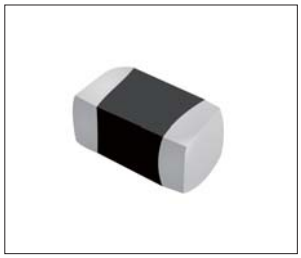
FEATURES



> 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

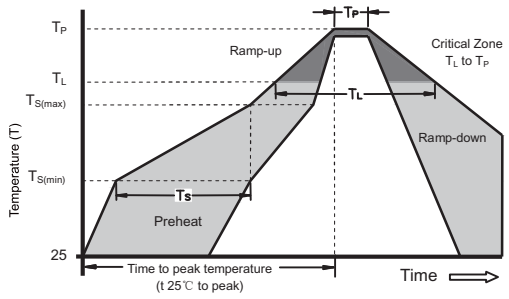
> Operating temperature: -40 ~ 125°C
> Storage temperature: -40 ~ 125°C

SPECIFICATIONS

Part Number	Max Allowable Voltage		Varistor Voltage V_b @ 1 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	J	A	V	A	pF
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	$\Delta V_b/V_b \leqq 10\%$
High Temp Storage	In a dry oven without load. Ambient temp: 125±2°C / Period: 1000±24hours	$\Delta V_b/V_b \leqq 10\%$
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	$\Delta V_b/V_b \leqq 10\%$
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 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 $\Delta V_b/V_b \leqq 10\%$
Low Temp Storage	In a cooling chamber without load. Ambient temp: -40±2°C / Period: 1000±24hours	$\Delta V_b/V_b \leqq 10\%$

PRODUCT IDENTIFICATION

SMV 1210 B 8.0 A

Capacitance
A: Standard Capacitance

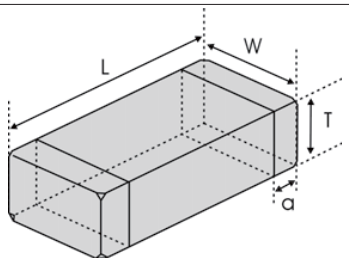
Varistor Voltage
8.0: 8.0V

Polar
B: Bidireconal

Size
1210: 0.12x0.10inch

Product Line
SMV: Semiware Multilayer Chip Varistor

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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