



### Features

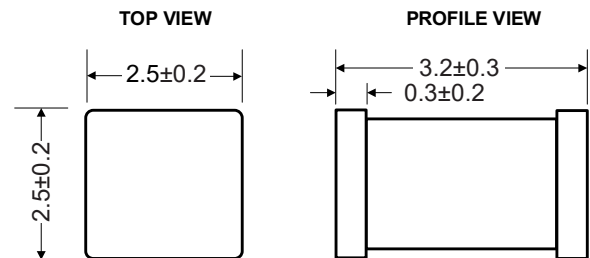
- 2-electrode arrester
- Very small size
- Excellent SMD handling
- Low capacitance ( $\leq 0.5\text{pF}$ )
- High insulation resistance
- Surge current capacity 2KA 8/20us
- Storage and operating temperature:  $-40\text{ }^{\circ}\text{C} \sim +85\text{ }^{\circ}\text{C}$
- RoHS compliant
- Meets MSL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



### Applications

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

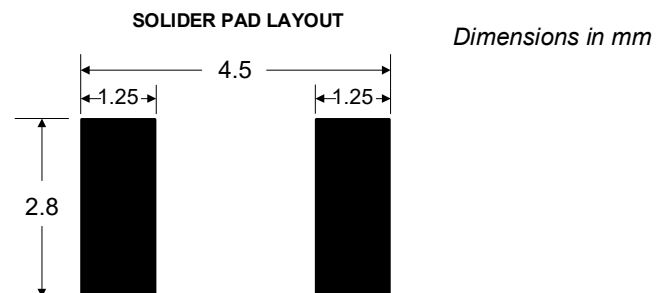
### Dimensional drawing



### PartNumber Code

## SMD3225-090M

- SMD:Surface Mount Package
- 3225: Size: 1210(3.2mm\*2.5mm\*2.5mm)
- 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			
SMD3225-090N	90V±30%	700V	1	1	6	100	1	0.5
SMD3225-120N	90V±30%	700V	1	1	6	100	1	0.5
SMD3225-150N	150V±30%	750V	1	1	6	100	1	0.5
SMD3225-200M	200V±20%	750V	1	1	6	100	1	0.5
SMD3225-230M	230V±20%	750V	1	1	6	100	1	0.5
SMD3225-300M	300V±20%	800V	1	1	6	100	1	0.5
SMD3225-350M	350V±20%	900V	1	1	6	100	1	0.5
SMD3225-400M	400V±20%	1000V	1	1	6	250	1	0.5
SMD3225-420M	420V±20%	1050V	1	1	6	250	1	0.5
SMD3225-500M	500V±20%	1200V	1	1	6	250	1	0.5

**Electrical Ratings**

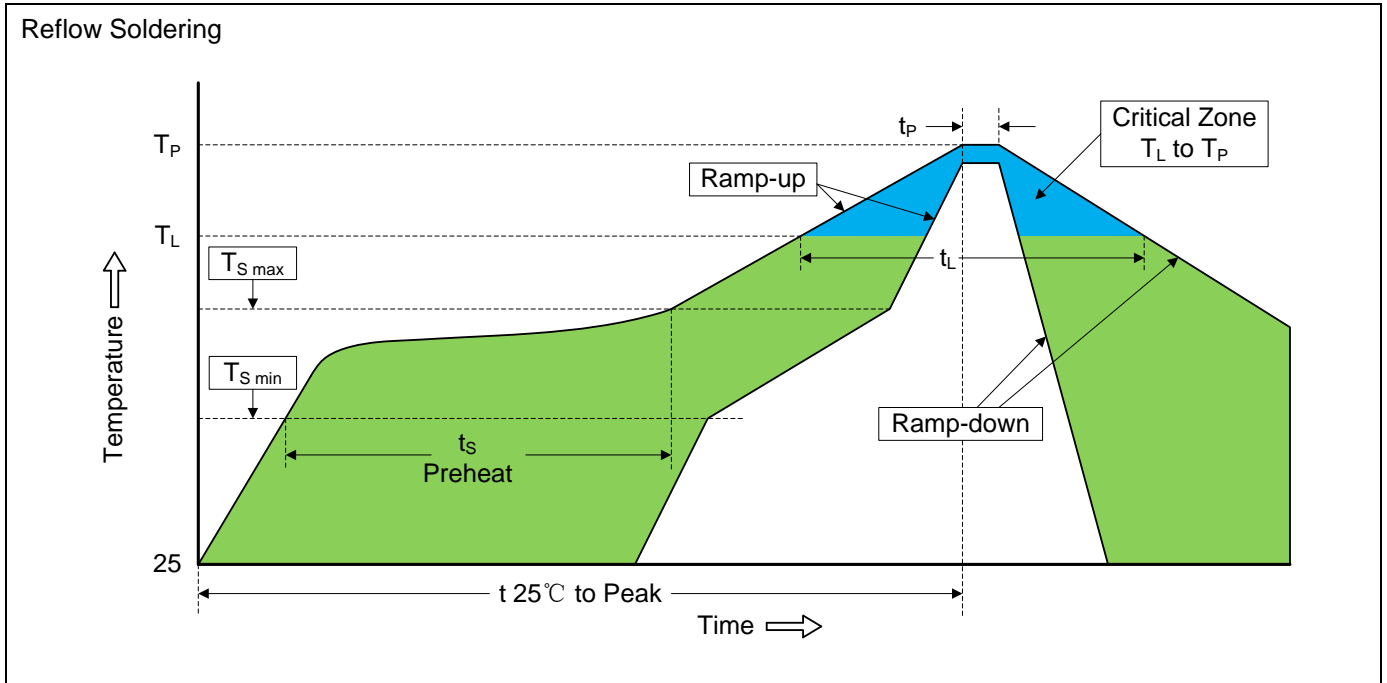
Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$ .	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$ .	
Insulation Resistance	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

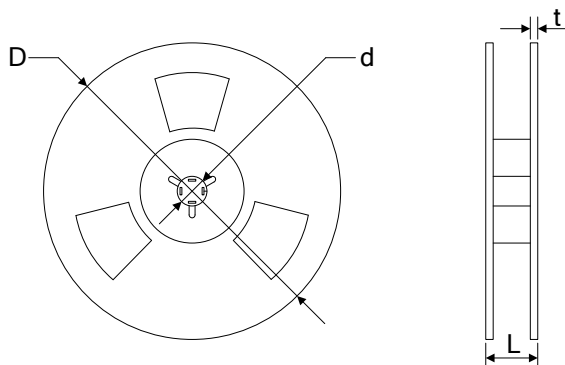
Profile Feature	Pb-Free Assembly
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/second max.
Preheat	
-Temperature Min (T <sub>S min</sub> )	150°C
-Temperature Max (T <sub>S max</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>S max</sub> to T <sub>L</sub>	
-Ramp-up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



Packaging

Tape	Dimension (mm)		
	Items	Spec	Tolerance
	W	12.00	±0.20
	A0	2.90	±0.10
	B0	3.60	±0.10
	K0	2.90	±0.10
	E	1.75	±0.10
	F	5.50	±0.10
	D	1.55	±0.10
	P	8.00	±0.10
	P0	4.00	±0.10
	P1	2.00	±0.10
	t	0.40	±0.10
	D	300.00	±1.00
	d	13.00	±0.50
	L	16.00	±0.50
t	2.00	±0.20	
Quantity: 2500pcs			

Reel



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