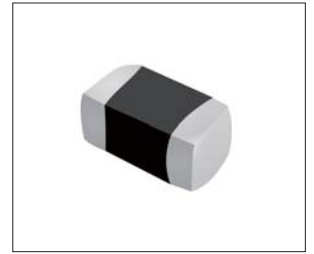


FEATURES

- > Wide operating voltages ranging from 4.0 Vrms to 60 Vrms (5.5 Vdc to 85 Vdc).
- > Fast response, instantly clamping the transient over voltage.
- > High surge current handling capability.
- > High energy absorption capability.
- > Low clamping voltages, providing better surge protection.
- > Low capacitance values, providing digital switching circuitry protection.
- > High insulation resistance, preventing electric arcing to the adjacent devices or circuits.



APPLICATIONS

- > Universal Serial Bus (USB).
- > Mobile communication.
- > Computer/DSP product.
- > Video and audio ports.
- > Portable/Hand-Held Products.
- > Data, Diagnostic I/O ports.

GENERAL CHARACTERISTICS DEFINITION

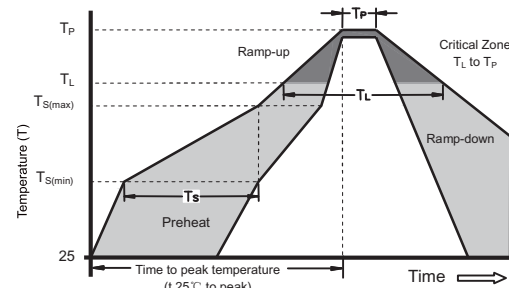
- > Operating temperature: -40 ~ 125°C
- > Storage temperature: -40 ~ 125°C

SPECIFICATIONS

Part Number	Max Allowable Voltage		Varistor Voltage $V_b @ 1 \text{ mA}$	Energy 10/1000us	Withstand Surge Current I_{pp} 8/20us	Max Clamping Voltage V_c		Typical Capacitance
	V_{RMS}	V_{DC}				V	I	
	V	V				V	A	
SMV1210B8.0A	4.0	5.5	8	0.4	250	18	5	5000
SMV1210B12A	7.0	9.0	12	1.5	250	24	5	850
SMV1210B18A	11.0	14.0	18	1.5	250	30	5	850
SMV1210B24A	14.0	18.0	24	0.8	250	38	5	1950
SMV1210B27A	17.0	22.0	27	1.5	250	44	5	950
SMV1210B33A	20.0	26.0	33	1.5	250	54	5	850
SMV1210B36A	22.0	28.0	36	1.5	250	59	5	850
SMV1210B39A	25.0	30.0	39	1.5	250	65	5	1000
SMV1210B47A	30.0	38.0	47	1.5	250	77	5	780
SMV1210B56A	35.0	45.0	56	1.5	250	90	5	850
SMV1210B68A	40.0	56.0	68	1.5	250	110	5	450
SMV1210B82A	50.0	65.0	82	1.2	250	135	5	1000
SMV1210B100A	60.0	85.0	100	1.5	200	165	5	250



LEAD FREE REFLOW SOLDERING RECOMMENDATIONS

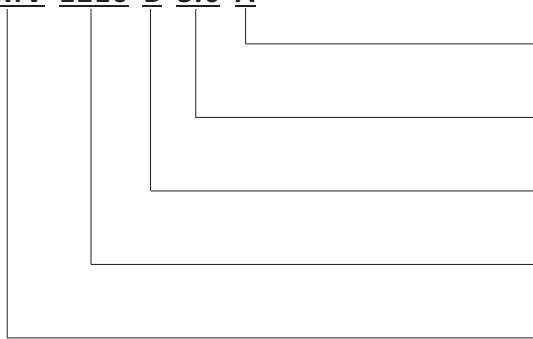
Preheat	Temperature Min (T_{s_min})	150°C	
	Temperature Max (T_{s_max})	200°C	
	Time (T_{s_min} to T_{s_max})	60~180 seconds	
	Average Ramp-Up Rate	1~3°C/second	
Peak Temperature		260°C max.	
Time within 5 °C of actual Peak Temperature (t_p)		40 seconds max.	
Ramp-Down Rate		6°C/second max.	

RELIABILITY TEST

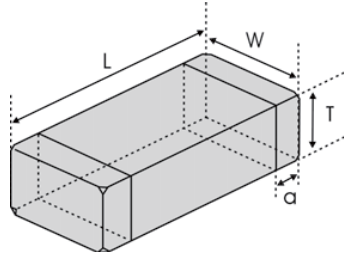
Environmental Ratings										
Performance Requirements	Test Condition / Description	Performance Requirements								
Dry Heat Loading	The specimen shall be applied continuously the maximum allowable voltage at the specified conditions for specified period and then stored at room temperature and normal humidity over 2 hours. Thereafter, the change of V_b and mechanical damage shall be examined. Ambient temp: 85±2°C / Period: 1000±24hours	$\Delta V_b/V_b \leq 10\%$								
High Temp Storage	In a dry oven without load. Ambient temp: 125±2°C / Period: 1000±24hours	$\Delta V_b/V_b \leq 10\%$								
Damp Heat/ Humidity Loading	The specimen shall be applied continuously the maximum allowable voltage at the specified conditions for specified period and then stored at room temperature and normal humidity over 2 hours. Thereafter, the change of V_b and mechanical damage shall be examined. Ambient temp: 40±2°C, 90~95%RH/Period: 1000±24hours	$\Delta V_b/V_b \leq 10\%$								
Temperature Cycle	Condition the specimen to each temperature from step 1 to step 4 in this order for the period shown in the table of specifications. The change of V_b and mechanical damage shall be examined after 2 hours <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Step 1</td> <td>-40±3°C / 30 min.</td> </tr> <tr> <td>Step 2</td> <td>Room temp / 15 min.</td> </tr> <tr> <td>Step 3</td> <td>85±2°C / 30 min.</td> </tr> <tr> <td>Step 4</td> <td>Room temp / 15 min.</td> </tr> </table>	Step 1	-40±3°C / 30 min.	Step 2	Room temp / 15 min.	Step 3	85±2°C / 30 min.	Step 4	Room temp / 15 min.	No Visible damage $\Delta V_b/V_b \leq 10\%$
Step 1	-40±3°C / 30 min.									
Step 2	Room temp / 15 min.									
Step 3	85±2°C / 30 min.									
Step 4	Room temp / 15 min.									
Low Temp Storage	In a cooling chamber without load. Ambient temp: -40±2°C / Period: 1000±24hours	$\Delta V_b/V_b \leq 10\%$								



PRODUCT IDENTIFICATION

<p>SMV 1210 B 8.0 A</p> 	<p>Capacitance A: Standard Capacitance</p> <p>Varistor Voltage 8.0: 8.0V</p> <p>Polar B: Bidireconal</p> <p>Size 1210: 0.12x0.10inch</p> <p>Product Line SMV: Semiware Multilayer Chip Varistor</p>
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SHAPE AND DIMENSIONS



DIMENSIONS			
L	W	T	a
3.20±0.20 [.126±.008]	2.50±0.25 [.098±.010]	1.70 Max. [.067]	0.50±0.30 [.020±.012]
Units:mm/[inch]			

ORDERING INFORMATION

Part Number	Carrier Material	QTY/Reel	Reel Size
SMV1210 Series	Paper	3000PCS	7"



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