



Features

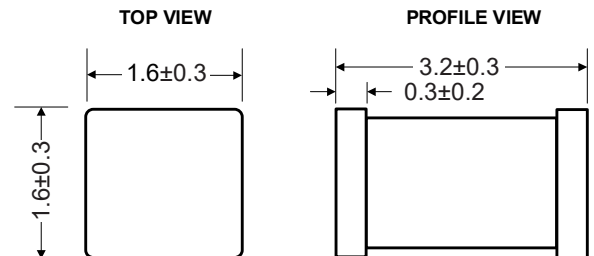
- 2-electrode arrester
- Extremely small size
- Excellent SMD handling
- Low capacitance ($\leq 0.5\text{pF}$)
- High insulation resistance
- Surge current capacity 0.5KA 8/20us
- Storage and operating temperature:
-40 °C ~ +85 °C
- RoHS compliant
- Meets MSL level 1



Applications

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

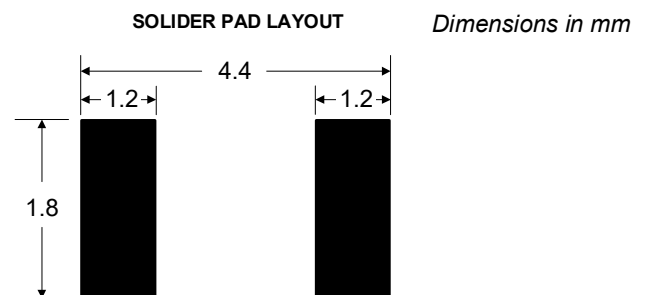
Dimensional drawing



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	Test Voltage DC(V)	(GΩ)	(pF)
	%	V	KA	A	KV			
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

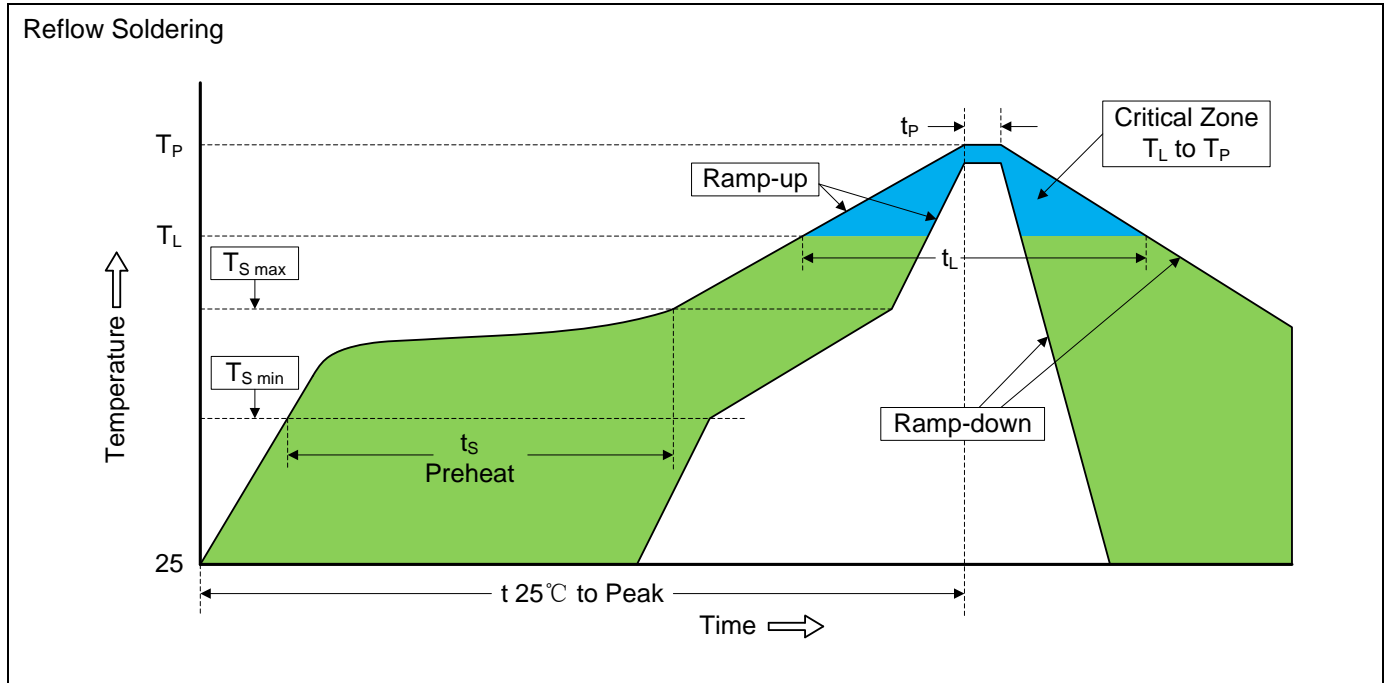
Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$.	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$.	
Insulation Resistance	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 $8/20\mu s$ 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 $10/700\mu s$ 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 $-40^{\circ}C/1000$ HRS & normal temperature/2 HRS.	Features are conformed to rated spec.
Heat Resistance	Measurement after $125^{\circ}C/1000$ HRS & normal temperature/2 HRS.	
Humidity Resistance	Measurement after humidity $90\sim 95^{\circ}C(45^{\circ}C)$ /1000 HRS & normal temperature/2 HRS.	
Temperature Cycle	10 times repetition of cycle $-40^{\circ}C/30min \rightarrow$ normal, temp/2 min $\rightarrow 125^{\circ}C/30min$, measurement after normal temp/2 HRS.	
Solder Ability	Check for solder adhesion after $260\pm 5^{\circ}C$ for 3sec , The body immersion depth 1.5mm in molten solder	Evenly covered by solder.
Solder Heat	Measurement after $260\pm 5^{\circ}C$ solder for 10sec, The body immersion depth 1.5mm in molten solder	Conformed to rated spec.



Recommended Soldering Conditions



Recommended Conditions

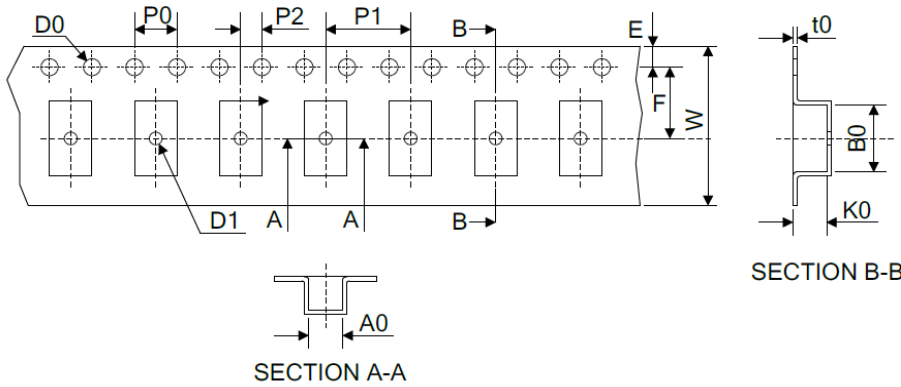
Profile Feature	Pb-Free Assembly
Average ramp-up rate (T _L to T _P)	3°C/second max.
Preheat	
-Temperature Min (T _{S min})	150°C
-Temperature Max (T _{S max})	200°C
-Time (min to max) (t _s)	60-180 seconds
T _{S max} to T _L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T _L)	217°C
-Time (t _L)	60-150 seconds
Peak Temperature (T _P)	260°C
Time within 5°C of actual Peak Temperature (t _P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.



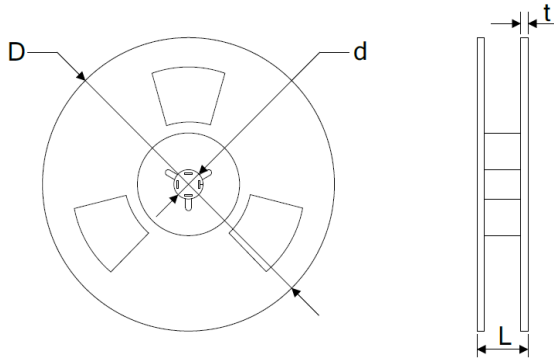
Packaging

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
D	170.00	±2.00
d	13.00	±0.50
L	12.00	±2.00
t	1.20	±0.20
Quantity: 2500pcs		

Tape



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