HITANO ENTERPRISE CORP. ®

METAL OXIDE VARISTORS

Transient voltage surge suppressors

● A Series High surge absorption

Hitano Part no.	Working Voltage (MAX)		Breakdown Voltage	Peak Current	Clamping Voltage (MAX)		Energy Absorption	Typical Capacitance
Condition	AC	DC	1mA	8/20μs	(A)	(V)	10/1000	1KHz
Unit	(V_{RMS})	(V)	(V)	(A)			(J)	(pF)
1206ML180A	11.0	14.0	18(15.3~20.7)	200	1	30	0.5	1200
1206ML240A	14.0	18.0	24(21.6~26.4)	200	1	38	0.5	780
1206ML270A	17.0	22.0	27(24.3~29.8)	200	1	44	0.7	750
1206ML330A	20.0	26.0	33(29.7~36.3)	200	1	54	1.0	700
1206ML390A	25.0	30.0	39(35.1~42.9)	200	1	65	1.0	510
1206ML470A	30.0	38.0	47(42.3~51.7)	200	1	77	1.1	440
1210ML180A	11.0	14.0	18(15.3~20.7)	400	2.5	30	1.2	2000
1210ML240A	14.0	18.0	24(21.6~26.4)	400	2.5	38	1.4	1600
1210ML270A	17.0	22.0	27(24.3~29.8)	400	2.5	44	1.7	1500
1210ML330A	20.0	26.0	33(29.7~36.3)	400	2.5	54	1.9	880
1210ML390A	25.0	30.0	39(35.1~42.9)	400	2.5	65	1.7	800
1210ML470A	30.0	38.0	47(42.3~51.7)	400	2.5	77	2.0	530
1812ML240A	14.0	18.0	24(21.6~26.4)	800	5	38	2.3	3500
1812ML390A	25.0	30.0	39(35.1~42.9)	800	5	65	3.7	2350
1812ML470A	30.0	38.0	47(42.3~51.7)	800	5	77	4.2	1600
1812ML560A	35.0	45.0	56(50.4~61.6)	800	5	90	4.2	1200
1812ML680A	40.0	56.0	68(61.2~74.8)	600	5	120	4.3	1000
1812ML820A	50.0	65.0	82(73.8~90.2)	600	5	140	4.0	780
2220ML180A	11.0	14.0	18(15.3~20.7)	1200	10	30	5.4	10500
2220ML240A	14.0	18.0	24(21.6~26.4)	1200	10	38	5.8	8500
2220ML270A	17.0	22.0	27(24.3~29.8)	1200	10	44	7.2	8300
2220ML330A	20.0	26.0	33(29.7~36.3)	1200	10	54	7.8	8000
2220ML390A	25.0	30.0	39(35.1~42.9)	1200	10	65	9.6	6000
2220ML470A	30.0	38.0	47(42.3~51.7)	1200	10	77	12.0	4000
2220ML560A	35.0	45.0	56(50.4~61.6)	1200	10	90	12.0	3500
2220ML680A	40.0	56.0	68(61.2~74.8)	900	10	120	9.0	1800
2220ML820A	50.0	65.0	82(73.8~90.2)	900	10	140	5.6	1400

TO BE CONTINUED

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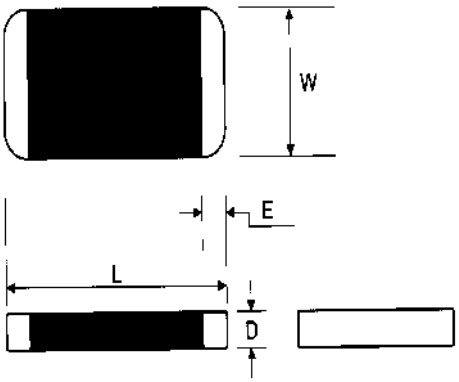

Type	L mm	W mm	D mm	E mm
1206	3.20±0.20	1.60±0.15	1.2max.	0.50±0.20
1210	3.20±0.20	2.50±0.20	1.5max	0.50±0.20
1812	4.50±0.20	3.20±0.20	2.0max.	0.5+0.3/-0.1
2220	5.70±0.20	5.00±0.20	3.0max.	0.5+0.3/-0.1

- **Environmental Characteristics**

<table>
<tr><th>Item</th><th>Requirement</th><th>Test Method</th></tr>
<tr><td>High Temperature Storage</td><td>Change of varistor voltage: ±10%</td><td>The varistor shall be subjected to 125±2℃ for 1000±12 hrs in thermostatic bath without load and then stored at room temperature and normal humidity for 1 – 2 hours</td></tr>
<tr><td>Temperature cycle</td><td>Change of varistor voltage: ±10% and no mechanical damage.</td><td>The temperature cycle shall be repeated five times then stored at room temperature and normal humidity for 1 – 2hours
<table>
<tr><td>Step</td><td>Temperature</td><td>Period</td></tr>
<tr><td>1</td><td>-40±3℃</td><td>30±3 min</td></tr>
<tr><td>2</td><td>Room Temperature</td><td>1 hour</td></tr>
<tr><td>3</td><td>125±3℃</td><td>30±3 min</td></tr>
<tr><td>4</td><td>Room Temperature</td><td>1 hour</td></tr>
</table></td></tr>
<tr><td>High Temperature Load</td><td>Change of varistor voltage: ±10%</td><td>Applied maximum allowable voltage for 1000±2 hrs at 85±2℃, the varistor shall be stored at room temperature and normal humidity for 1 – 2 hours.</td></tr>
<tr><td>Damp Heat Load</td><td>Change of varistor voltage: ±10%</td><td>Applied maximum allowable voltage for 1000±2 hrs at 40±2℃, 90-95% R.H., the varistor shall be stored at room temperature and normal humidity for 1 – 2 hours.</td></tr>
<tr><td>Low Temperature Storage</td><td>Change of varistor voltage: ±10%</td><td>The varistor should be subjected to -40±2℃</td></tr>
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