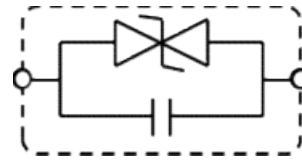


# Multilayer Chip Varistor : AVRH10C270KT150NA8

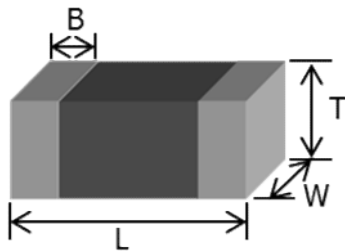
## Features

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

## Equivalent Circuit

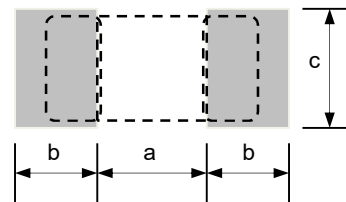


## Shapes & Dimensions



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

## Recommended PCB Pattern



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

## Product Identification

**AVRH 10 C 270 K T 150 N A 8**  
 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

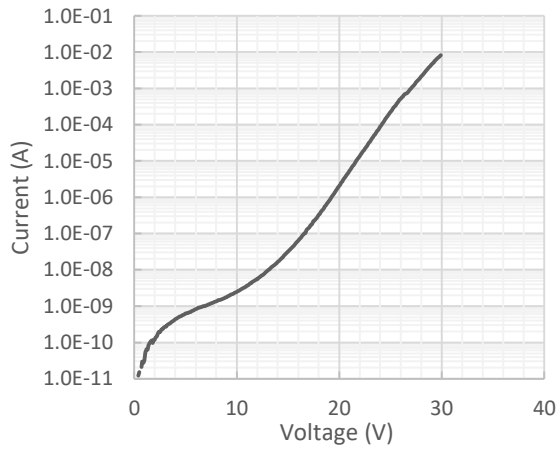
(1)	Series name / AVRH
(2)	Dimension / 10:1.0x0.5(mm)
(3)	Structure
(4)	Varistor voltage / 270:27x10 <sup>0</sup> (V)
(5)	Varistor voltage tolerance / K : ±10(%)
(6)	Packaging scheme / T : Taping
(7)	Capacitance / 150:15x10 <sup>0</sup> (pF)
(8)	Capacitance tolerance / N : ±30(%)
(9)	ESD Tolerance (IEC61000-4-2) / A : ±25(kV)
(10)	Operating temperature (Max.) / 8 : 150(°C)

## Electrical Characteristics

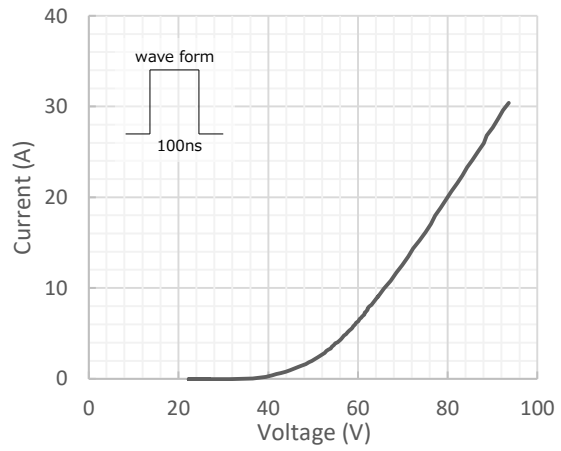
TDK Product Name	Varistor voltage (Breakdown voltage)	Rated voltage	Clamping voltage	Energy	Power Peak Pulse	Peak current	Capacitance	
	V1mA (V)	DC Max. Vdc	8/20µs Typ. Vcl	10/1000µs Max. E (Joule)	10/1000µs Typ. Ppp (W)	8/20µs Max. Ip (A)	1kHz, 1Vrms C (pF)	
AVRH10C270KT150NA8	27(24~30)	19	52	2	0.02	19.07	2	15(10.5~19.5)

# Multilayer Chip Varistor : AVRH10C270KT150NA8

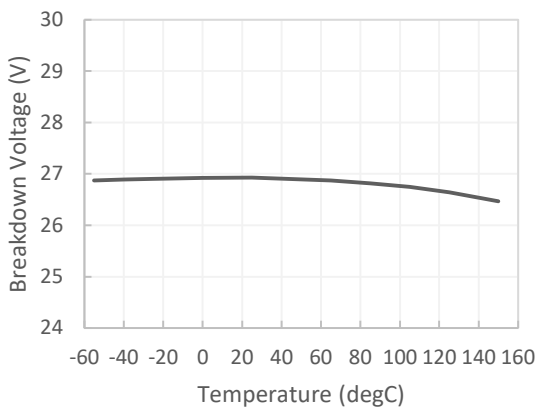
**Current - Voltage**



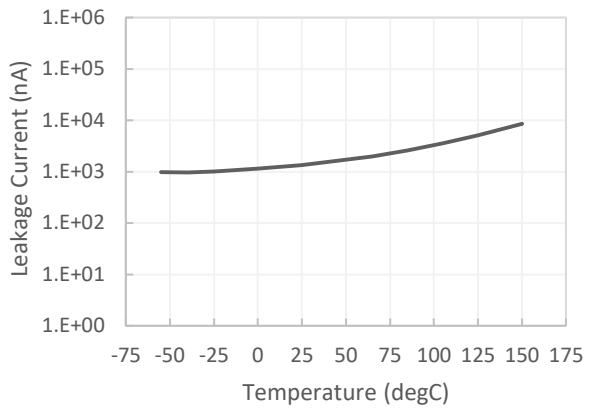
**Current - Voltage (TLP)**



**Breakdown Voltage - Temp.**



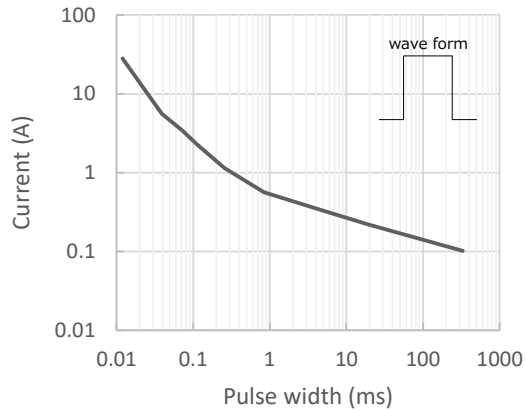
**Leakage current - Temp.**



※ Voltage : 19 V

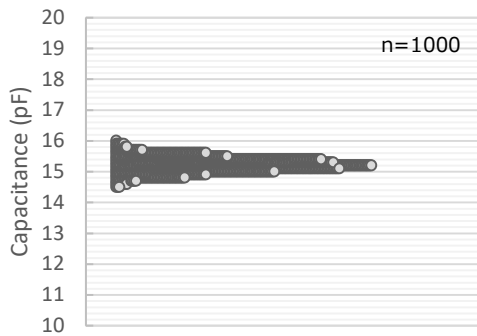
**Durability of Pulse Current**

( Typ. values )

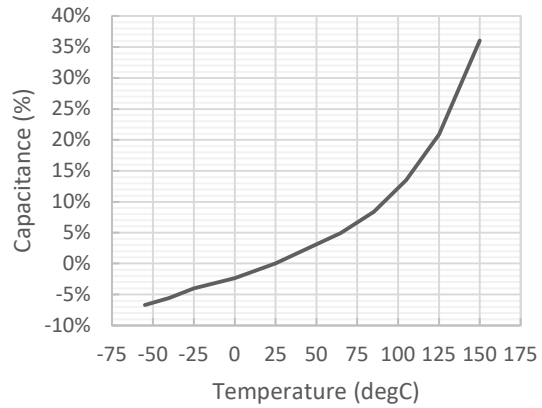


# Multilayer Chip Varistor : AVRH10C270KT150NA8

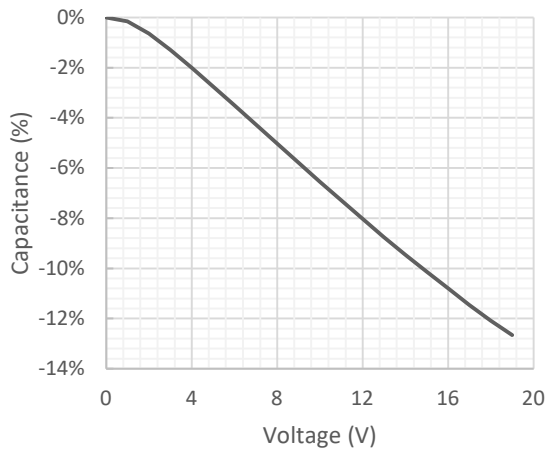
**Capacitance Dispersion** ※1kHz, 1Vrms



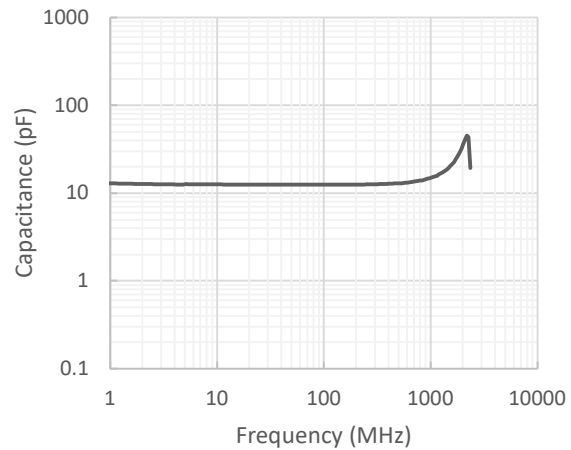
**Capacitance - Temp.** ※1kHz, 1Vrms



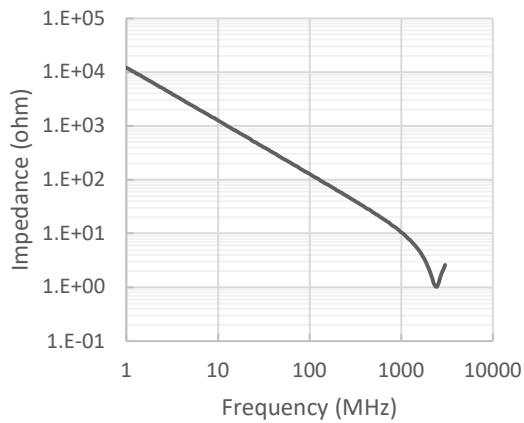
**DC bias** ※1MHz, 1Vrms



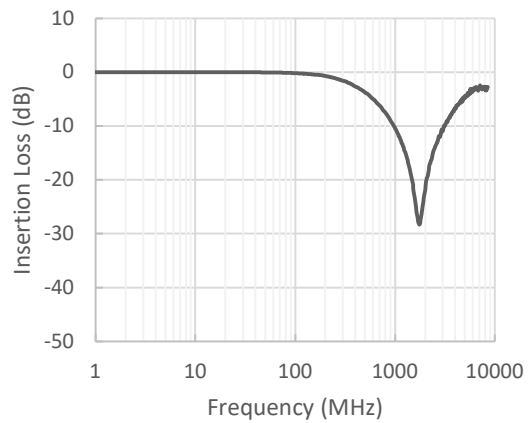
**Capacitance - Freq.**



**Impedance - Freq.**



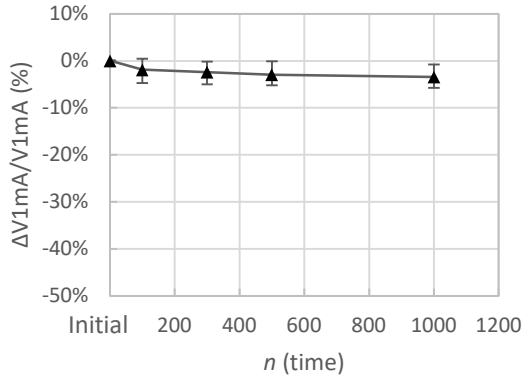
**Insertion Loss**



## Multilayer Chip Varistor : AVRH10C270KT150NA8

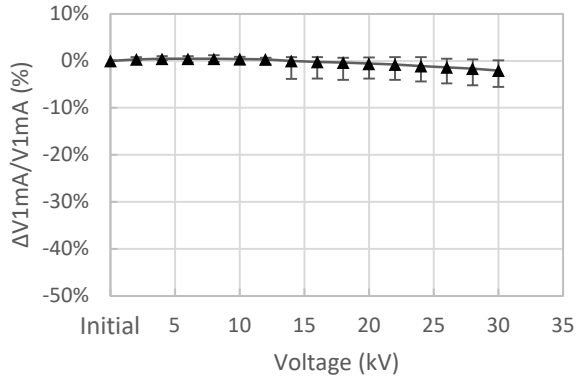
### ESD Discharge

▶ 150pF/330ohm, ±25kV, 1000times



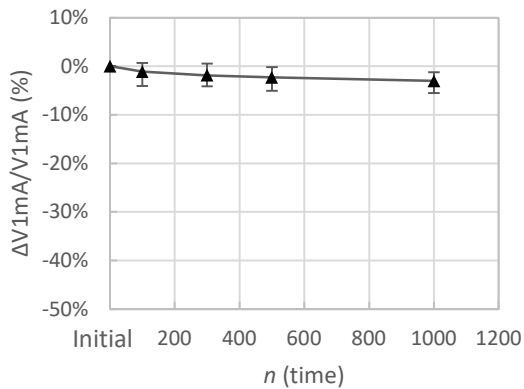
### ESD Discharge

▶ 150pF/330ohm, ~±30kV, 10times



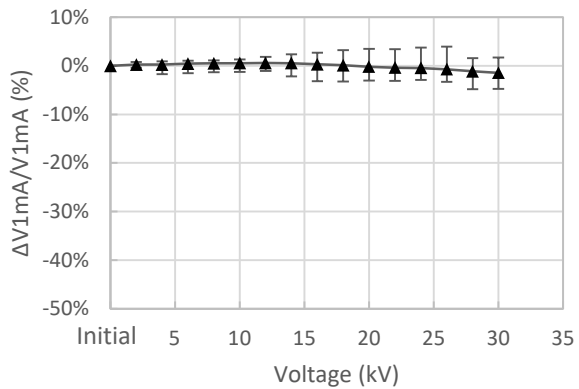
### ESD Discharge

▶ 330pF/2000ohm, ±25kV, 1000times



### ESD Discharge

▶ 330pF/2000ohm, ~±30kV, 10times



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