

Gas Discharge Tube (GDT) Datasheet

● Features

- Excellent response to fast rising transients
- Stable breakdown voltage
- Low capacitance and Insertion Loss
- High insulation resistance
- Dimensions 5.0*5.0*4.2 mm
- Storage and operating temperature: -40°C ~ +85°C
- Reliable to Protect Electrostatic Surge
- High Current Handling Capability @8/20μs;
- Moisture sensitivity level :Level 1

DC Spark-over Voltage
75V to 1000V

● Applications

- Test equipment
- AC Power
- Power supplies
- Telephone Interface, Line cards
- General Telecommunications equipment

● Part Number Code

5042 - 300

DC Spark-over Voltage

Dimensions

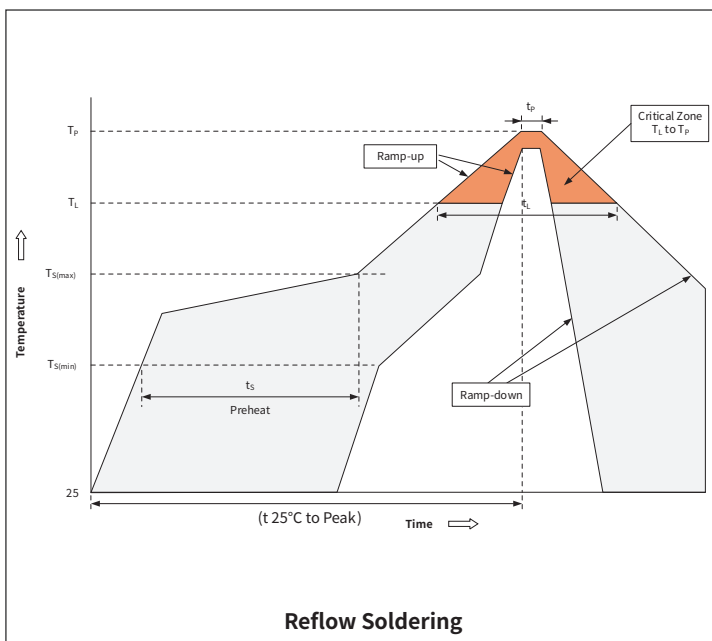


● Electrical Characteristics (Ta=25°C Unless otherwise specified)

Part Number	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current@8/20μs	AC discharge Current	Impulse Life @10/1000μs	Minimum Insulation Resistance		Maximum Capacitance
	100V/S	1000V/μs	±5times	50Hz,1sec	100A	Test Voltage	GΩ	1MHz
	(V)	(V)	(KA)	(A)	Times	DC(V)		(pF)
5042-075	75V±30%	600	5	5	100	50	1	1
5042-090	90V±30%	600	5	5	100	50	1	1
5042-150	150V±30%	600	5	5	100	100	1	1
5042-230	230V±30%	800	5	5	100	100	1	1
5042-300	300V±30%	850	5	5	100	100	1	1
5042-350	350V±30%	950	5	5	100	100	1	1
5042-400	400V±30%	1000	5	5	100	100	1	1
5042-470	470V±30%	1100	5	5	100	100	1	1
5042-600	600V±30%	1200	5	5	100	100	1	1
5042-800	800V±30%	1500	3	3	100	100	1	1
5042-1000	1000V±30%	1600	3	3	100	100	1	1

Note: 5042 Series without Marking.

● Recommended Soldering Conditions



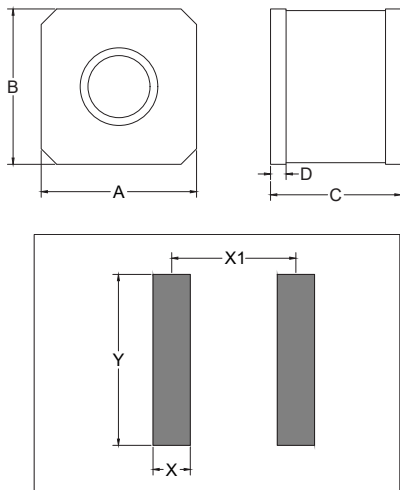
Profile Feature		Pb-Free Assembly
Pre-heat	Temperature Min (Ts(min))	+150°C
	Temperature Max(Ts(max))	+200°C
	Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (Tl) to peak)		3°C /sec. Max
Ts(max) to Tl - Ramp-up Rate		3°C /sec. Max
Reflow	Temperature(Tl)(Liquid us)	+217°C
	Temperature(tr)	60-150 secs.
Peak Temp (Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		20-40secs
Ramp-down Rate		6°C /sec. Max
Time 25°C to Peak Temp (Tp)		8 min. Max
Do not exceed		+260°C

● Electrical Ratings

Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$.	
Impulse Discharge Current	Maximum $8/20\mu s$ surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time.	
	<p>The graph shows the impulse discharge current waveform. The y-axis is labeled 'CURRENT (%)' with values 0, 10, 50, 90, and 100. The x-axis is labeled 'Time' with markers for 8μs and 20μs. The curve starts at 0, rises to a 'Crest value' of 100% at 8μs, and then decays. A horizontal line at 50% current intersects the decay curve, and a vertical line from this point to the x-axis indicates the 20μs interval. The total duration of the pulse is labeled as 'Impulse Width'.</p>	
Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 sec. for 10 times with interval time 3 min.	
Insulation Resistance	The resistance of gas tube shall be measured between two electrodes.	
Capacitance	The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz	

● Physical Dimensions & Recommended Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.8	5.2	0.189	0.205
B	4.8	5.2	0.189	0.205
C	3.9	4.5	0.153	0.177
D	0.3	0.6	0.012	0.024
X	1.1	1.3	0.043	0.051
X1	3.9	4.1	0.157	0.173
Y	5.4	5.6	0.213	0.220



5042 SERIES

Surface Mount Gas Discharge Tube

● Ordering Information

SERIES	SIZE(mm)	DELIVERY MODE	MPQ(pcs)	BOX (pcs)	CARTON(pcs)
5042 Series	5.0×5.0×4.2	13"REEL	1,000	2,000	10,000

● Packaging Information

Symbol	Dimensions(mm)	
	Millimeters	Inches
W	16±0.3	0.630±0.012
A0	5.4±0.1	0.212±0.004
B0	4.5±0.1	0.177±0.004
K0	5.3±0.1	0.209±0.004
P	12.0±0.1	0.472±0.004
F	7.5±0.1	0.295±0.004
E	1.75±0.1	0.069±0.004
D	1.5±0.1	0.059±0.004
P0	4.0±0.1	0.157±0.004
P2	2.0±0.1	0.079±0.004
T	0.4±0.1	0.016±0.004

● Important Notice

1. This series is designed, manufactured, and sold exclusively for the domestic market (China).
2. This series is NOT UL Certified, and our company does not market or sell this product for use overseas.
3. If the customer exports this series to overseas markets (including but not limited to North America) without our prior written consent, the customer shall assume all risks and liabilities arising from the product's lack of UL certification.
4. By purchasing, using, or handling this product, the customer is deemed to have fully acknowledged and agreed to all terms stated in this notice.