SMD3216 Series
Gas Discharge Tube(GDT)

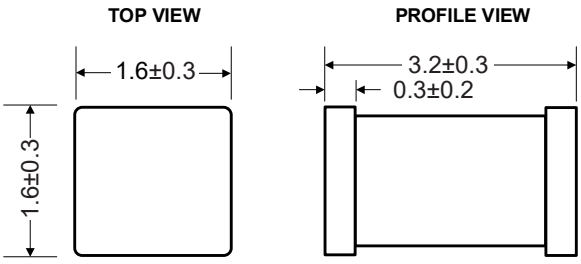
Features

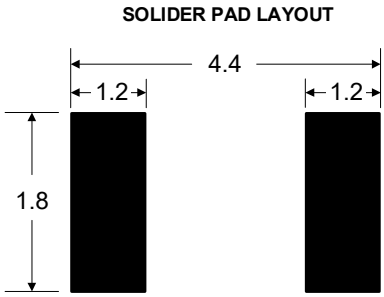
- 2-electrode arrester
- Extremely small size
- Excellent SMD handling
- Low capacitance (≤0.5pF)
- High insulation resistance
- Surge current capacity 0.5KA 8/20us
- Storage and operating temperature: -40℃ ~ +85℃
- RoHS compliant
- Meets MSL level 1

Applications

- Repeaters, Modems
- Telephone Interface, Line cards
- Data communication equipment
- Line test equipment

Dimensional drawing





Dimensions in mm

PartNumber Code

SMD3216-090N

- SMD:Surface Mount Package
- 3216: Size: 1206(3.2mm*1.6mm*1.6mm)
- 090: DC Spark-over Voltage 90V
- M: Tolerance of DC Spark-Over Voltage M:20% N: 30%

Electrical Characteristics

Part Number	DC Spark-over Voltage	Max. Impulse Spark-over Voltage	Impulse Discharge Current (8/20us)	AC discharge Current	Impulse Life	Minimum Insulation Resistance		Max. Capacitance 1MHz
	100V/S	1KV /us	10 times	50Hz,1S	10/700us			
	%	V	KA	A	KV	Test Voltage DC(V)	(GΩ)	(pF)
SMD3216-090N	90V±30%	700	0.5	0.5	4	50	1	0.3
SMD3216-150N	150V±30%	700	0.5	0.5	4	100	1	0.3
SMD3216-200N	200V±30%	750	0.5	0.5	4	100	1	0.3
SMD3216-230N	230V±30%	800	0.5	0.5	4	100	1	0.3
SMD3216-300N	300V±30%	850	0.5	0.5	4	100	1	0.3
SMD3216-350N	350V±30%	950	0.5	0.5	4	100	1	0.3
SMD3216-400N	400V±30%	1000	0.5	0.5	4	100	1	0.3
SMD3216-470N	470V±30%	1100	0.5	0.5	4	100	1	0.3

Electrical Ratings

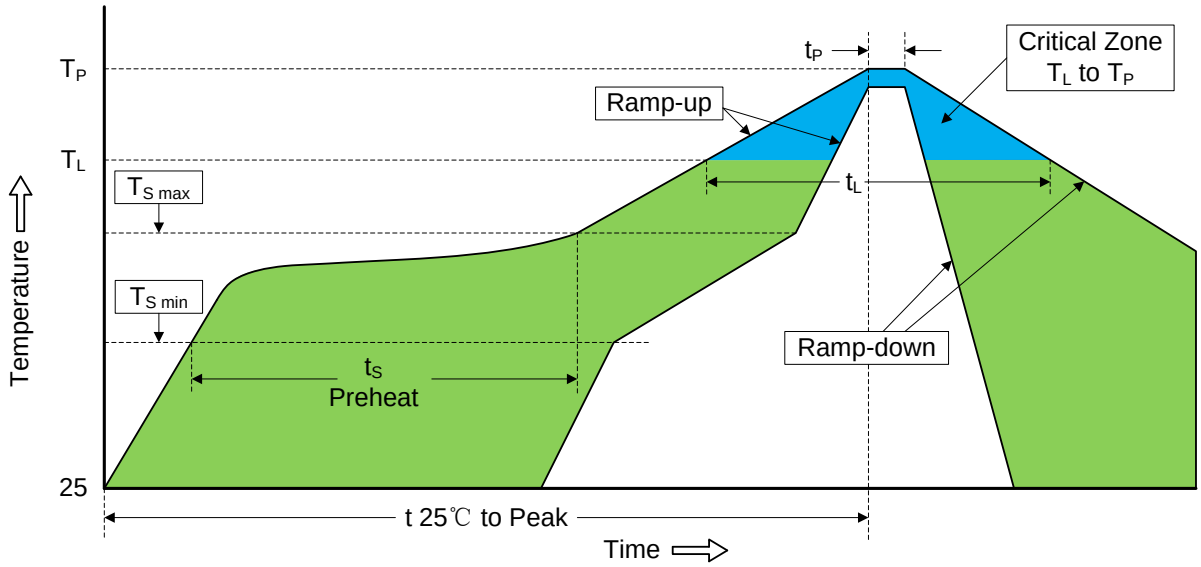
Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp dv/dt=100V/s.	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp dv/dt=1000V/μs.	
Insulation Resistance	The resistance of gas tube shall be measured between two electrodes.	
Capacitance	The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz	
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, without causing the DC spark-over voltage to change more than 30% from its initial value.	
Impulse Withstanding Voltage	The maximum 10/700μs surge that can be applied to the Gas Tube, 5 positive and 5 negative surges, with 1 minute interval time, without causing the DC spark-over voltage to change more than 25% from its initial value.	

Reliability

Items	Test conditions / Methods	Standard
Cold Resistance	Measurement after -40℃/1000 HRS & normal temperature/2 HRS.	Features are conformed to rated spec.
Heat Resistance	Measurement after 125℃/1000 HRS & normal temperature/2 HRS.	
Humidity Resistance	Measurement after humidity 90~95℃(45℃) /1000 HRS & normal temperature/2 HRS.	
Temperature Cycle	10 times repetition of cycle -40℃/30min →normal, temp/2 min →125℃/30min, measurement after normal temp/2 HRS.	
Solder Ability	Check for solder adhesion after 260±5℃ for 3sec , The body immersion depth 1.5mm in molten solder	Evenly covered by solder.
Solder Heat	Measurement after 260±5℃ solder for 10sec, The body immersion depth 1.5mm in molten solder	Conformed to rated spec.

Recommended Soldering Conditions

Reflow Soldering

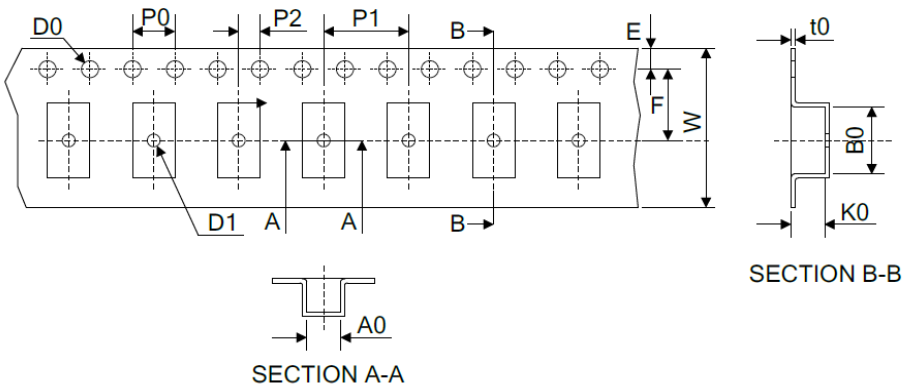


Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (ts)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

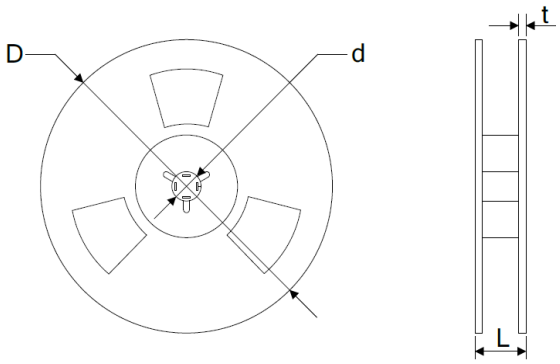
Packaging

Tape



Items	Dimension (mm)	
	Spec.	Tolerance
W	8.00	±0.20
P0	4.00	±0.10
P1	4.00	±0.10
P2	2.00	±0.10
D0	1.55	±0.05
D1	1.00	±0.05
E	1.75	±0.10
F	3.50	±0.10
A0	2.00	±0.10
K0	2.00	±0.10
B0	3.80	±0.10
t0	0.30	±0.10

Reel



D	170.00	±2.00
d	13.00	±0.50
L	12.00	±2.00
t	1.20	±0.20

Quantity: 2500pcs