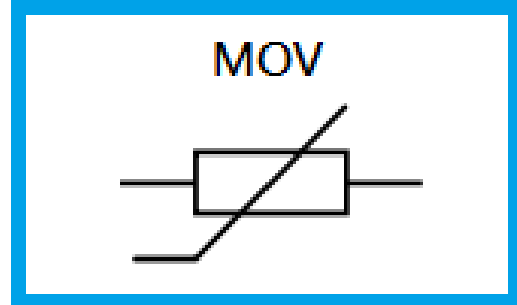


PMV1206H Series MOV Devices

Features

- Wide operating voltages ranging from 2.4 V_{RMS} to 320 V_{RMS} (3.3 V_{DC} to 415 V_{DC}).
- 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

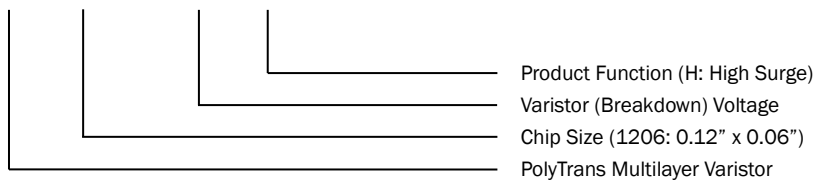
- Operating temperature: -40 ~ 125°C
- Storage temperature: -25 ~ 45°C
- Relative humidity: <75 %

Material

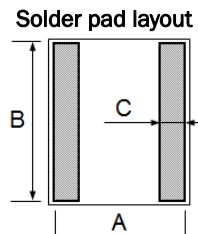
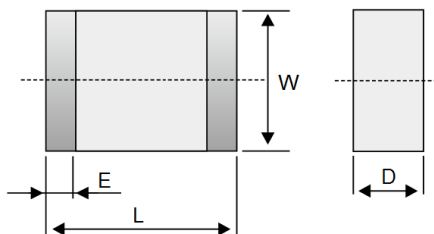
- Electrode: Ag/Ni/Sn
- Chip body: Zinc oxide

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	0.4±0.2
A	4.2 typ.
B	1.6 typ.
C	0.9 typ.

Note:

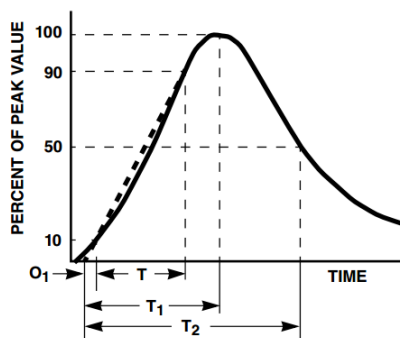
1. All dimensions are in millimeters.
2. No marking on the device.

PMV1206H 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)		
PMV1206-8R0H	4.0	5.5	8	1.0	200	18	5	2600	-
PMV1206-120H	6.0	9.0	12	1.0	200	24	5	2000	-
PMV1206-180H	11	14	18	1.0	200	30	5	1600	-
PMV1206-220H	14	18	22	1.0	200	38	5	1400	-
PMV1206-240H	14	18	24	1.0	200	38	5	1300	-
PMV1206-270H	17	22	27	1.0	200	44	5	1050	-
PMV1206-300H	18	22	30	1.0	200	54	5	950	-
PMV1206-330H	20	26	33	1.0	200	54	5	850	-
PMV1206-390H	24	30	39	1.0	200	65	5	850	-
PMV1206-420H	26	33	42	1.0	200	72	5	850	-
PMV1206-470H	30	38	47	1.0	200	77	5	600	-
PMV1206-530H	32	42	53	1.0	200	87	5	550	-
PMV1206-560H	35	45	56	1.0	200	90	5	450	-
PMV1206-600H	42	50	60	1.0	200	90	5	500	-
PMV1206-680H	40	56	68	1.0	200	110	5	350	-
PMV1206-820H	50	65	82	1.0	200	135	5	500	-
PMV1206-101H	60	85	100	1.0	200	165	5	165	-
PMV1206-201H	130	170	200	1.2	350	330	5	50	-
PMV1206-221H	140	180	220	1.2	350	360	5	55	-
PMV1206-241H	150	200	240	1.2	350	395	5	55	-
PMV1206-271H	175	225	270	1.2	350	455	5	55	-
PMV1206-331H	210	275	330	1.2	350	540	5	45	-
PMV1206-431H	275	350	430	1.2	200	705	5	35	-
PMV1206-471H	300	380	470	1.2	200	775	5	35	-

Peak Pulse Current Test Waveform

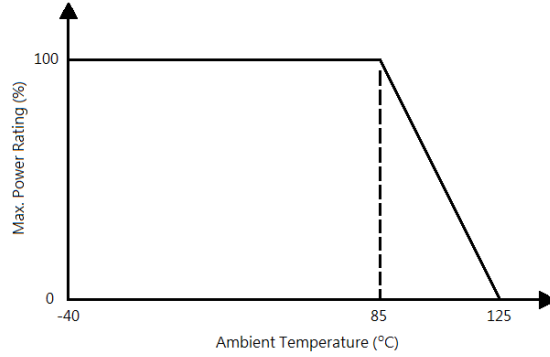


O_1 = Virtual Origin of Wave
 T = Time from 10% to 90% of Peak
 T_1 = Rise Time = $1.25 \times T$
 T_2 = Decay Time

Example - For an 8/20 ms current waveform
 $8 \mu\text{s} = T_1 = \text{Rise Time}$
 $20 \mu\text{s} = T_2 = \text{Decay Time}$

PMV1206H Series MOV Devices

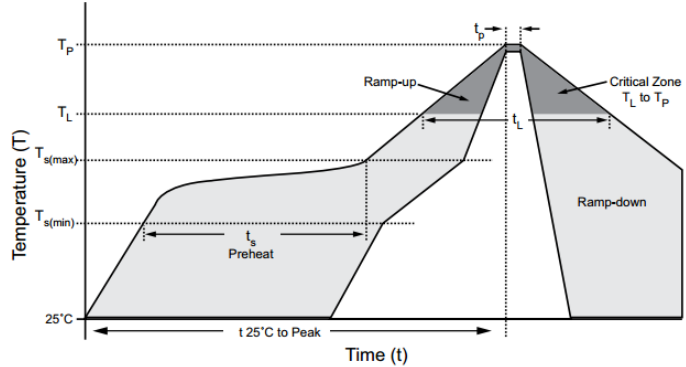
Power Derating Curve



PMV1206H 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.

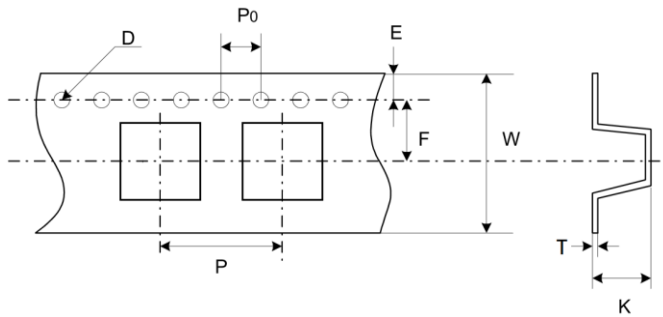
Reliability Test

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	$\Delta V_b/V_b \leq 10\%$								

PMV1206H Series MOV Devices

Packaging Information

Part Number	Carrier Material	Quantity (EA/Roll)	Reel Dimension (mm)	
			Diameter	Thickness
PMV1206H 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