

# 规格承认书

## SPECIFICATION FOR APPROVAL

Rev1.0	SPECIFICATION		NO.		
MODEL NO.	471KD20J		PAGE: 1 OF 4		
PART NO.	471KD20J- ALEP11Z2(AML)		DATE: 2018年1月12日		
UL	E327997	CSA	246579	VDE	40027827

### 1. Outline

1.1	Appearance	Without any crack, marking should be clear			
1.2		Dimensions (mm)			
		D(max.)	23.0		
		H(max.)	26.5		
		T(max.)	5.99		
		d(±0.05)	1.0		
		F(±0.5)	11.0		
		L(min.)	20.0		
		Epoxy color: Blue			

### 2. Electrical Parameters

2.1	Maximum Allowable Voltage	AC: 300(V)	@1mA DC
		DC: 385(V)	
2.2	Varistor Voltage(Test time for 30ms)	423-450(V)	V1mA
2.3	Rated Power	1.00(W)	
2.4	Maximum Clamping Voltage	I <sub>p</sub> : 100(A)	Test Current Waveform 8/20μs
		V <sub>C</sub> : 775(V)	
2.5	Withstanding Surge Current	±10 times:12KV/6KA	Test Current Waveform 1.2/50μs&8/20μs (60s intervals)
2.6	Maximum Energy	350(J)	Test Current Waveform 10/1000μs
2.7	Typical Capacitance	850(pF)	@1KHz
2.8	Leakage Current	≤24μA)	At 80% of Varistor Voltage
2.9	Nonlinear Exponent (α)	≥30	$\alpha = \log \frac{I_1}{I_2} / \log \frac{V_1}{V_2}$

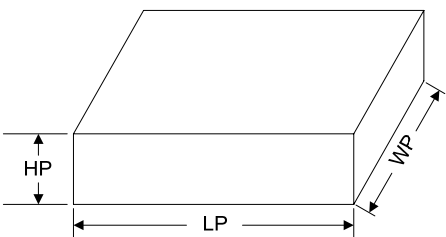
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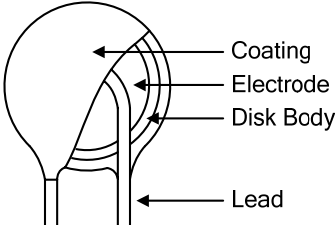
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2.10	Temperature Coefficient of Varistor Voltage	$\leq 0.05\%/^{\circ}\text{C}$	$\frac{V_{c85^{\circ}\text{C}} - V_{c25^{\circ}\text{C}}}{V_{\text{Cat } 25^{\circ}\text{C}}} \times \frac{1}{60} \times 100(\%/^{\circ}\text{C})$
2.11	Impulse Life	$\leq \pm 10\%(V1\text{mA})$	Test Current Waveform 8/20 $\mu\text{s}$

### 3. Packing

3.1	Quantity	400 PCS (200pcs/bag, 2 bags/box)		
3.2	Packing Dimension		LP	245max
			HP	65max
			WP	185max
			Unit: mm	

### 4. Material List

4.1	Drawing	
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4.2	Material Chart RoHs	Items	Composition	Manufacturer
		Coating	Epoxy Resin	Made in China, and in line with the UL94-V0 testing, meet the environmental requirements
		Lead	Cp wire	Made in China, meet the environmental requirements
		Electrode	Silver	Made in China, meet the environmental requirements
		Disk	Zinc Oxide	Made in China, meet the environmental requirements
		Solder	Sn:96.5%Cu 0.5%Ag3.0%	Made in China, meet the environmental requirements

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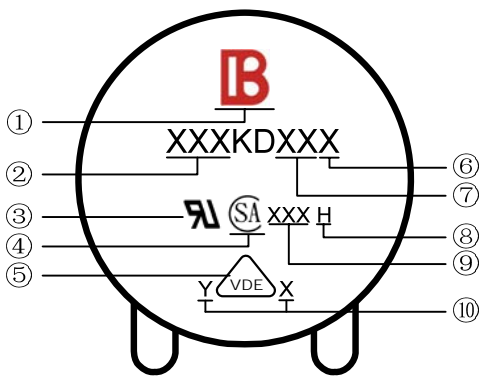
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<b>5. Mechanical Requirements</b>					
5.1	Tensile of Terminations	No Outstanding Damage	2.0Kgf; 10Sec.		
5.2	Bending of Terminations	No Outstanding Damage	1.0Kgf; 90°, 3 Times		
5.3	Vibration	No Outstanding Damage	Freq: 10-55Hz; Amp: 0.75mm, 1Min.		
5.4	Solderability	Min. 95% of the terminal should be covered with solder uniformly	Solder Temp: 265°C±5°C Dipping Time: 2.5±0.5Sec.		
5.5	Resistance of soldering heat	$\Delta V1mA/V1mA \leq \pm 5\%$	Solder Temp: 265°C±5°C Dipping Time: 10±1Sec.		
<b>6. Environmental Requirements</b>					
6.1	High Temperature Storage	$\Delta V1mA/V1mA \leq \pm 5\%$	Ambient Temp: 125±2°C Duration: 1000h		
6.2	Low Temperature Storage	$\Delta V1mA/V1mA \leq \pm 5\%$	Ambient Temp: -40±2°C Duration: 1000h		
6.3	High Humidity Storage/Damp Heat	$\Delta V1mA/V1mA \leq \pm 5\%$	Ambient Temp: 40±2°C 90~95% R.H. Duration: 1000h		
6.4	Temperature 5 Cycle	$\Delta V1mA/V1mA \leq \pm 5\%$	Step	Temperature (°C)	Period (min)
			1	-40±3	30±3
			2	Room Temp	15±3
			3	125±3	30±3
			4	Room Temp	15±3
6.5	High Temperature Load	$\Delta V1mA/V1mA \leq \pm 10\%$	Ambient Temp: 85±2°C Duration: 1000h Load: Max. Allowable Voltage		
6.6	High Humidity Load	$\Delta V1mA/V1mA \leq \pm 10\%$	Ambient Temp: 40±2°C 90~95% R.H. Duration: 1000h Load: Max. Allowable Voltage		
6.7	Operating Temperature Range	-40°C ~ +85°C			
6.8	Storage Temperature Range	-40°C ~ +125°C			

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### 7. Marking Code



- ① BrightKing Logo
- ② Varistor Voltage
- ③ UL Accreditation Logo
- ④ CSA Accreditation Logo
- ⑤ VDE Accreditation Logo
- ⑥ “J” is High Surge Code, no “J” is Standard Surge
- ⑦ Varistor Size
- ⑧ “H” is Halogen Free Code, no “H” is Halogen
- ⑨ Date Code
- ⑩ Product Line Code ( “Y” may be A thru Z or blank)

### 8. Part Number Code

