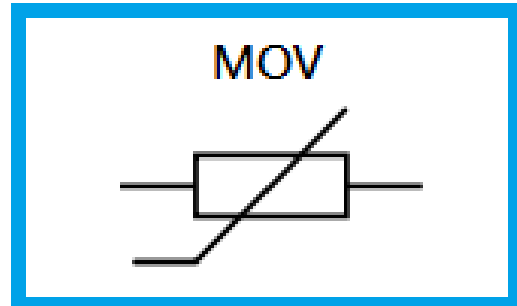


PMV1206 Series MOV Devices

Features

- Wide operating voltages ranging from 2.4 Vrms to 320 Vrms (3.3 Vdc to 415 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

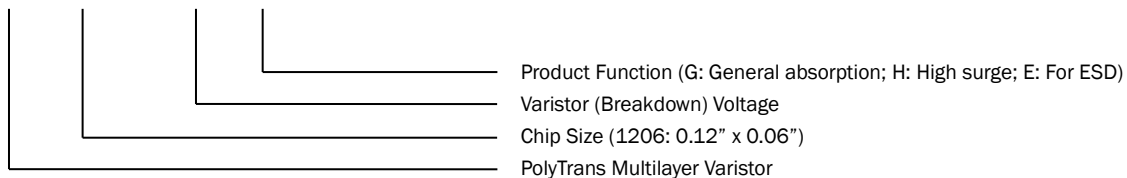
- Operating temperature: -40 ~ 125°C
- Storage temperature: -40 ~ 125°C

Material

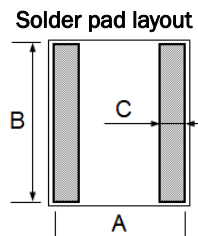
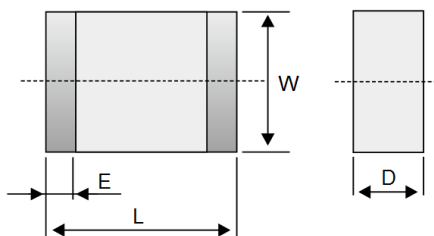
- Electrode: Ag/Ni/Sn
- Chip body: Zinc oxide

Part Number Code

PMV 1206 - □□□ □



Physical Dimensions



Symbol	Dimension (mm)
L	3.2±0.2
W	1.6±0.2
D	1.6 max.
E	-
A	4.2 typ.
B	1.6 typ.
C	0.9 typ.

Note:

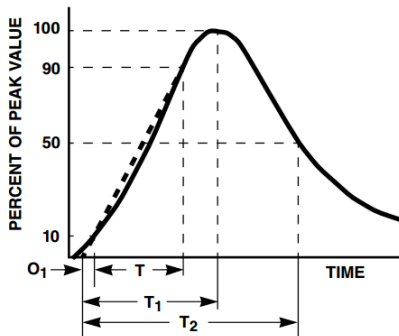
1. All dimensions are in millimeters.
2. No marking on the device.

PMV1206 Series MOV Devices

Electrical Characteristics

Part Number	Max Allowable Voltage		Varistor Voltage $V_b @ 1 \text{ mA}$	Energy 10/1000 μs	Withstand Surge Current I_{PP} 8/20 μs	Max Clamping Voltage V_c		Typical Capacitance (pF)	Safety Certification UL/CSA
	V_{RMS}	V_{DC}				V	I		
	(V)	(V)	(V)	(J)	(A)	(V)	(A)		
PMV1206-5R0G	2.4	3.3	5	1.0	80	12	5	1700	-
PMV1206-8R0G	4.0	5.5	8	1.0	120	18	5	1700	-
PMV1206-120G	7.0	9.0	12	1.0	120	24	5	750	-
PMV1206-180G	11	14	18	1.0	120	30	5	1200	-
PMV1206-240G	14	18	24	1.0	120	38	5	850	-
PMV1206-270G	17	22	27	1.0	120	44	5	1200	-
PMV1206-330G	20	26	33	1.0	120	54	5	750	-
PMV1206-360G	22	28	36	1.0	120	59	5	850	-
PMV1206-390G	24	30	39	1.0	120	65	5	750	-
PMV1206-420G	26	33	42	1.0	120	72	5	850	-
PMV1206-470G	30	38	47	1.0	120	77	5	700	-
PMV1206-560G	35	45	56	1.0	120	90	5	850	-
PMV1206-680G	40	56	68	1.0	120	110	5	850	-
PMV1206-820G	50	65	82	1.0	100	135	5	850	-
PMV1206-101G	60	85	100	0.6	100	165	5	160	-
PMV1206-431G	275	350	430	3.0	200	705	5	100	-
PMV1206-471G	300	380	470	3.0	200	775	5	500	-
PMV1206-511G	320	415	510	3.0	200	845	5	500	-

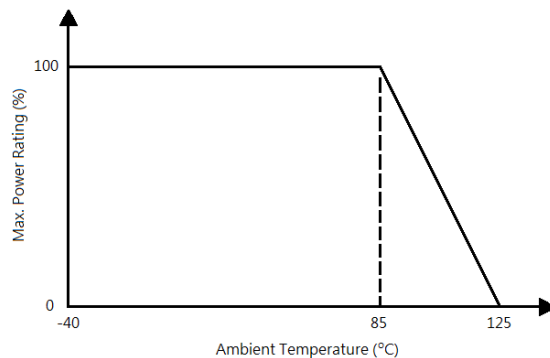
Peak Pulse Current Test Waveform



O₁ = Virtual Origin of Wave
 T = Time from 10% to 90% of Peak
 T₁ = Rise Time = 1.25 x T
 T₂ = Decay Time

Example - For an 8/20 ms current waveform
 8 μs = T₁ = Rise Time
 20 μs = T₂ = Decay Time

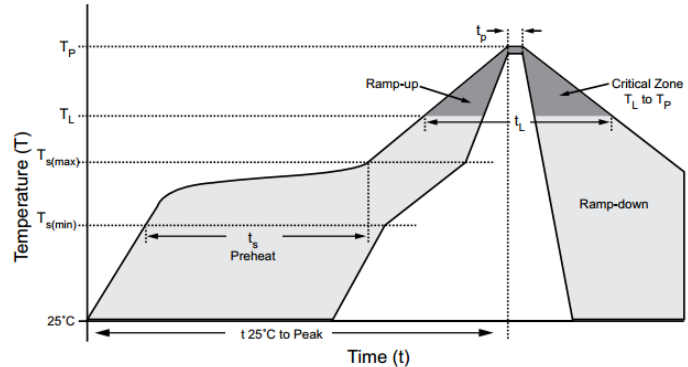
Power Derating Curve



PMV1206 Series MOV Devices

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.



Note: If the wave soldering temperatures exceed the recommended profile, devices may not meet the performance requirements.

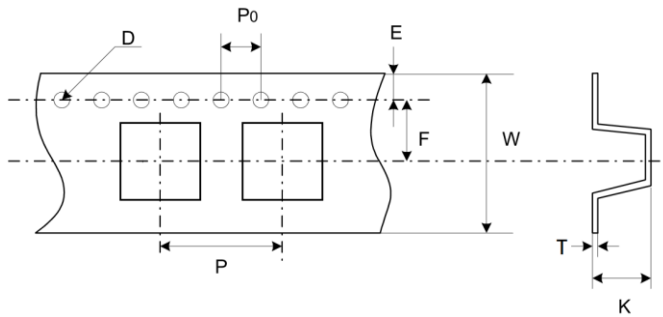
Reliability Test

Environmental Ratings										
Test Parameter	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: 20px;"> <tr> <td>Step 1</td> <td>-40±3°C / 30min.</td> </tr> <tr> <td>Step 2</td> <td>Room temp / 15min.</td> </tr> <tr> <td>Step 3</td> <td>85±2°C / 30min.</td> </tr> <tr> <td>Step 4</td> <td>Room temp / 15min.</td> </tr> </table>	Step 1	-40±3°C / 30min.	Step 2	Room temp / 15min.	Step 3	85±2°C / 30min.	Step 4	Room temp / 15min.	No Visible damage $\Delta V_b/V_b \leq 10\%$
Step 1	-40±3°C / 30min.									
Step 2	Room temp / 15min.									
Step 3	85±2°C / 30min.									
Step 4	Room temp / 15min.									
Low Temp Storage	In a cooling chamber without load. Ambient temp: -40±2°C / Period: 1000±24hours	$\Delta V_b/V_b \leq 10\%$								

PMV1206 Series MOV Devices

Packaging Information

Part Number	Carrier Material	Quantity (EA/Roll)	Reel Dimension (mm)	
			Diameter	Thickness
PMV1206 Series	Plastic	3000	178.0±1.0 (7" Paper Reel)	9.0±0.5



Symbol	Dimension (mm)
P	4.0±0.1
P0	4.0±0.1
D	1.55±0.05
E	1.75±0.1
F	3.5±0.1
W	8.0±0.2
T	0.22±0.05
K	1.5±0.1