

● C Series Wide range Application

Hitano Part no.	Working Voltage (MAX)		Breakdown Voltage	Peak Current	Clamping Voltage (MAX)		Energy Absorption	Typical Capacitance
	AC (V _{RMS})	DC (V)			1mA (V)	8/20 μ s (A)		
							10/1000 (J)	1KHz (pF)
0402ML080C	4	5.5	8(7.5~10.5)	20	1	20	0.05	200
0402ML120C	6	9	12(10.2~13.8)	20	1	24	0.05	135
0402ML180C	11	14	18(15.3~20.7)	20	1	35	0.05	50
0402ML240C	14	18	24(21.6~26.4)	20	1	40	0.05	45

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	AC (V _{RMS})	DC (V)			1mA (V)	8/20 μ s (A)		
							10/1000 (J)	1KHz (pF)
0603ML080C	4	5.5	8(8~11)	30	1	20	0.1	360
0603ML120C	6	9	12(10.2~13.8)	30	1	23	0.1	300
0603ML180C	11	14	18(15.3~20.7)	30	1	30	0.1	210
0603ML240C	14	18	24(21.6~26.4)	30	1	39	0.1	160
0603ML270C	17	22	27(24.3~29.7)	30	1	44	0.1	145
0603ML330C	20	26	33(29.7~36.3)	30	1	54	0.1	130
0603ML390C	25	30	39(35.1~42.9)	30	1	65	0.1	110
0603ML470C	30	38	47(42.3~51.7)	30	1	77	0.1	90

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Hitano Part no.	Working Voltage (MAX)		Breakdown Voltage	Peak Current	Clamping Voltage (MAX)		Energy Absorption	Typical Capacitance
	AC (V _{RMS})	DC (V)			(A)	(V)		
Condition Unit			1mA (V)	8/20 μ s (A)			10/1000 (J)	1KHz (pF)
0805ML080C	4	5.5	8(8~11)	80	1	20	0.1	1400
0805ML120C	6	9	12(10.2~13.8)	80	1	23	0.1	650
0805ML180C	11	14	18(15.3~20.7)	100	1	30	0.1	350
0805ML240C	14	18	24(21.6~26.4)	100	1	39	0.1	300
0805ML270C	17	22	27(24.3~29.7)	100	1	44	0.2	250
0805ML330C	20	26	33(29.7~36.3)	100	1	54	0.3	220
0805ML390C	25	30	39(35.1~42.9)	100	1	65	0.3	200
0805ML470C	30	38	47(42.3~51.7)	100	1	77	0.3	150
0805ML560C	35	45	56(50.4~61.6)	80	1	90	0.3	110

Hitano Part no.	Working Voltage (MAX)		Breakdown Voltage	Peak Current	Clamping Voltage (MAX)		Energy Absorption	Typical Capacitance
	AC (V _{RMS})	DC (V)			(A)	(V)		
Condition Unit			1mA (V)	8/20 μ s (A)			10/1000 (J)	1KHz (pF)
1206ML080C	4	5.5	8(8~11)	100	1	20	0.2	3100
1206ML180C	11	14	18(15.3~20.7)	100	1	30	0.3	800
1206ML240C	14	18	24(21.6~26.4)	100	1	38	0.3	620
1206ML270C	17	22	27(24.3~29.7)	100	1	44	0.4	700
1206ML330C	20	26	33(29.7~36.3)	100	1	54	0.5	480
1206ML390C	25	30	39(35.1~42.9)	100	1	65	0.6	400
1206ML470C	30	38	47(42.3~51.7)	100	1	77	0.7	260
1206ML560C	35	45	56(50.4~61.6)	100	1	90	0.8	230
1206ML680C	40	56	68(61.2~74.8)	100	1	110	1.0	200
1206ML820C	50	65	82(73.8~90.2)	100	1	135	0.5	175
1206ML101C	60	85	100(90~110)	100	1	165	0.6	150

TO BE CONTINUED

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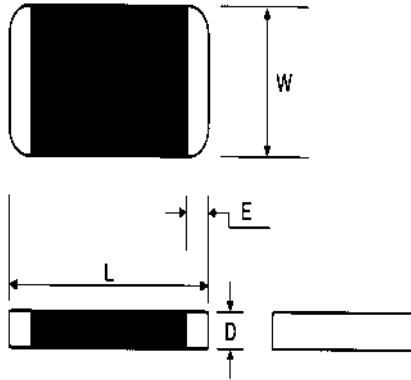
Hitano Part no.	Working Voltage (MAX)		Breakdown Voltage	Peak Current	Clamping Voltage (MAX)		Energy Absorption	Typical Capacitance
	AC (V _{RMS})	DC (V)			1mA (V)	8/20 μ s (A)		
1210ML080C	4	5.5	8(8~11)	250	2.5	20	0.5	5200
1210ML240C	14	18	24(21.6~26.4)	250	2.5	38	0.8	1150
1210ML270C	17	22	27(24.3~29.7)	250	2.5	44	1.0	1720
1210ML330C	20	26	33(29.7~36.3)	250	2.5	54	1.2	610
1210ML390C	25	30	39(35.1~42.9)	250	2.5	65	1.4	920
1210ML470C	30	38	47(42.3~51.7)	250	2.5	77	1.6	780
1210ML560C	35	45	56(50.4~61.6)	250	2.5	90	2.0	400
1210ML680C	40	56	68(61.2~74.8)	250	2.5	110	2.3	300
1210ML101C	60	85	100(90~110)	200	2.5	165	1.4	210

Hitano Part no.	Working Voltage (MAX)		Breakdown Voltage	Peak Current	Clamping Voltage (MAX)		Energy Absorption	Typical Capacitance
	AC (V _{RMS})	DC (V)			1mA (V)	8/20 μ s (A)		
1812ML240C	14	18	24(21.6~26.4)	500	5	38	1.7	2000
1812ML270C	17	22	27(24.3~29.7)	500	5	42	2.9	2500
1812ML390C	25	30	39(35.1~42.9)	500	5	65	2.9	2500
1812ML470C	30	38	47(42.3~51.7)	500	5	77	3.5	2200
1812ML560C	35	45	56(50.4~61.6)	500	5	90	4.2	1000
1812ML680C	40	56	68(61.2~74.8)	500	5	110	4.3	600
1812ML820C	50	65	82(73.8~90.2)	400	5	135	4.5	600

Model Number	Working Voltage (MAX)		Breakdown Voltage	Peak Current	Clamping Voltage (MAX)		Energy Absorption	Typical Capacitance
	AC (V _{RMS})	DC (V)			1mA (V)	8/20 μ s (A)		
2220ML240C	14	18	24(21.6~26.4)	1000	10	38	3.1	8500
2220ML390C	25	30	39(35.1~42.9)	1000	10	65	5.5	3900
2220ML470C	30	38	47(42.3~51.7)	1000	10	77	6.3	4600
2220ML680C	40	56	68(61.2~74.8)	1000	10	110	8.8	4000

TO BE CONTINUED

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Type	L (mm)	W (mm)	D (mm)	E (mm)
0402	1.00±0.10	0.50±0.10	0.6max.	0.25±0.10
0603	1.60±0.10	0.80±0.15	0.9max.	0.30±0.10
0805	2.00±0.20	1.25±0.15	1.0max.	0.40±0.20
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

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