

Gas Discharge Tube (GDT) Datasheet

Features

- Excellent response to fast rising transients
- Stable breakdown voltage
- Low capacitance and Insertion Loss
- High insulation resistance
- Dimensions 4.2*4.2*4.0mm
- Storage and operating temperature: -40°C ~ +85°C
- Reliable to Protect Electrostatic Surge
- High Current Handling Capability @8/20μs;
- Moisture sensitivity level :Level 1

SMD4042E SERIES

DC Spark-over Voltage
75V to 1000V

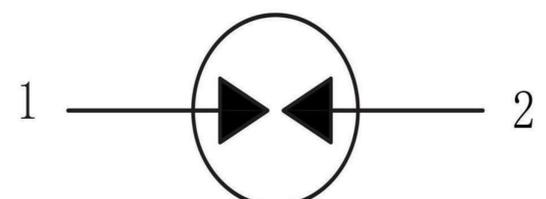
Applications

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



Part Number Code

SMD4042E 090V



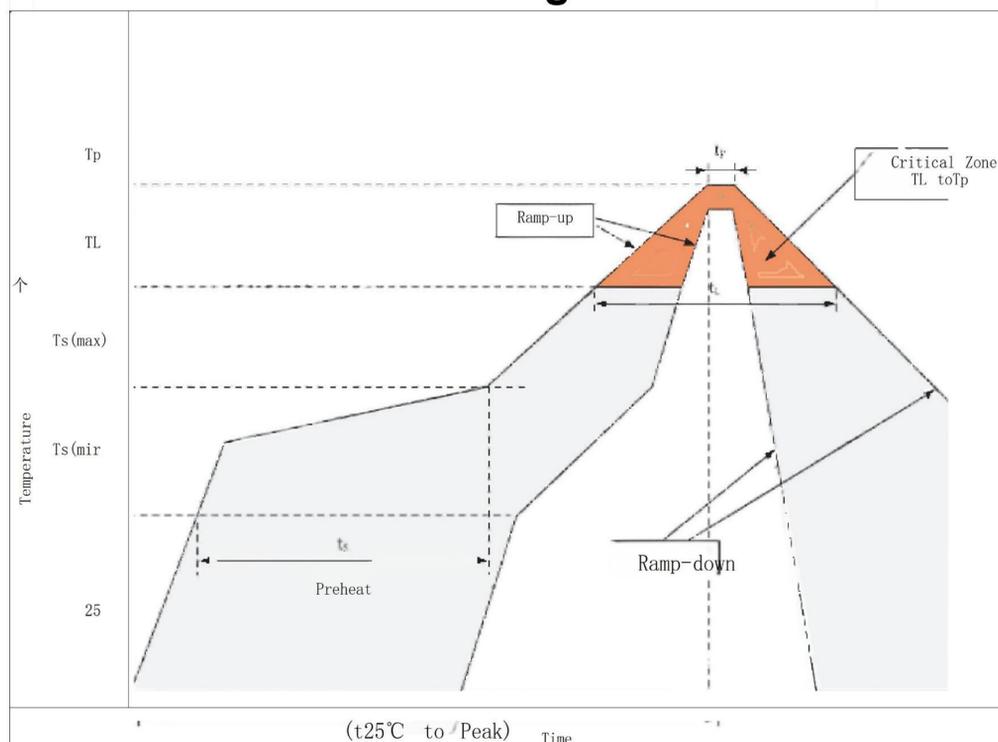
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Electrical Characteristics (Ta=25°C Unless otherwise specified)

Part Number	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current@8/20 μs	Impulse Waveform @10/700 μs	Impulse Life @10/1000 μs	Minimum Insulation Resistance		Maximum Capacitance
	100V/S	1000V/ μs	±5times	±5times	100A	Test Voltage	G Ω	1MHz
	(V)	(V)	(KA)	(KV)	(times)	DC(V)		(pF)
SMD4042-075E	75V ± 30%	600	3	6	100	50	1	1
SMD4042-090E	90V ± 30%	600	3	6	100	100	1	1
SMD4042-150E	150V ± 20%	600	3	6	100	100	1	1
SMD4042-230E	230V ± 20%	700	3	6	100	100	1	1
SMD4042-300E	300V ± 20%	850	3	6	100	100	1	1
SMD4042-350E	350V ± 20%	950	3	6	100	100	1	1
SMD4042-400E	400V ± 20%	1000	3	6	100	100	1	1
SMD4042-470E	470V ± 20%	1100	3	6	100	100	1	1
SMD4042-600E	600V ± 20%	1200	3	6	100	100	1	1
SMD4042-800E	800V ± 20%	1500	3	6	100	100	1	1
SMD4042-1000E	1000V ± 20%	1600	3	6	100	100	1	1

Note:4240 Series without Marking.

Recommended Soldering Conditions



Reflow Soldering

Profile Feature		Pb-Free Assembly
Pre-heat	Temperature Min(Tst(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 T-Ramp-up Rate		3°C/sec. Max
Reflow	Temperature(T) (Liquid us)	+217°C
	Temperature(tL)	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)		8min. Max
Do not exceed		+260°C

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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 μs surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time.	
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	3.9	4.5	0.153	0.177
B	3.9	4.5	0.153	0.177
C	3.6	4.4	0.142	0.173
D	0.3	0.5	0.012	0.020
X	1.2	1.4	0.047	0.055
X1	3.5	3.7	0.138	0.146
Y	4.9	5.1	0.193	0.201

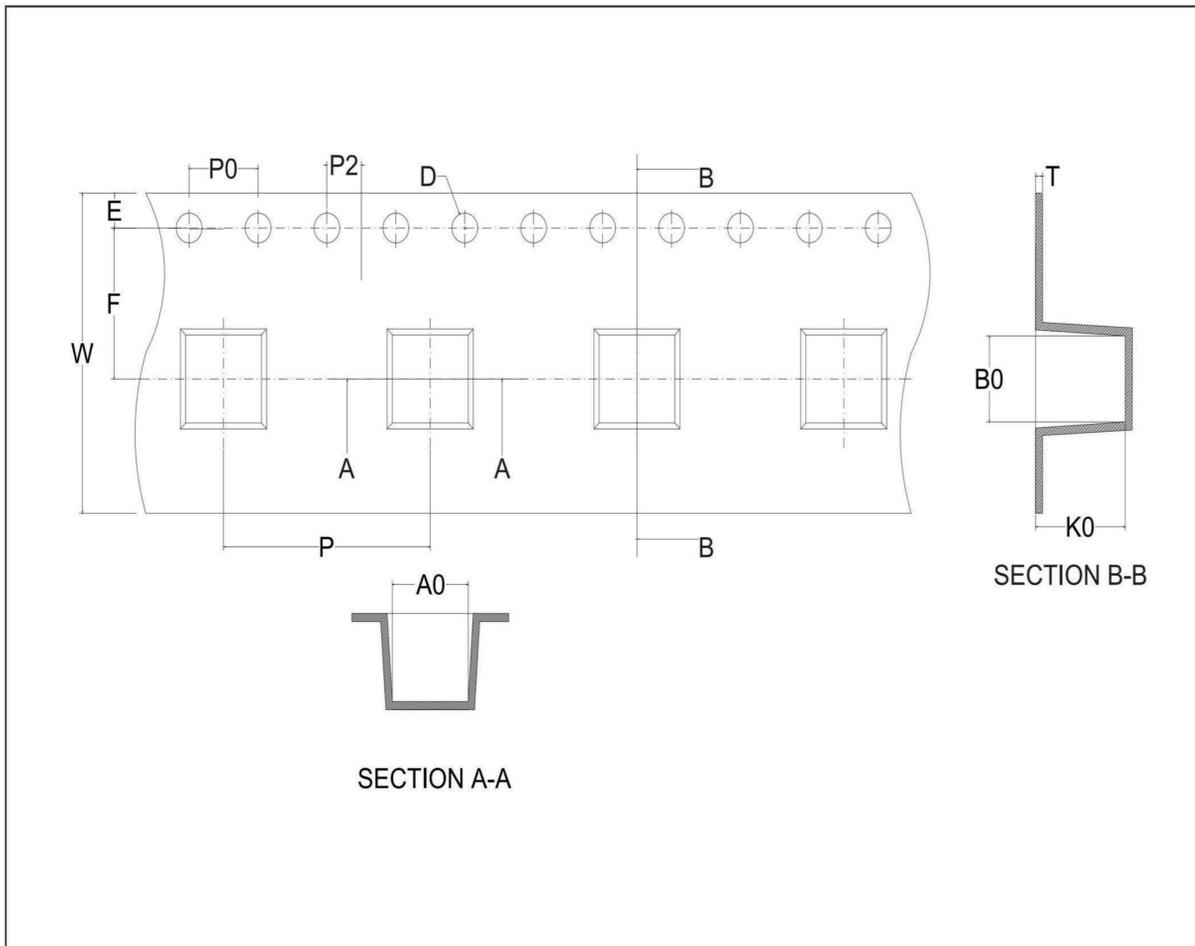
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Ordering Information

SERIES	SIZE(mm)	DELIVERY MODE	MPQ(pcs)	BOX (pcs)	CARTON(pcs)
4042 Series	4.2×4.2×4.0	13" REEL	1,000	2,000	10,000

Packaging Information

Symbol	Dimensions(mm)	
	Millimeters	Inches
12	12±0.3	0.472±0.012
A0	4.5±0.1	0.177±0.004
B0	4.25±0.1	0.167±0.004
K0	4.5±0.1	0.177±0.004
P	8.0±0.1	0.315±0.004
F	5.5±0.1	0.217±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	0.35±0.1	0.014±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.