



Gas Discharge Tube (GDT) Datasheet

Features

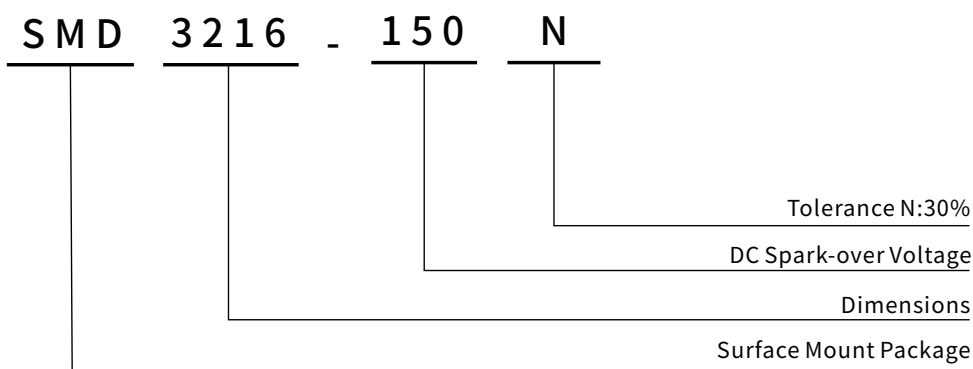
- Excellent response to fast rising transients
- Stable breakdown voltage
- Low capacitance and Insertion Loss
- High insulation resistance
- Dimensions 3.2*1.6*1.6 mm
- Storage and operating temperature: -40°C ~ +85°C
- Reliable to Protect Electrostatic Surge
- High Current Handling Capability @8/20us;
- Moisture sensitivity level :Level 1

DC Spark-over Voltage
90V to 600V

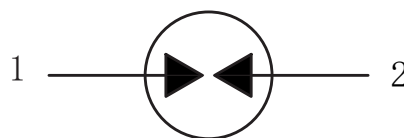
Applications

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

Part Number Code



SMD3216



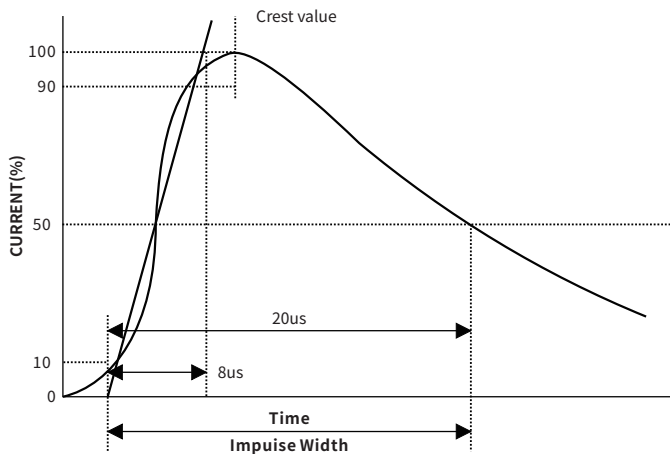


Electrical Characteristics (Ta=25°C Unless otherwise specified)

Part Number	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Typical Glow Voltage	Typical Arc Voltage	Nominal Impulse Discharge Current@8/20μs	Impulse Withstanding Voltage Capacity @10/700μs 40Ω	Minimum Insulation Resistance		Maximum Capacitance
	100V/S	1000V/μs	10mA	1A	±5times	±5times	Test Voltage	GΩ	1MHz
	(V)	(V)	(V)	(V)	(KA)	(KV)	DC(V)		(pF)
SMD3216-090N	90±30%	600	60	10	0.5	6	50	1	0.5
SMD3216-150N	150±30%	700	60	10	0.5	6	50	1	0.5
SMD3216-200N	200±30%	750	60	10	0.5	6	100	1	0.5
SMD3216-230N	230±30%	750	60	10	0.5	6	100	1	0.5
SMD3216-300N	300±30%	800	60	10	0.5	6	100	1	0.5
SMD3216-350N	350±30%	850	60	10	0.5	6	100	1	0.5
SMD3216-400N	400±30%	900	60	10	0.5	6	100	1	0.5
SMD3216-420N	420±30%	950	60	10	0.5	6	100	1	0.5
SMD3216-470N	470±30%	1100	60	10	0.5	6	100	1	0.5
SMD3216-600N	600±30%	1200	60	10	0.5	6	100	1	0.5

Note: SMD3216 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 8/20μs 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.	To meet the specified value
Capacitance	The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz	



Recommended Soldering Conditions

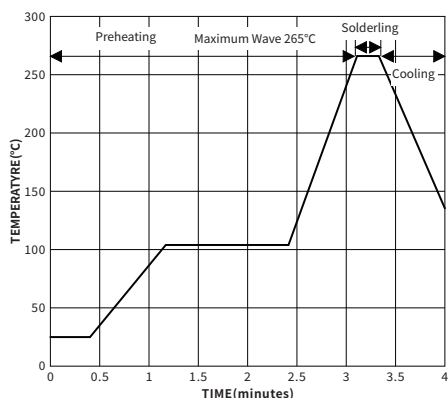


Fig.1 Wave Soldering

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

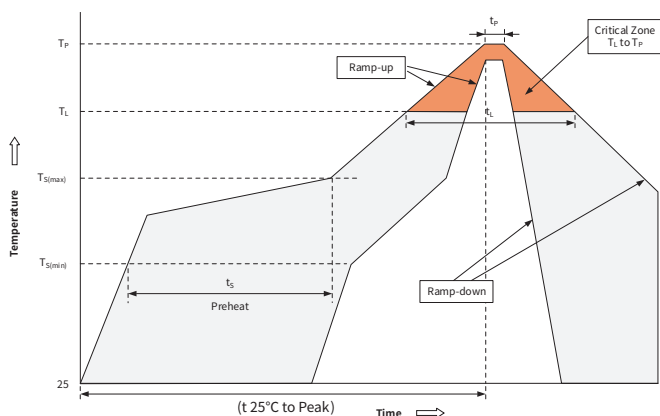
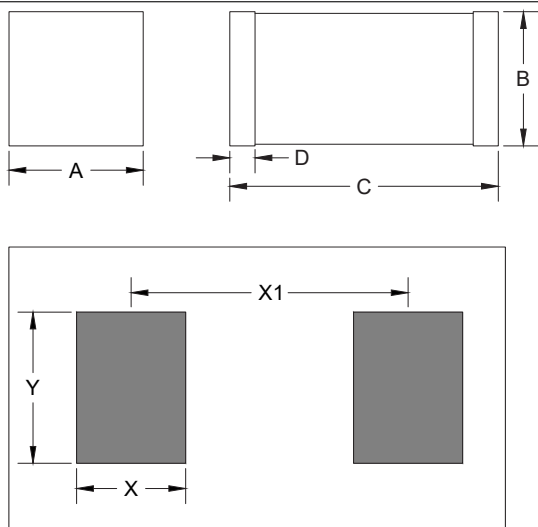


Fig.2 Reflow Soldering

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_d)	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	1.4	1.8	0.055	0.071
B	1.4	1.8	0.055	0.071
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	1.7	1.9	0.067	0.075



SMD3216 SERIES

Surface Mount Gas Discharge Tube

Ordering Information

PACKAGE	SIZE(mm)	DELIVERY MODE	MPQ(PCS)
SMD3216	3.2×1.6×1.6	7" REEL	2,000

Packaging Information

Symbol	Dimensions(mm)	
	Millimeters	Inches
W	12±0.3	0.472±0.012
A0	1.86±0.1	0.073±0.004
B0	3.6±0.1	0.142±0.004
K0	1.7±0.1	0.067±0.004
P	4.0±0.1	0.157±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

SECTION A-A

SECTION B-B