

OM SENI

SMD3225 SERIES

Surface Mount Gas Discharge Tube

Gas Discharge Tube (GDT) Datasheet

Features

- Excellent response to fast rising transients
- Stable breakdown voltage
- Low capacitance and Insertion Loss
- High insulation resistance
- Dimensions 3.2*2.5*2.5 mm
- Storage and operating temperature: -40°C ~ +85°C
- Reliable to Protect Electrostatic Surge
- High Current Handling Capability @8/20us;
- Moisture sensitivity level :Level 1

DC Spark-over Voltage
75V to 800V

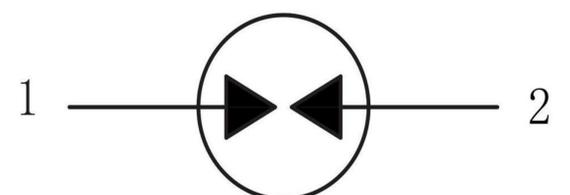
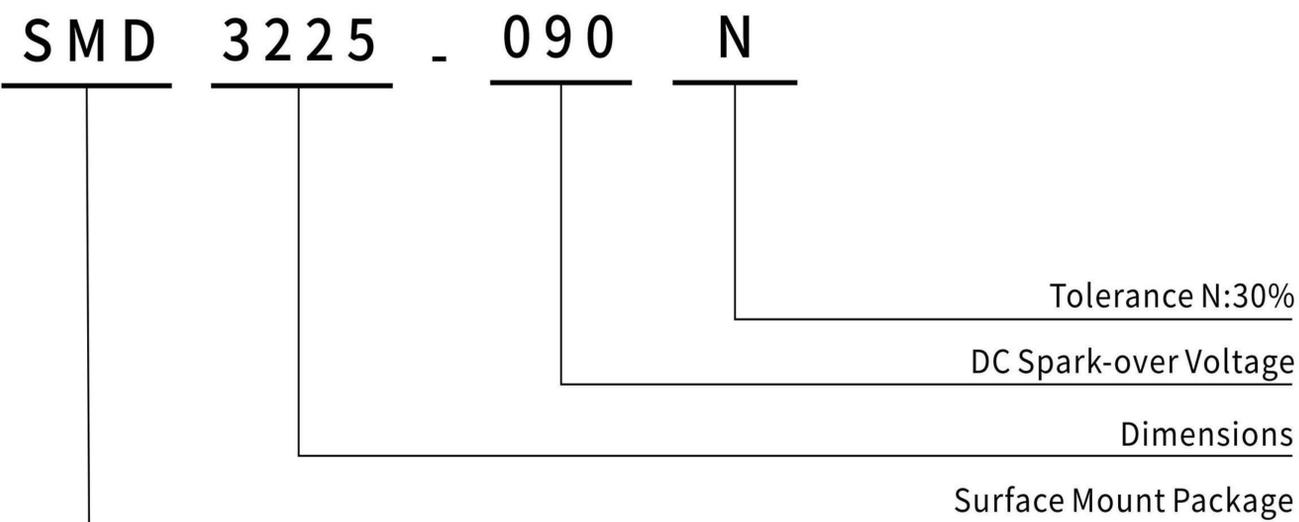
Applications

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

SMD3225



Part Number Code



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

Part Number	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Typical Glow Voltage	Typical Arc Voltage	Nominal Impulse Discharge Current@8/20 μ s	Impulse Withstanding Voltage Capacity @10/700 μ s 40 Ω	Alternating Discharge Current	Minimum Insulation Resistance		Maximum Capacitance
	100V/S	1000V/ μ s	10mA	1A	± 5 times	± 5 times	50Hz, 1sec 10 times	Test Voltage	G Ω	1MHz
	(V)	(V)	(V)	(V)	(KA)	(KV)	(A)	DC(V)		(pF)
SMD3225-075N	75 \pm 30%	600	60	10	1	6	1	50	1	0.5
SMD3225-090N	90 \pm 30%	600	60	10	1	6	1	50	1	0.5
SMD3225-150N	150 \pm 30%	600	60	10	1	6	1	50	1	0.5
SMD3225-200N	200 \pm 30%	700	60	10	1	6	1	100	1	0.5
SMD3225-230N	230 \pm 30%	700	60	10	1	6	1	100	1	0.5
SMD3225-300N	300 \pm 30%	800	60	10	1	6	1	100	1	0.5
SMD3225-350N	350 \pm 30%	850	60	10	1	6	1	100	1	0.5
SMD3225-400N	400 \pm 30%	900	135	15	1	6	1	100	1	0.5
SMD3225-470N	470 \pm 30%	950	135	15	1	6	1	100	1	0.5
SMD3225-600N	600 \pm 30%	1000	135	15	1	6	1	100	1	0.5
SMD3225-800N	800 \pm 30%	1400	135	15	1	6	1	100	1	0.5

Note: SMD3225 Series without Marking.

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.	
	<p>The graph shows the impulse discharge current waveform. The y-axis is Current (%) from 0 to 100. The x-axis is Time (us) from 0 to 20. The curve starts at 0, rises to a crest value of 100% at 8us, and then decays. A 20us time interval is marked from the start to the 50% current point. The 8us time interval is marked from the start to the crest value.</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	

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Recommended Soldering Conditions

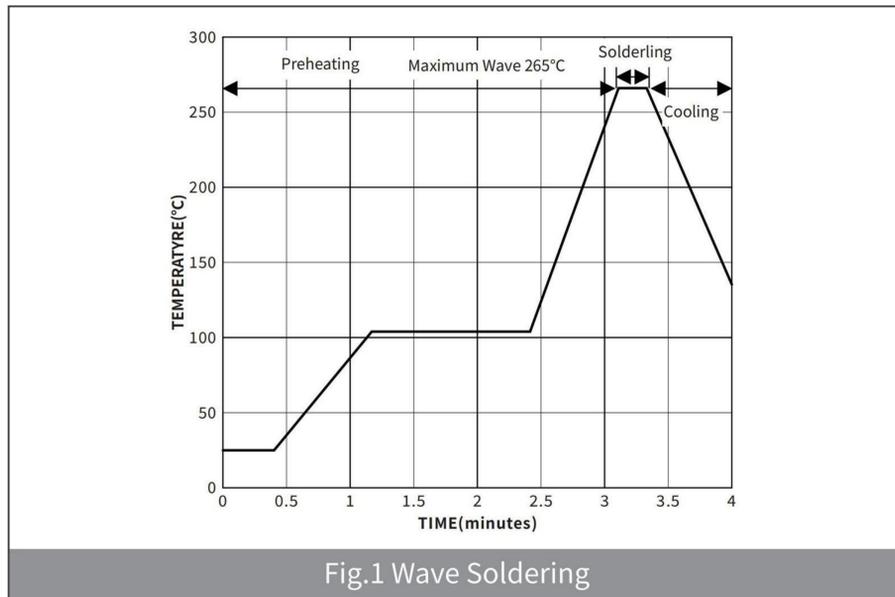


Fig.1 Wave Soldering

Item	Conditions
Peak Temperature	265°C
Soldering	1 time
Dipping Time	10 secs.

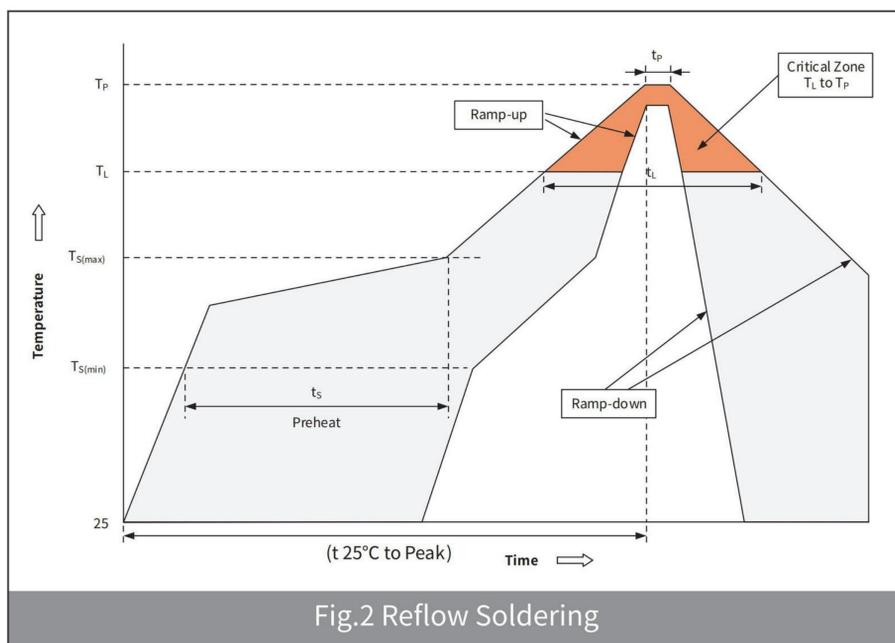
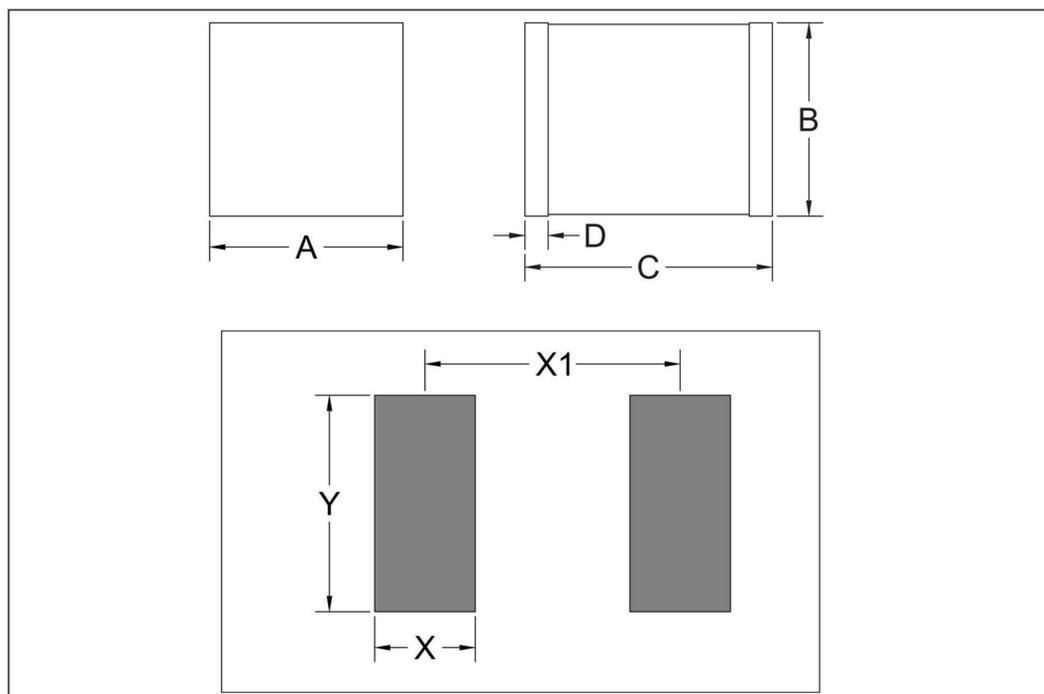


Fig.2 Reflow Soldering

Profile Feature		Pb-Free Assembly
Pre-heat	Temperature Min ($T_{S(min)}$)	+150°C
	Temperature Max ($T_{S(max)}$)	+200°C
	Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C /sec. Max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C /sec. Max
Reflow	Temperature (T_L) (Liquid us)	+217°C
	Temperature (t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		20-40secs
Ramp-down Rate		6°C /sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

Physical Dimensions & Recommended Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.3	2.7	0.091	0.106
B	2.3	2.7	0.091	0.106
C	2.9	3.5	0.114	0.138
D	0.2	0.4	0.008	0.016
X	1.2	1.4	0.047	0.055
X1	3.2	3.4	0.126	0.134
Y	2.7	2.9	0.106	0.114

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Ordering Information

PACKAGE	SIZE(mm)	DELIVERY MODE	MPQ(PCS)
SMD3225	3.2×2.5×2.5	13"REEL	2,500

Packaging Information

Symbol	Dimensions(mm)	
	Millimeters	Inches
W	12±0.3	0.472±0.012
A0	2.8±0.1	0.110±0.004
B0	3.5±0.1	0.138±0.004
K0	2.8±0.1	0.110±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±0.05	0.014±0.002

