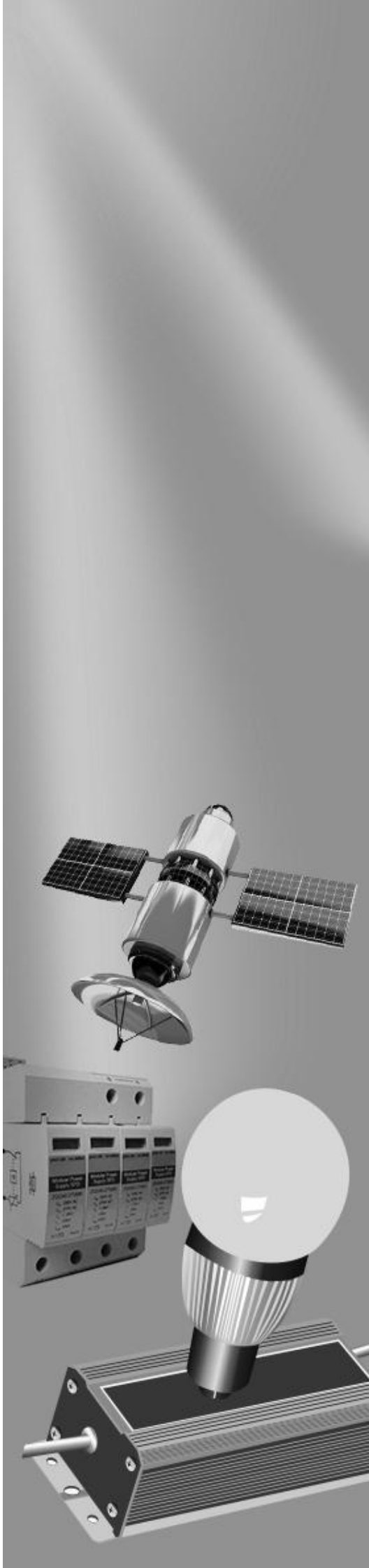
Innovative Service Around the Globe YAGEO

DATA SHEET

COMPOSITE SURGE PROTECTIVE UNIT

14D series

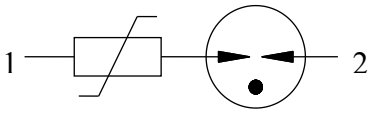
RoHS compliant & Halogen free



Product specification– July 22, 2026 V.0

Features

- Hybrid design
- Low leakage
- Bidirectional protection
- Low capacitance
- RoHS and REACH compliant
- Meets MSL level 1, per J-STD-020
- Operating Temperature：-40℃ ~ +105℃
- Storage Temperature：-40℃ ~ +125℃

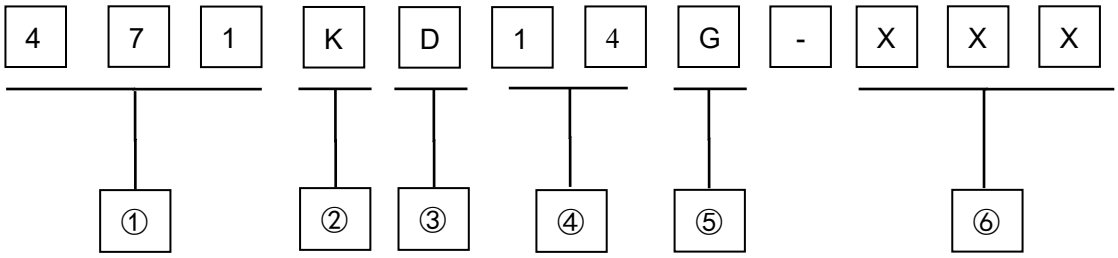


Circuit Diagram

Applications

- AC Line Protection
- White goods
- Power line communications
- Smoke alarm systems
- High value consumer goods
- DC Line Protection
- Solar inverters
- Power supplies
- Distribution systems

Part Number Code



NO.	Description	
①	471	Varistor Voltag 471: 470V
②	K	Tolerance K: ±10%
③	D	Type D: Disk
④	14	Element Diameter 14
⑤	G	GDT
⑥	XXX	No suffix: Standard Type suffix: Internal Control Code

Dimensions

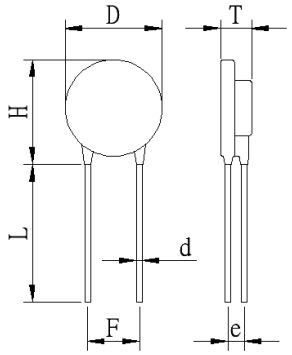


Table 1
Unit: mm

Symbol	Dimension
H	14.5~20.0
L(min.)	20.0
D	14.0~16.5
F(±1.0)	7.5
T	Table 2
d(±0.1)	0.8

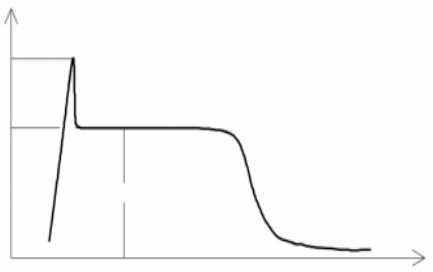
Table 2
Unit: mm

Model	T（Max）	e(±1.0)	Model	T（Max）	e(±1.0)
271K	7.5	4.5	511K	8.7	5.8
301K	7.6	4.8	561K	8.9	6.1
361K	7.9	5.2	621K	9.2	6.4
391K	8.1	5.4	681K	9.5	6.6
431K	8.3	5.5	751K	10.0	7.0
471K	8.5	5.6			

Electrical Characteristics

Part Number	Operating				Component Parameters		Protection					
	Maximum Continuous Operating Voltage (MCOV)		Maximum Leakage (MCOV)	Maximum Capacitance	MOV Voltage （±10%）	GDT DCBD （±20%）	Inom UL 1449/4th	Imax	Ring Wave Surge IEEE 62.41	Peak Voltage	Platform Voltage	Clamp Transition Time
	V_{rms}	V_{DC}	A_{rms}	1 MHz	V_{1mA}	$V_{100V/S}$	15 Ops	1 Ops	200A	Max.	Typ.	
	V	V	μA	PF	V	V	A	A	Ops	Vfp	Vc	μs
271KD14G	175	225	< 1	4	270	600	3000	6000	± 250	1200	475	0.3
301KD14G	210	275			300	600				1200	535	
361KD14G	250	320			360	600				1200	630	
391KD14G	275	350			390	600				1200	680	
431KD14G	300	385			430	600				1200	740	
471KD14G	320	415			470	600				1200	810	
511KD14G	350	460			510	800				1600	870	
561KD14G	385	505			560	800				1600	950	
621KD14G	420	560			620	800				1600	1050	
681KD14G	460	615			680	1200				2200	1150	
751KD14G	510	670			750	1500				2200	1330	

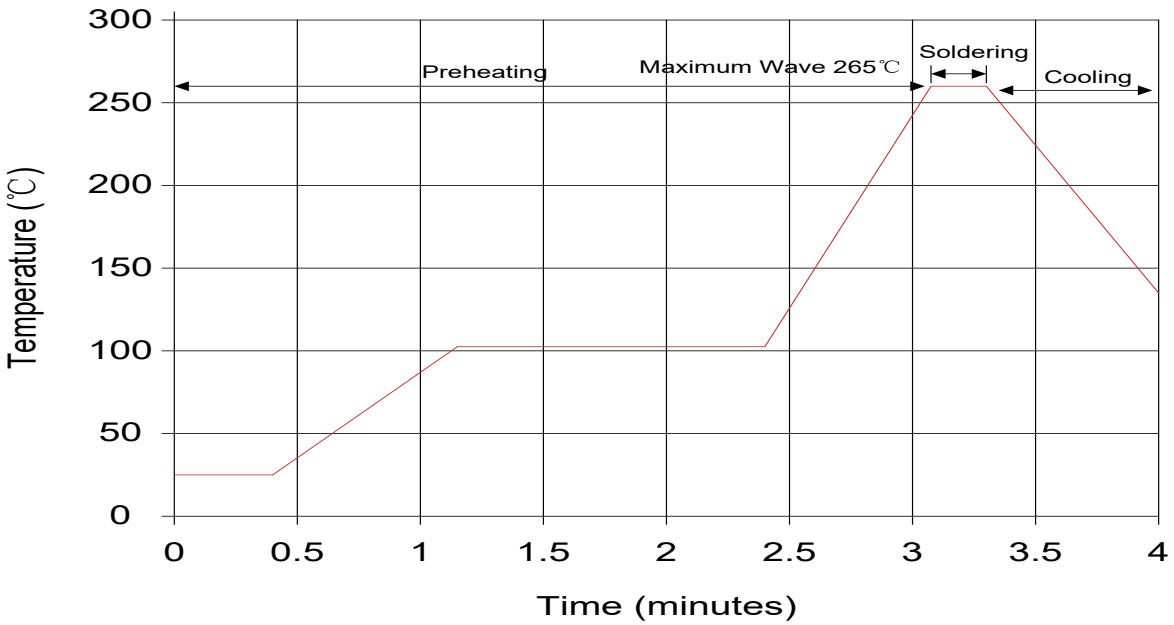
Reliability

<table>
<tr><th>NO.</th><th>Item</th><th>Test method</th><th>Performance</th></tr>
<tr><td>1</td><td>Peak Voltage (V_{fp})
Platform Voltage(V_C)</td><td>The voltage is measured with voltage ramp dv/dt=1KV/us.
Peak Voltage
Platform Voltage
</td><td>V_{fp} measured value is less than the specification maximum value

V_C measured values is the specification average</td></tr>
<tr><td>2</td><td>Tensile Strength of Terminals</td><td>Gradually applying the force specified and keeping the unit fixed for 10±1 sec.<table><tr><th>Terminal diameter(mm)</th><th>Force(N)</th></tr><tr><td>0.5＜d≤0.8</td><td>10</td></tr><tr><td>0.8＜d≤1.25</td><td>20</td></tr><tr><td>1.25＜d</td><td>40</td></tr></table></td><td rowspan="3">No visible damage</td></tr>
<tr><td>3</td><td>Bending Strength of Terminals</td><td>Hold specimen and apply the force specified below to each lead. Bend the specimen to 90°, then return to the original position. Repeat the procedure in the opposite direction.<table><tr><th>Terminal diameter(mm)</th><th>Force (Kg)</th></tr><tr><td>0.5＜d≤0.8</td><td>5</td></tr><tr><td>0.8＜d≤1.25</td><td>10</td></tr><tr><td>1.25＜d</td><td>20</td></tr></table></td></tr>
<tr><td>4</td><td>Resistance Vibration</td><td>Frequency range:10Hz-55Hz, Amplitude: 0.75mm or 98m/s^2, three direction, Total duration: 6h.</td></tr>
<tr><td>5</td><td>Solder ability</td><td>Solder bath method 245±5℃,3±0.3 sec.</td><td>At least 95% of terminal electrode is covered by new solder.</td></tr>
<tr><td>6</td><td>Resistance to soldering heat</td><td>260±5℃, 10±1ses.Depth of immersion: up to 2.0～2.5mm from the root of the lead wire covered with thermal screen .Speed of immersion:25±2.5mm/sec.</td><td rowspan="6">No visible damage</td></tr>
<tr><td>7</td><td>Damp Heat Load</td><td>40±2℃ , 90~95% RH,at 10%VDC ,1344±24 hrs</td></tr>
<tr><td>8</td><td>High temperature</td><td>Ambient Temp: 125±2℃ Duration: 1000±24hrs</td></tr>
<tr><td>9</td><td>Low temperature</td><td>Ambient Temp: -40±2℃ Duration: 1000±24hrs</td></tr>
<tr><td>10</td><td>High Temperature load</td><td>Ambient Temp: 105±2℃ Duration: 1000±24hrs
Load: Max. Allowable Voltage In AC.</td></tr>
<tr><td>11</td><td>Temperature cycling</td><td>The conditions shown below shall be repeated 1000 cycles.<table><tr><th>Step</th><th>Temperature</th><th>Period</th></tr><tr><td>1</td><td>-40±3℃</td><td>30min</td></tr><tr><td>2</td><td>Room temperature</td><td>15min</td></tr><tr><td>3</td><td>+85±2℃</td><td>30min</td></tr><tr><td>4</td><td>Room temperature</td><td>15min</td></tr></table></td></tr>
<tr><td>12</td><td>Voltage Proof</td><td>Metal balls method.
2500Vac 1 min.</td><td>No visible damage</td></tr>
</table>

Soldering Recommendation

Lead-free Wave Soldering Recommendation

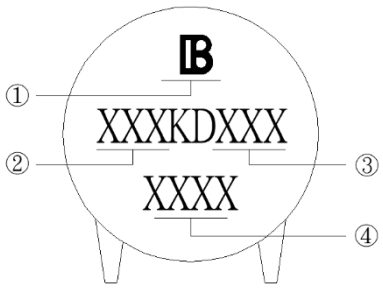


Item	Conditions
Peak Temperature	265℃
Dipping Time	10 seconds (max.)
Soldering	1 time

Recommendation Reworking Conditions with Soldering Iron

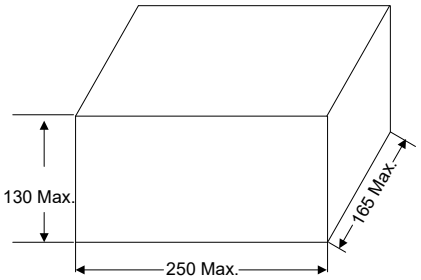
Item	Conditions
Temperature of Soldering Iron-tip	360℃ (max.)
Soldering Time	3 seconds (max.)
Distance from Varistor	2mm (min.)

Marking Code



① Brightking Logo
② Varistor Voltage
③ Disk Size
④ Internal Control Code

Quantity

Packaging Dimensions (Unit: mm)	Quantity
	200pcs/bag 2bags/box

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