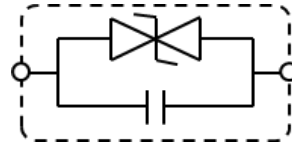


Multilayer Chip Varistor : AVRH10C101KT1R1NE8

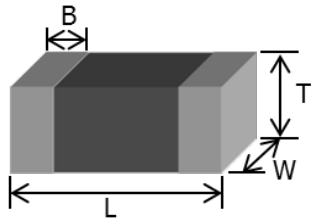
Features

- Automotive (AEC-Q200) grade
- Size : EIA0402 (1.0x0.5mm)
- Excellent ESD clamp characteristics
- High ESD durability : IEC61000-4-2, Contact 8kV
- Operating temperature range : -55°C ~ 150°C
- ESD Test with OPEN Alliance MDI Circuit : 25kV

Equivalent Circuit



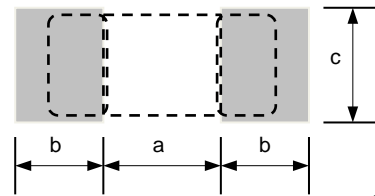
Shapes & Dimensions



EIA	L	W	T	B
0402	1.0±0.05	0.5±0.05	0.5±0.05	0.1 Min.

Unit / mm

Recommended PCB Pattern



EIA	a	b	c
0402	0.3 to 0.5	0.35 to 0.45	0.4 to 0.6

Unit / mm

Product Identification

AVRH **10** **C** **101** **K** **T** **1R1** **N** **E** **8**
 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

(1)	Series name / AVRH
(2)	Dimension / 10:1.0x0.5(mm)
(3)	Structure
(4)	Varistor voltage / 101:10x10 ¹ (V) *Based on OA EMC Test Spec. (100V min.)
(5)	Varistor voltage tolerance / K : ±10(%)
(6)	Packaging scheme / T : Taping
(7)	Capacitance / 1R1 : 1.1(pF)
(8)	Capacitance tolerance / N : ±0.3(pF)
(9)	ESD Tolerance (IEC61000-4-2) / E : ±8(kV)
(10)	Operating temperature (Max.) / 8 : 150(°C)

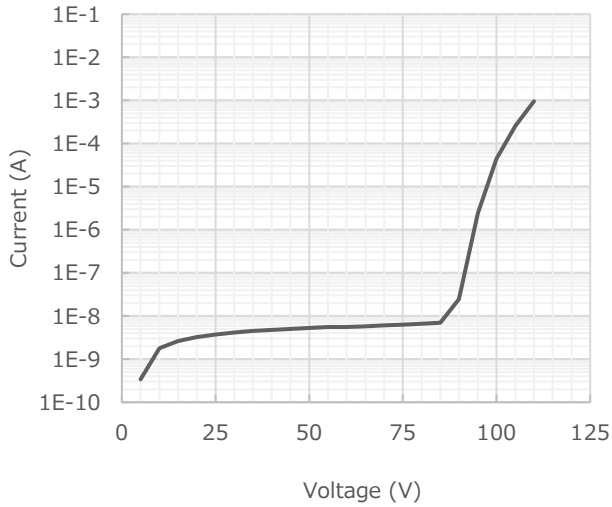
Electrical Characteristics

TDK Product Name	Varistor voltage	Rated voltage	Clamping voltage		Capacitance
	(Breakdown voltage)	DC	8/20µs	1MHz, 1Vrms	
	Max./Vdc	Typ./Vcl	Icl	C	
	(V)	(V)	(V)	(A)	(pF)
AVRH10C101KT1R1NE8	110 (100~120)	70	187	0.3	1.1 (0.8~1.4)

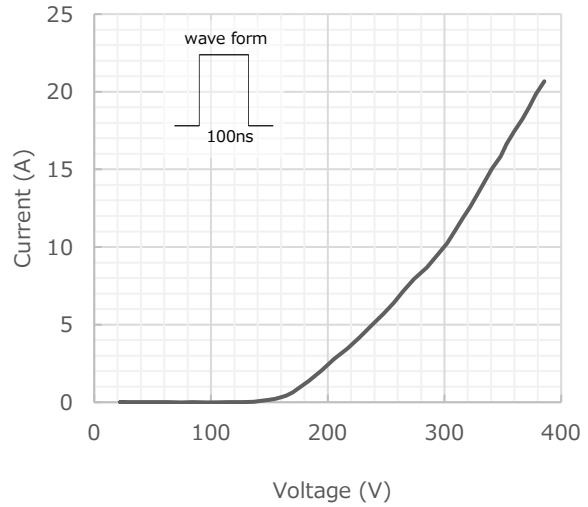
Energy	Power peak pulse	Peak current	ESD Tolerance	ESD Tolerance
10/1000µs	10/1000µs	8/20µs	IEC61000-4-2	with MDI Circuit
Max./E	Typ. /Ppp	Max./Ip		
(Joule)	(W)	(A)	(kV)	(kV)
0.007	5.3	0.3	Contact 8kV	Contact 25kV

Multilayer Chip Varistor : AVRH10C101KT1R1NE8

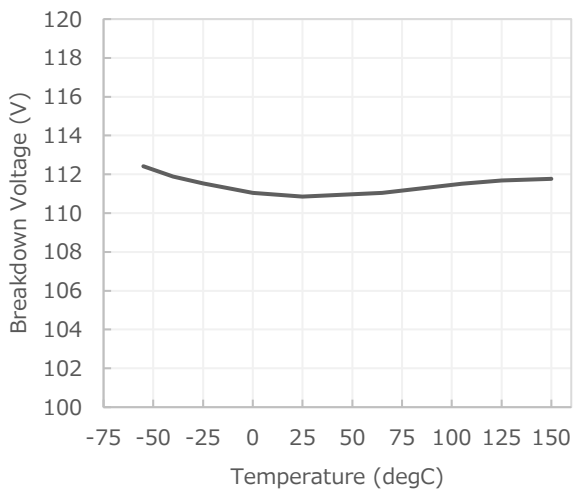
Current - Voltage



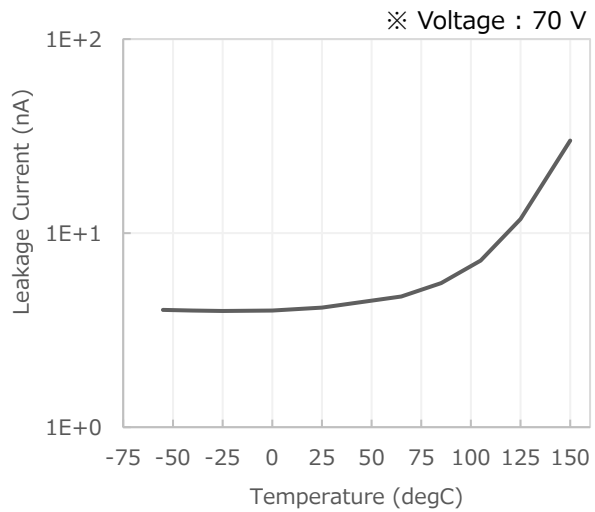
Current - Voltage (TLP)



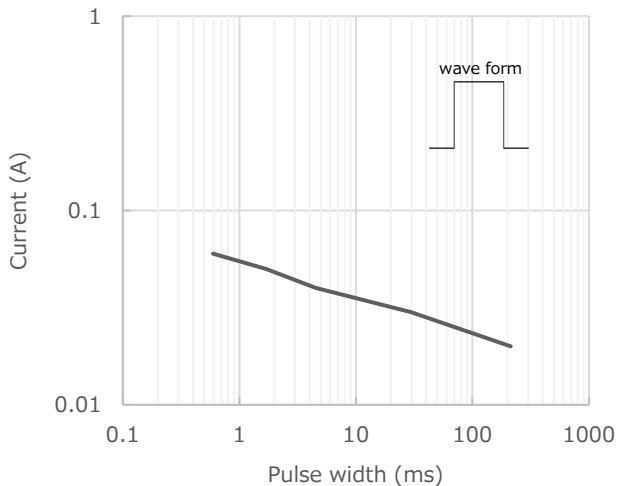
Breakdown Voltage - Temp.



Leakage current - Temp.

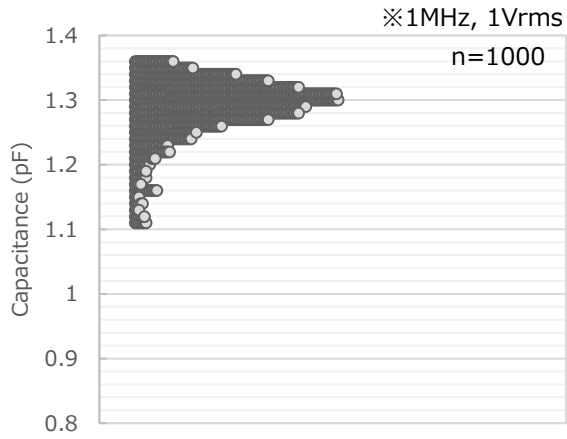


Durability of Pulse Current (Typ. values)

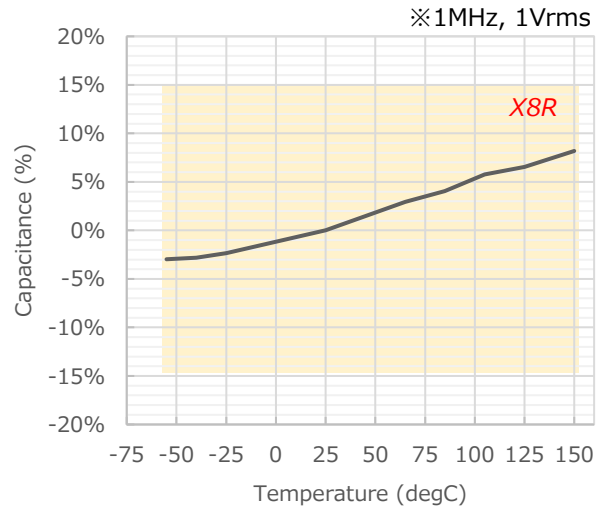


Multilayer Chip Varistor : AVRH10C101KT1R1NE8

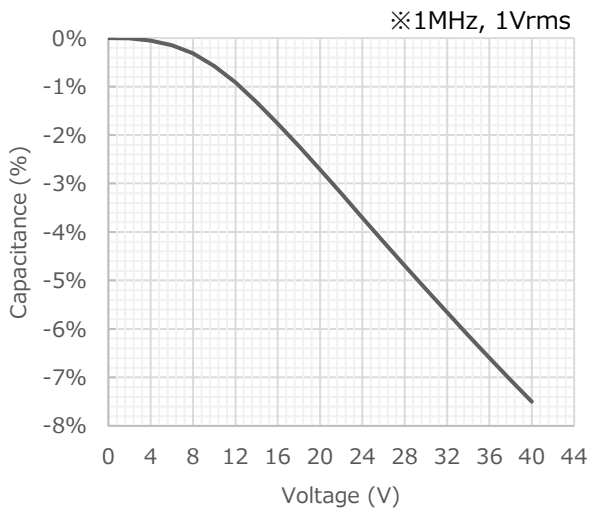
Capacitance Dispersion



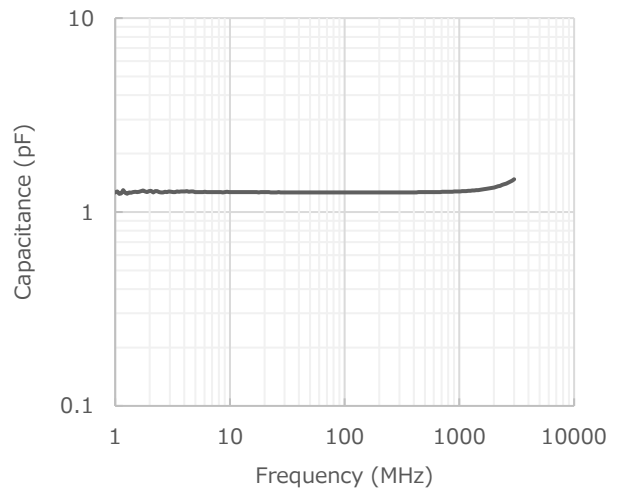
Capacitance - Temp.



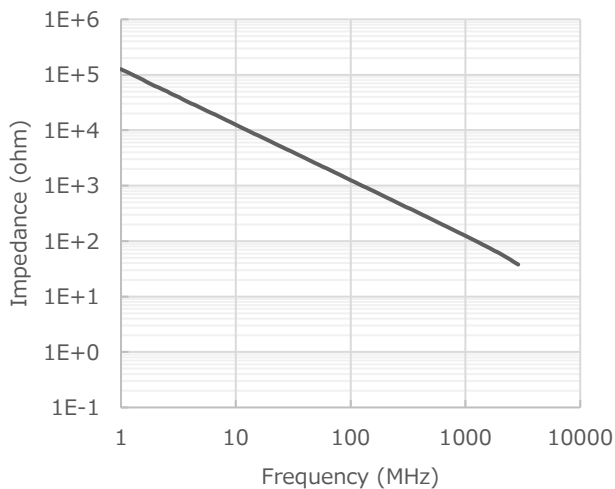
DC bias



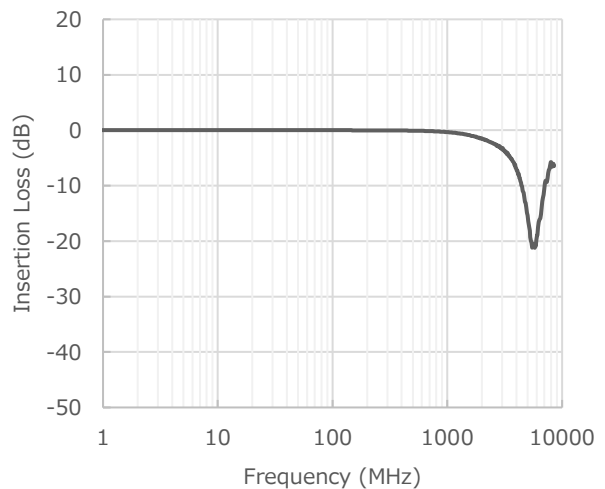
Capacitance - Freq.



Impedance - Freq.



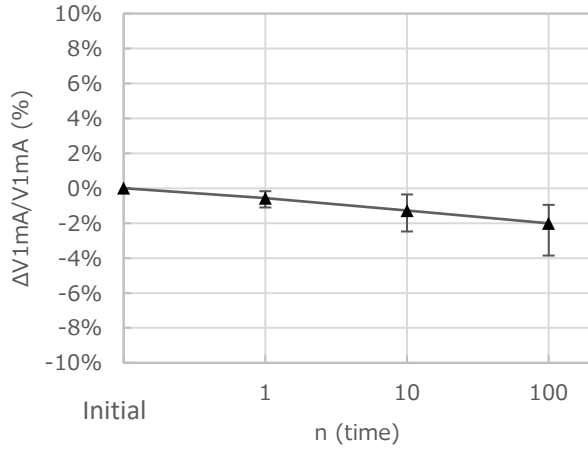
Insertion Loss



Multilayer Chip Varistor : AVRH10C101KT1R1NE8

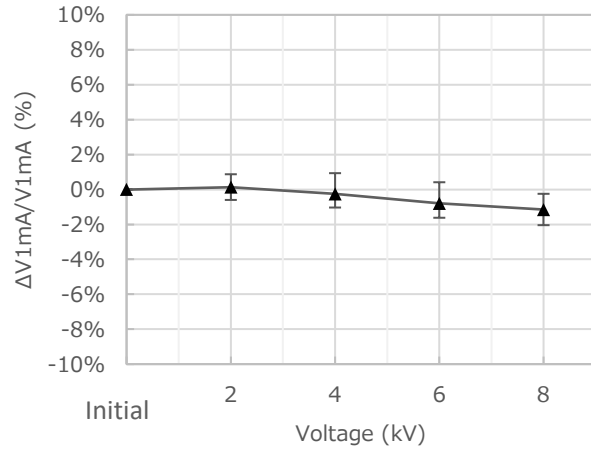
ESD Discharge

▶ 150pF/330ohm, ±8kV, 100times



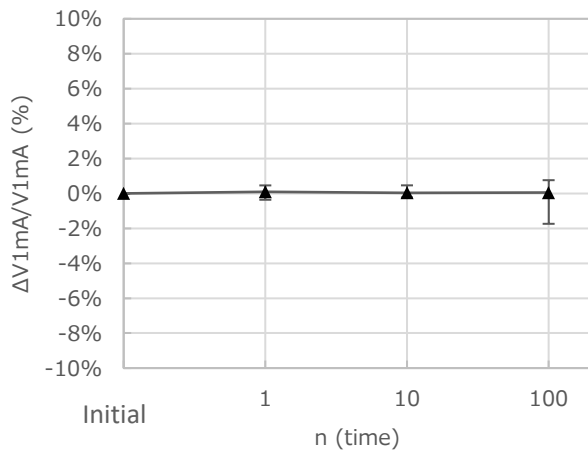
ESD Discharge

▶ 150pF/330ohm, ~±8kV, 10times



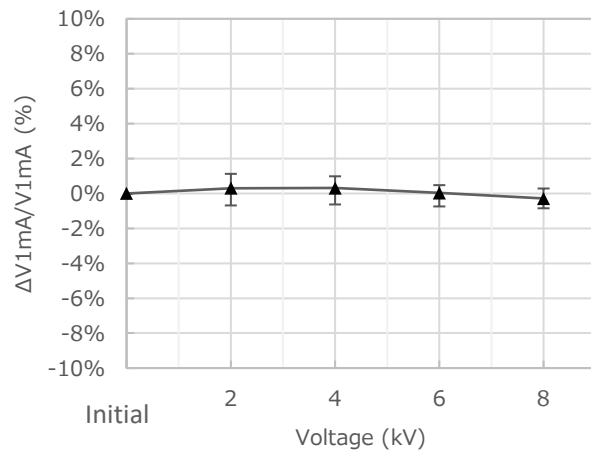
ESD Discharge

▶ 330pF/2000ohm, ±8kV, 100times



ESD Discharge

▶ 330pF/2000ohm, ~±8kV, 10times

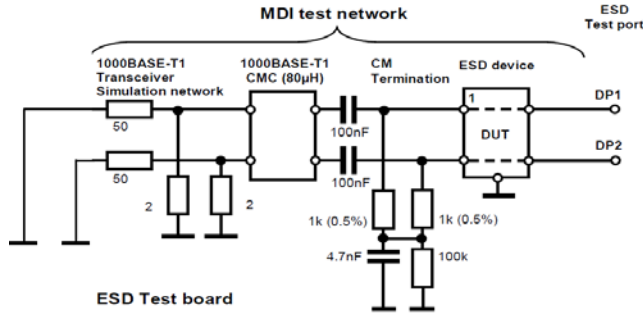


※Criteria : $\Delta V1mA/V1mA \leq 10\%$

Multilayer Chip Varistor : AVRH10C101KT1R1NE8

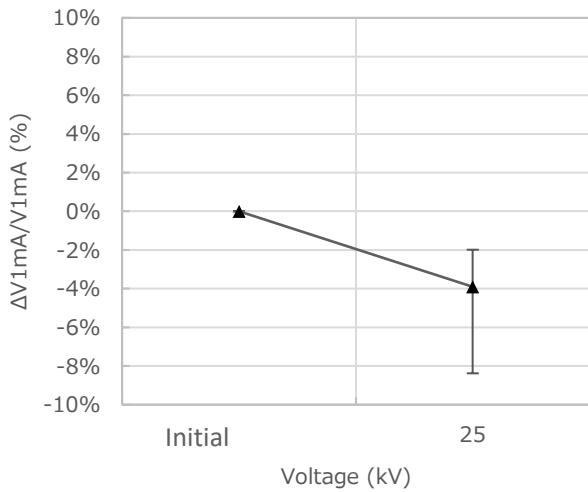
ESD Discharge (Varistor with OPEN Alliance MDI Circuit)

■ OPEN Alliance MDI Circuit

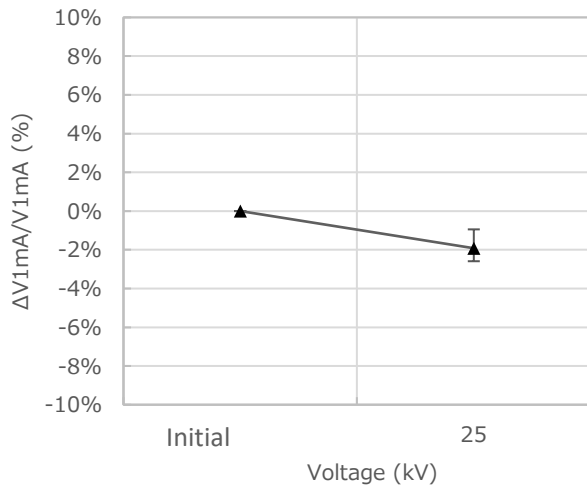


- ✓ CMC Part No. ACT1210G-800-2P-TL05
- ✓ Other device's spec refer to "OPEN Alliance System Implementation Specification"

▶ 150pF/330ohm, ±25kV, 10times



▶ 330pF/2000ohm, ±25kV, 10times



※Criteria : $\Delta V1mA/V1mA \leq 10\%$