

Surface Mount Varistor

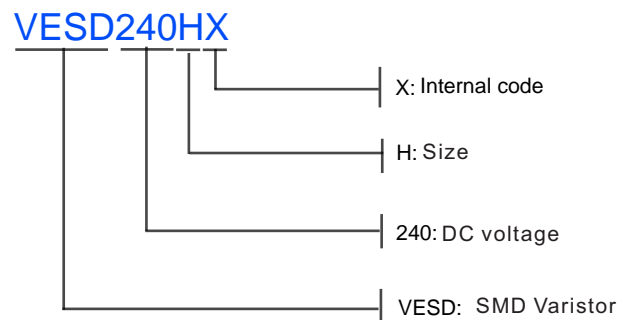
Features

- Wide Varistor voltage range
- SMD type body Size 1812
- Large withstanding surge current
- Fast response
- Surface Mount packaging for automated assembly

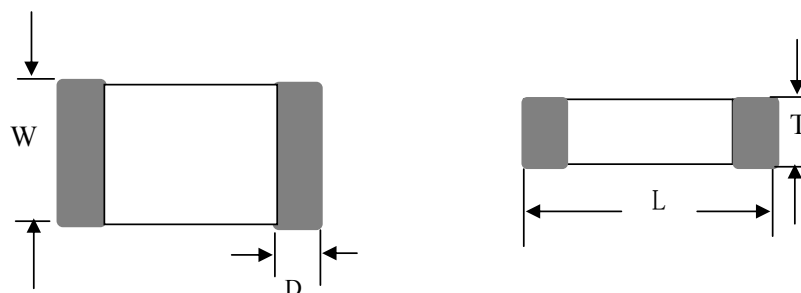
Applications

- Protection of semiconductors
- Surge protection of consumer equipment
- Surge protection of communication, measuring or controller instrument
- Relay or electromagnetic Valve surge absorption

Explanation of Part Numbers



Dimension



Dimensions Code		Dimensions(mm)			
Inch	Metric	L	W	Tmax	D
1812	4532	4.50±0.40	3.20±0.20	2.40	0.60±0.25

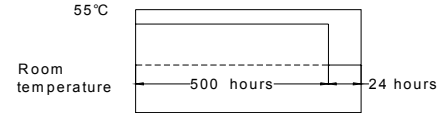
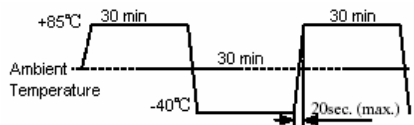
Electrical Characteristics

Part Number	Maximum Allowable Voltage		Varistor Voltage	Maximum Clamping Voltage		Max Peak Current (8/20 μ s)	Maximum Energy	Typical Capacitance (Reference)
	DC (V)	Acrms (V)	V _{1mA} (V)	VC (V)	IP (A)	IPP (A)	10/1000 μ s (J)	@1MHz (pF)
VESD180HJ	18	14	21.5~30	51	5	800	2.5	4200
VESD240HJ	24	18	27.4~36	67	5	800	2.6	4000
VESD300HJ	30	24	36.0~45.0	83	5	800	2.8	2500
VESD380HJ	38	30	43.6~57	101	5	800	3	2000
VESD450HJ	45	35	54~68	124	5	800	3.1	1800

Reliability Test

No.	Items	Requirements	Test Methods and Remarks
1	Operating Temperature Range	-55 $^{\circ}$ C~+125 $^{\circ}$ C	
2	Solder ability	At least 90% of terminal electrode should be covered with solder	Preheating temperature:120 to 150 $^{\circ}$ C Preheating time: 60s Solder : 95.5%Sn、3.0%Ag、0.5%:Cu, of the solder. Solder temperature: 450 \pm 5 $^{\circ}$ C Duration : 5 \pm 1s Immersion into the colophony flux for 3 to 5 sec Immersion speed: 25mm/sec
3	Resistance to Soldering	No damage such as cracks should be caused in chip element. At least 75% of terminal electrode is covered by new solder Varistor voltage change within \pm 10%	Preheating temperature: 120 to 150 $^{\circ}$ C Preheating time: 60s Solder : 95.5%Sn、3.0%Ag、0.5%:Cu of the solder. Solder temperature: 260 \pm 5 $^{\circ}$ C Duration : 10 \pm 1s Immersion into the colophony flux for 3 to 5 sec. Immersion speed: 25mm/sec

Reliability Test

No.	Items	Requirements	Test Methods and Remarks																		
4	Adhesion of electrode	The termination and body should be no damage.	<table border="1"> <thead> <tr> <th>规格型号 Part Number</th> <th>施加力 Applied force</th> <th>保持时间 Keep time</th> </tr> </thead> <tbody> <tr> <td>1005</td> <td>4N</td> <td>10±1S</td> </tr> <tr> <td>1608</td> <td>5N</td> <td>10±1S</td> </tr> <tr> <td>2012</td> <td>6N</td> <td>10±1S</td> </tr> <tr> <td>3216</td> <td>10N</td> <td>10±1S</td> </tr> <tr> <td>3225、4532、5750、8063、1080</td> <td>15N</td> <td>10±1S</td> </tr> </tbody> </table>	规格型号 Part Number	施加力 Applied force	保持时间 Keep time	1005	4N	10±1S	1608	5N	10±1S	2012	6N	10±1S	3216	10N	10±1S	3225、4532、5750、8063、1080	15N	10±1S
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5	Low temperature resistance	No mechanical damage. Varistor voltage change within±5%	Temperature: -55±2℃ Testing time: 500 ⁺²⁴ ₋₀ h																		
6	Bending strength	No mechanical damage. Varistor voltage change within±10%	Warp: 2mm Testing board: glass epoxy-resin substrate Thickness: 0.8mm																		
7	Drop	No mechanical damage. Varistor voltage change within±5%	Drop 10 times on a concrete floor from a high of 1m.																		
8	Vibration	No mechanical damage. Varistor voltage change within±5%	Amplitude modulation: 1.5mm Test time: A period of 2h in each of 3 mutually perpendicular directions. Frequency range: 10Hz to 55Hz to 10Hz for 1min.																		
9	High temperature resistance	No mechanical damage. Varistor voltage change within±5%	Applied voltage: Working voltage Testing time: 1000 ⁺²⁴ ₋₀ h Temperature: 85±2℃																		
10	Static Humidity	No mechanical damage. Varistor voltage change within±5%	Humidity: 90 to 95% RH Temperature: 55±2℃ Testing time: 500 ⁺²⁴ ₋₀ h 																		
11	Thermal Shock	No mechanical damage. Varistor voltage change within±5%	Temperature: -40℃ for 30±3min +85℃ for 30±3min Transforming interval : 5 ±3min 20 sec Number of cycles: 32 																		

Note:When there are questions concerning, measurement shall be made after 24±2hrs of recovery under the standard condition.