OM SENI

SMD5050 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 5.0*5.0*4.2 mm
- Storage and operating temperature: -40°C ~ +85°C
- Reliable to Protect Electrostatic Surge
- High Current Handling Capability @8/20us;
- Moisture sensitivity level :Level 1

DC Spark-over Voltage
75V to 800V

Applications

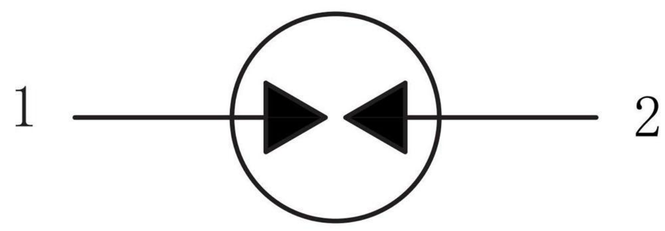
- Test equipment
- AC Power
- Power supplies
- Telephone Interface, Line cards
- General Telecommunications equipment

SMD5050

Part Number Code

SMD 5050 - 090 N A

- A: 8/20us Impulse Current A:5KA
- N: Tolerance N:30%
- 090: DC Spark-over Voltage
- 5050: Dimensions
- SMD: Surface Mount Package



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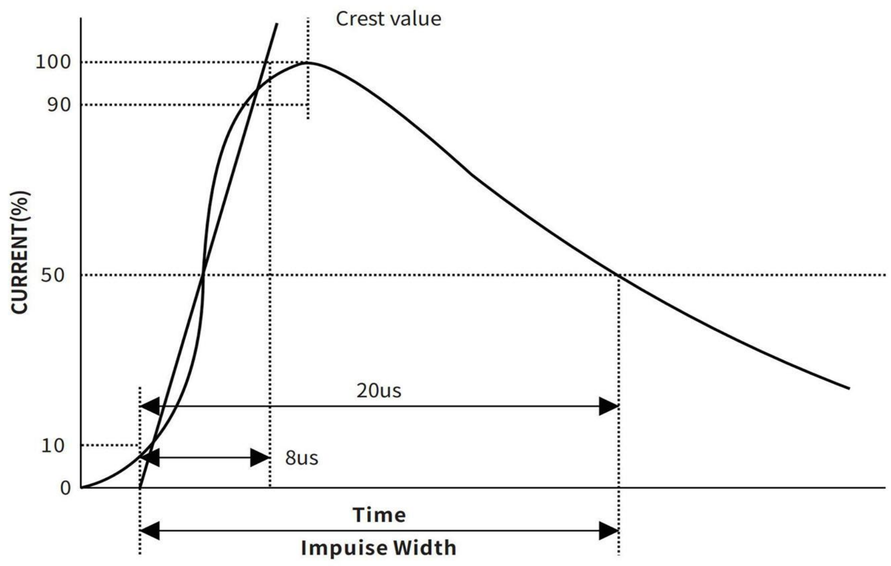
Electrical Characteristics (Ta=25°C Unless otherwise specified)

Part Number	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Typical Glow Voltage	Typical Arc Voltage	Nominal Impulse Discharge Current@8/20μs	Alternating Discharge Current	Impulse Life@ 10/1000μ	Minimum Insulation Resistance		Maximum Capacitance
	100V/S	1000V/μs	10mA	1A	±5times	50Hz,1sec 10 times	100A	Test Voltage	GΩ	1MHz
	(V)	(V)	(V)	(V)	(KA)	(A)	(times)	DC(V)		(pF)
SMD5050-075NA	75±30%	600	60	10	5	5	300	50	1	0.8
SMD5050-090NA	90±30%	600	60	10	5	5	300	50	1	0.8
SMD5050-150NA	150±30%	600	60	10	5	5	300	50	1	0.8
SMD5050-200NA	200±30%	700	06	10	5	5	300	100	1	0.8
SMD5050-230NA	230±30%	700	60	10	5	5	300	100	1	0.8
SMD5050-300NA	300±30%	850	60	10	5	5	300	100	1	0.8
SMD5050-350NA	350±30%	900	60	10	5	5	300	100	1	0.8
SMD5050-400NA	400±30%	900	135	15	5	5	300	100	1	0.8
SMD5050-420NA	420±30%	950	135	15	5	5	300	100	1	0.8
SMD5050-470NA	470±30%	950	135	15	5	5	300	100	1	0.8
SMD5050-600NA	600±30%	1000	135	15	5	5	300	100	1	0.8
SMD5050-800NA	800±30%	1400	135	15	5	5	300	100	1	0.8

Note: SMD5050 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/μs.	
Impulse Discharge Current	Maximum 8/20μs 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	

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Recommended Soldering Conditions

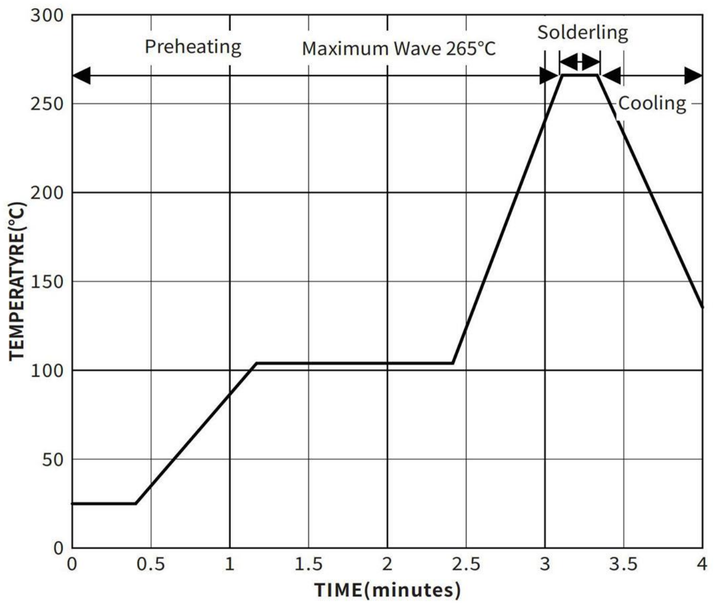


Fig.1 Wave Soldering

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

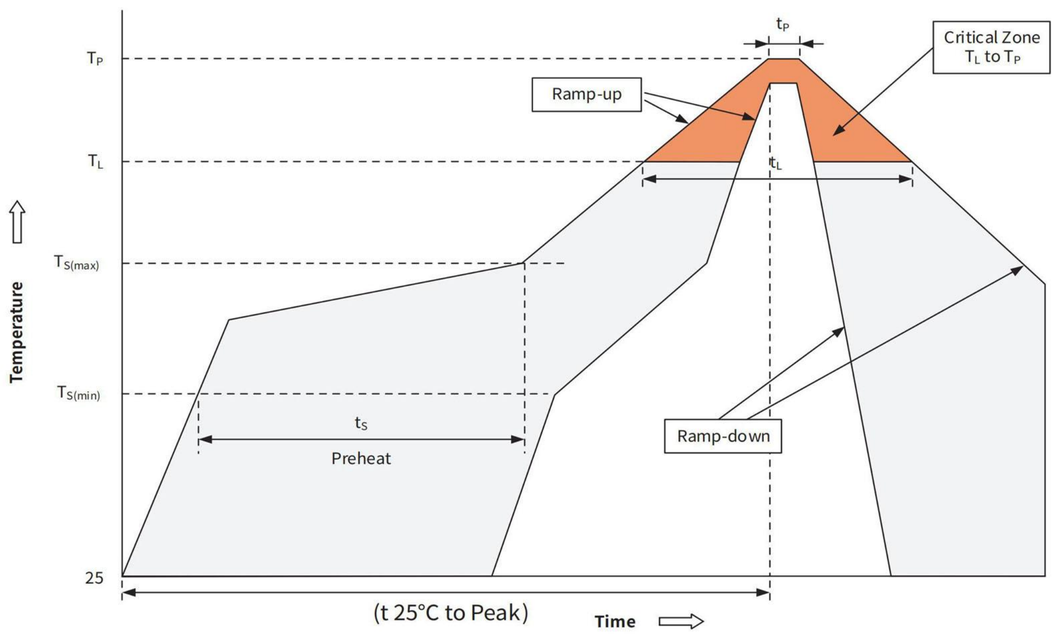
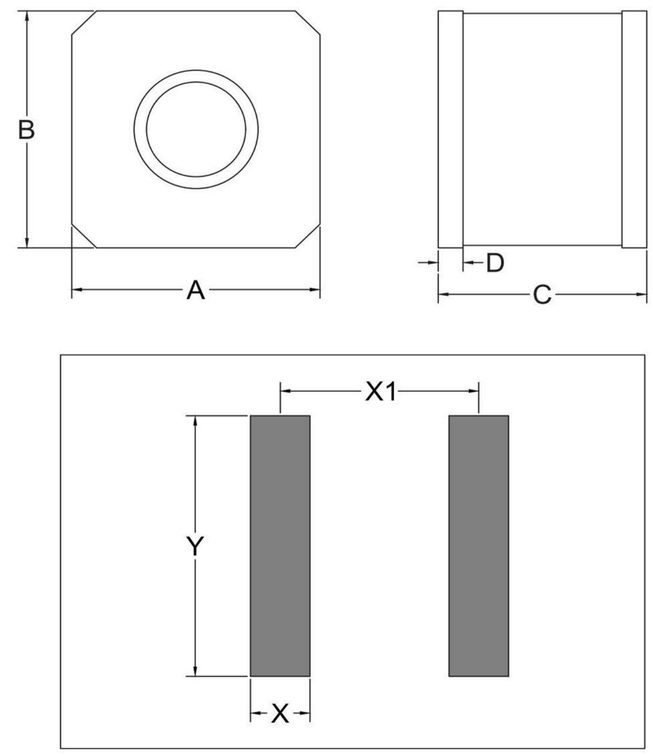


Fig.2 Reflow Soldering

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	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	0.4	0.6	0.016	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

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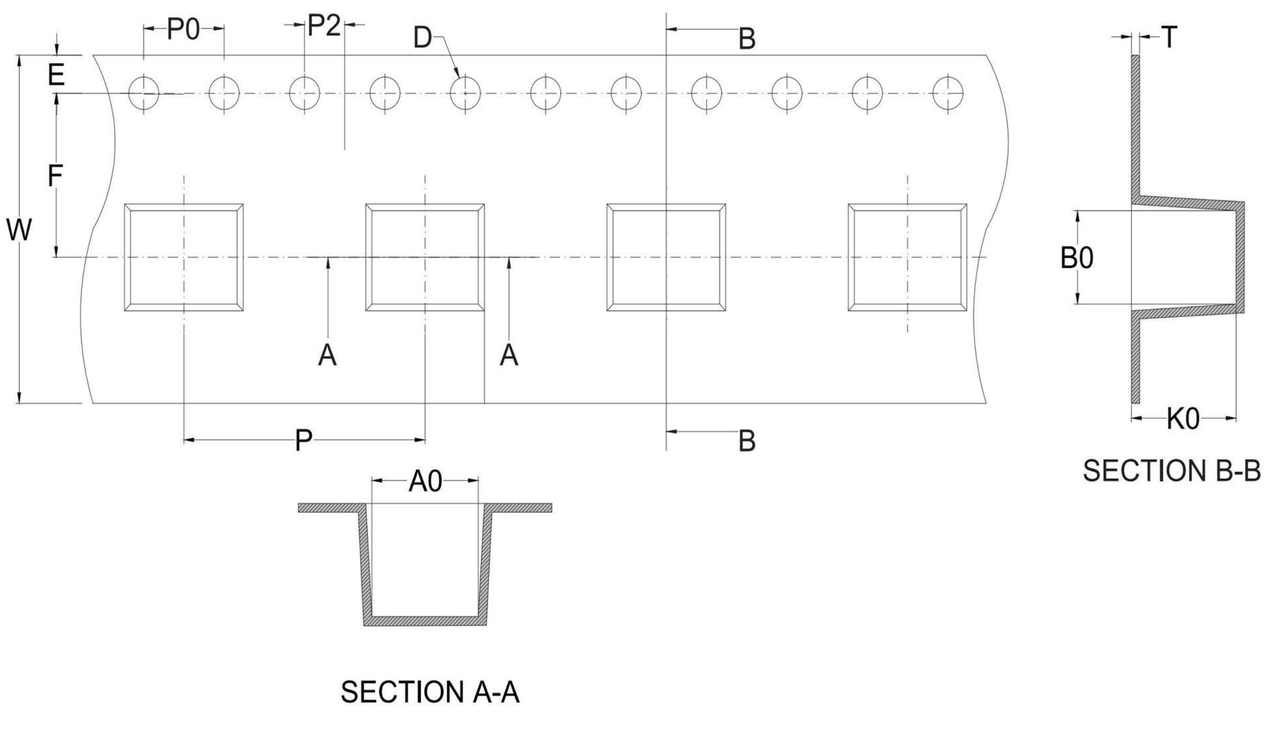
Ordering Information

PACKAGE	SIZE(mm)	DELIVERY MODE	MPQ(PCS)
SMD5050	5.0×5.0×4.2	13''REEL	1,000

Packaging Information



Symbol	Dimensions(mm)	
	Millimeters	Inches
W	16±0.3	0.630±0.012
A0	5.3±0.1	0.209±0.004
B0	4.3±0.1	0.17±0.004
K0	5.2±0.1	0.205±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