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PRODUCT DATASHEET

Gas Discharge Tubes

JTS35 Series Gas Discharge Tubes

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Description

Gas discharge tubes (GDT) use noble gasses enclosed in ceramic tubes to provide an alternate circuit path for voltage spikes.The ceramic envelope and with nickel connectors allow for high loads.The breakdown voltages of the devices have a wide range (up to 20% olerance). Major applications are high requency telecommunication lines,stations, security systems,HID and high quality Surge Protection Devices .

Applications

- Communication equipment
- CATV equipment
- Test equipment
- Data lines
- Power supplies
- Telecom SLIC protection
- Telecommunications

Features

- RoHS & HF compliant
- Low Capacitance
- Micro-Gap Design
- Stable breakdown voltage
- High insulation resistance
- High holdover voltage
- Large absorbing transient current capability

Electriacl Characteristics

Part No.	DC Spark-over Voltage 100V/S(V)	Max.Impulse Spark-over Voltage 1KV/μs(V)	Nominal Discharge Current(L) 1s,50Hz(A)	Nominal Impulse Discharge Current 8x20μs(kA)	Insulation Resistance min. (GΩ)/ (Vdc)	Max. Capacitance C 1MHz(pF)
JTS35-075	75±30%	600	5	5	1GΩ/50Vdc	1
JTS35-090	90±20%	600	5	5	1GΩ/50Vdc	1
JTS35-150	150±20%	600	5	5	1GΩ/50Vdc	1
JTS35-200	200±20%	700	5	5	1GΩ/100Vdc	1
JTS35-230	230±20%	700	5	5	1GΩ/100Vdc	1
JTS35-250	250±20%	700	5	5	1GΩ/100Vdc	1
JTS35-350	350±20%	1000	5	5	1GΩ/100Vdc	1
JTS35-420	420±20%	1000	5	5	1GΩ/100Vdc	1
JTS35-470	470±20%	1200	5	5	1GΩ/100Vdc	1
JTS35-500	500±20%	1200	5	5	1GΩ/100Vdc	1
JTS35-600	600±20%	1400	5	5	1GΩ/100Vdc	1

Electrical Performance

Item	Testing condition and method	Performance
DC Spark-over Voltage(Vs)	Measure starting discharge voltage (Vs) by gradualy increasing applied DC voltage.Test current is 1mA max. and test period is 1 second max. and the DC voltage ascend up within 100v/second.	Meet specified value
Insulation	Measure the insulation resistance across the terminal at regulated voltage But The test voltage doesn't over the DC spark-over voltage with 50Vdc/100Vdc.	1GΩ or over
Resistance(IR) Capacitance	Measure the electrostatic capacitance by applying a voltage of less than 6V(at 1MHz) between terminals.	1pF or less

The testing condition shall be subject to the following items:
1、Ambient Temp.:-40°C~125°C; Relative Humidity:＜95%(40°CH）;
2、Atmospheric Pressure 8.6×10^{4}Pa~1.06×10^{4}Pa.

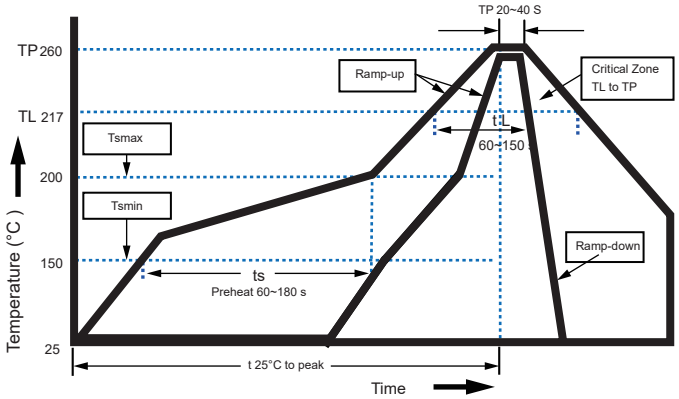
Physical and Solderability Characteristics

Item	Testing condition and method	Performance
Bending strength	Specimens shall be soldered to testing board.The substrate shall be supported at two points 45 mm from its center with mounting surface, and the middle part of its board shall be pressed at rate of 1.0 mm per second until the deflection becomes 3 mm and then the pressure shall be maintained for 30 seconds.	No evidence of mechanical damage , Meet specified value.
Terminal Strength	Specimens shall be soldered to testing board.Then apply force in parallel - 2 kg 30 second hanging.	No evidence of mechanical damage ,Meet specified value.
Solderability	After dipping the lead wire to a depth of 2mm from the body in a soldering bath of 260±5°C for 10±1 sec.	Over 95% of the lead wire should be covered with new solder.
Resistance to soldering heat	After dipping the lead wire to a depth of 2mm from the body in a soldering bath of 260±5°C for 10±1 sec.	Meet DC spark-over voltage tolerance.

Environmental Characteristics

<table>
<tr><th>Item</th><th>Testing condition and method</th><th>Performance</th></tr>
<tr><td>Resistance to cold</td><td>The specimen shall be subjected to - 55±3°C for 1000 hours without load and then stored at room temperature and humidity for 4 hours.</td><td>Meet specified value.</td></tr>
<tr><td>Resistance to heat</td><td>The specimen shall be subjected to 125±2°C for 1000 hours without load and then stored at room temperature and humidity for 4 hours.</td><td>Meet specified value.</td></tr>
<tr><td>Resistance to humidity</td><td>The specimen shall be subjected to 85±2°C 85%R.H.for 1000 hours without load and then stored at room temperature and humidity for 4 hours.</td><td>Meet specified value.</td></tr>
<tr><td>Surge life</td><td>Apply a impulse current (8/20μs of 5KA) (a+b-E)for 10 times at 60 seconds intervals,Thereafter, the characteristics of times Vs,IR and C shall be measured(EN61000-4-5).</td><td>No cracks or failures after applying current</td></tr>
<tr><td>Heat cycle</td><td>Repeat the temperature cycle shown below 200 times then store parts at room temperature and humidity for 4 hours:
<table>
<tr><td>Step</td><td>1</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td>Temperature</td><td>-55±3°C</td><td>Room Temp</td><td>125±2°C</td><td>Room Temp</td></tr>
<tr><td>Perild</td><td>30min</td><td>30min</td><td>30min</td><td>30min</td></tr>
</table></td><td>Meet specified value</td></tr>
<tr><td>Temperature range</td><td colspan="2">Operating temp range :-55°C to +125°C
Storage temp range :-40°C to +85°C</td></tr>
</table>

Soldering Parameters



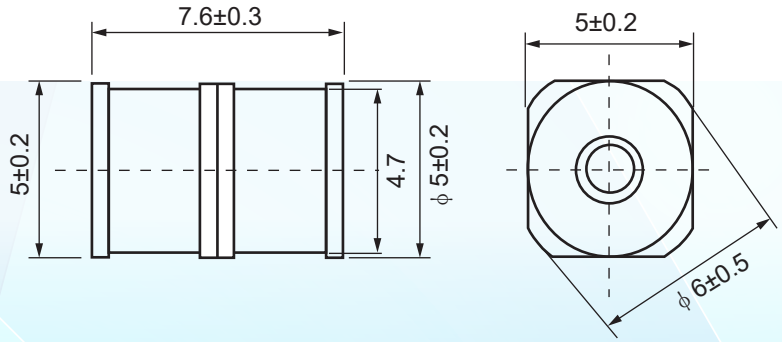
- Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment for lead-free.
- Recommended maximum paste thickness is 0.25mm Devices can be cleaned using standard industry methods and solvents.
- Note 1:All temperature refer to topside of the package, measured on the package body surface.
- Note 2: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Ts max to T p)	3°C/second mac.
Preheat	
-Temperature Min(Ts min)	150°C
-Temperature Max(Ts max)	200°C
-Time(Ts min to Ts max)	60~180 seconds
Time maintained above:	
-Temperature(TL)	217°C
-Time(tL)	60~150 seconds
Peak Temperature(Tp)	260°C
Ramp-Down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max

Storage And Handling:	
Storage conditions	0°C~ 35°C,30% ~60%R.H.
Devices may not meet specified performance if storage conditions are exceeded.	

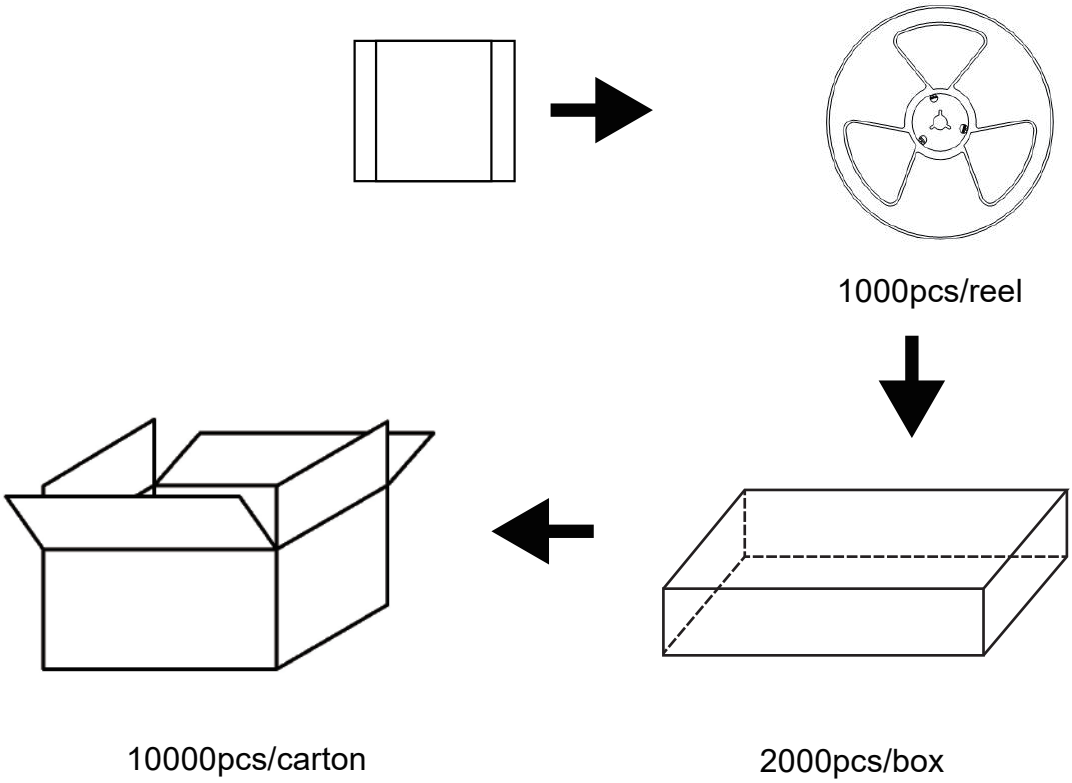
Dimensions and Structure

Unit : mm



Packaging

No.	Quantity &Packaging Code
JTS35	1000 pcs/reel



Part Number System

JT S 3 5 - 075

- 075 = DC Spark-over Voltage 75V
- 3=3 electrode device
- 5=5mm diameter
- A=Axial Leads,N=No Leads,S=Surface Mount,T=T-shaped Leads
- JT = JDT Gas Discharge Tube