be measured. 在温度为 $-40\pm2^{\circ}\text{C}$, 无负荷放置 1000 小时其后在室温状态, 1 到 2 小时以内测量 $V_{1\text{mA}}$。	$ \Delta V_{1\text{mA}}/V_{1\text{mA}} \leq 10\%$
Temperature Cycle 温度快速变化	The specimen shall be subjected to $-40\pm2^{\circ}\text{C}$, then to $125\pm2^{\circ}\text{C}$. At each temperature the specimen shall be stored for 30 minutes. The temperature cycle shall be applied for 5 times. 下限类别温度 $-40\pm2^{\circ}\text{C}$, 上限类别温度 $125\pm2^{\circ}\text{C}$, 共五个循环, 每个极限温度下放置 30 分钟, 进行外观检查和 $V_{1\text{mA}}$ 测量。	No remarkable mechanical damage $ \Delta V_{1\text{mA}}/V_{1\text{mA}} \leq 10\%$ 无可见损伤
High Temperature Load 高温负荷	After being continuously applied the max. allowable voltage at $125\pm2^{\circ}\text{C}$ for 1000 hours and then stored at room temperature and normal humidity for 1 to 2hours. Thereafter, the change of $V_{1\text{mA}}$ shall be measured. 在 $125\pm2^{\circ}\text{C}$ 的温度下, 施加最大连续电压 1000 小时; 然后, 在室温状态下, 1 到 2 小时以内进行 $V_{1\text{mA}}$ 测量。	$ \Delta V_{1\text{mA}}/V_{1\text{mA}} \leq 10\%$
Humidity Load 湿热负荷	The specimen shall be subjected to $40\pm2^{\circ}\text{C}$, 90~95%RH and the max. allow able voltage for 1000 hours and then stored at room temperature and normal humidity for 1to 2hours. Thereafter, the change of $V_{1\text{mA}}$ shall be measured. 在温度为 $40\pm2^{\circ}\text{C}$, 湿度为 90~95%RH 中, 施加最大连续电压 1000 小时, 其后在室温状态下, 1 到 2 小时以内测量 $V_{1\text{mA}}$。	$ \Delta V_{1\text{mA}}/V_{1\text{mA}} \leq 10\%$



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Rev: 0/A (2024-04-17)

6.Features 特点

- Improved component design in a compact case. 改善产品的设计空间
- High surge current capability. 提供更高的产品通流量
- Superior performance at high temperature. 在更高温下使用
- Better stability and reliability under hot and humid conditions
在湿热条件下有更好的稳定性和可靠性
- SMD mountable disk varistors, suitable for lead-free reflow / wave soldering.
片式封装结构更适合回流焊和波峰焊

7.Applications 应用领域

- Power supplies for telecommunication systems. 通讯设备功率电源
- Protection for LED circuits. LED 电路保护
- Protection for consumer, industrial equipment. 消费类、工业类设备保护
- Protection for automotive electronics. 自动化设备保护

8.Applicable standards 参照标准

- UL1449
- TUV
- CQC (GB/T10193, GB/T10194, GB4943.1, GB8898)

9.General technical data 技术要求

Parameter 项目	Value 范围	Unit 单位
Operating temperature 工作温度	-10 to +125	°C
Storage temperature 贮存温度	-10 to +45	°C
Electric strength 电气强度	≥ 2.5	kV _{RMS}
Insulation resistance 绝缘电阻	≥ 100	MΩ

10.Storage condition 贮存条件

- As far as possible, the components should be employed within 24 months after delivery .
从入库到使用时间不大于 24 个月。
- They should be left in their original packing to avoid soldering problems due to oxidized contacts. 为防止出现焊接问题产品尽量在使用前保持原包装。
- Storage temperature: - 10 up to + 45° C. 贮存温度在-10~45° C.
- Relative humidity: < 75 % 相对湿度 <75%。

