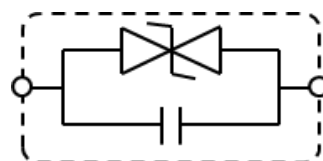


# Multilayer Chip Varistor : AVR-M2012C220KT6AB

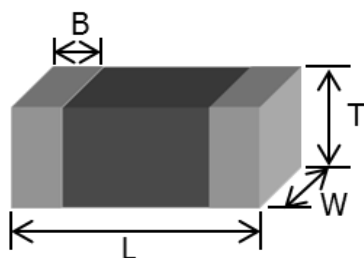
## Features

- Automotive (AEC-Q200) grade
- Size : EIA0805 (2.0x1.2mm)
- Excellent ESD clamp characteristics
- High ESD durability : IEC61000-4-2, Contact 25kV
- Operating temperature range : -40°C ~ 125°C

## Equivalent Circuit

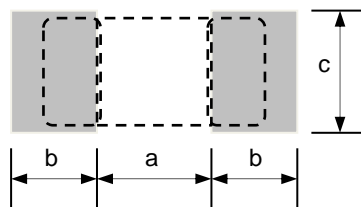


## Shapes & Dimensions



Unit / mm				
EIA	L	W	T	B
0805	2.0±0.2	1.25±0.2	1.0±0.2	0.2 Min.

## Recommended PCB Pattern



Unit / mm			
EIA	a	b	c
0805	0.9 to 1.2	0.7 to 0.9	0.9 to 1.2

## Product Identification

**AVR-M 2012 C 220 K T 6AB**  
**(1) (2) (3) (4) (5) (6) (7)**

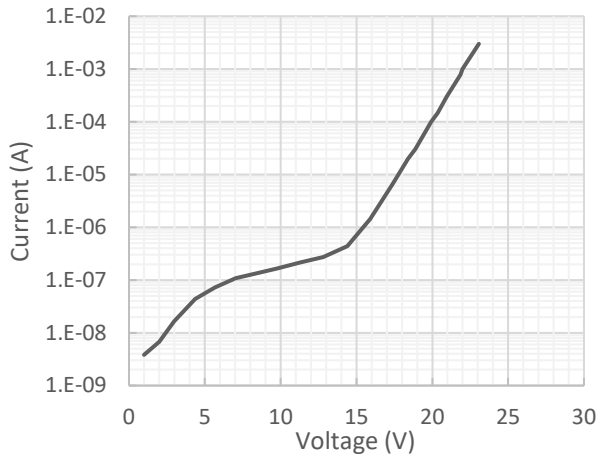
(1)	Series name / AVR-M
(2)	Dimension / 2012:2.0x1.2(mm)
(3)	Structure
(4)	Varistor voltage / 220:22x10 <sup>0</sup> (V)
(5)	Varistor voltage tolerance / K : ±10(%)
(6)	Packaging scheme / T : Taping
(7)	TDK internal code

## Electrical Characteristics

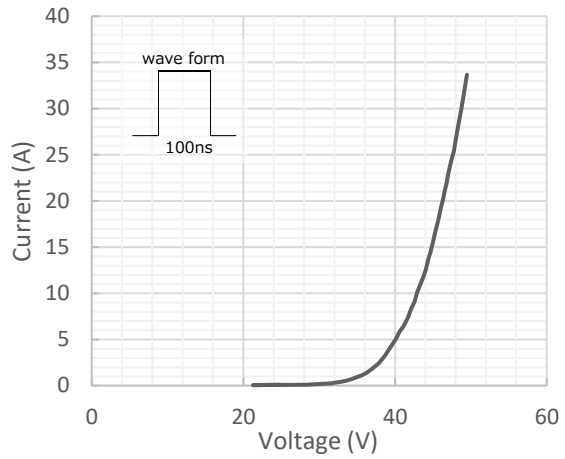
TDK Product Name	Varistor voltage (Breakdown voltage)	Rated voltage	Clamping voltage		Energy	Power Peak Pulse	Peak current	Capacitance
		DC	8/20μs		10/1000μs	10/1000μs	8/20μs	1kHz, 1Vrms
		Max.	Typ.		Max.	Typ.	Max.	Typ.
	V1mA (V)	Vdc	Vcl	Icl	E (Joule)	Ppp (W)	Ip (A)	C (pF)
AVR-M2012C220KT6AB	22(19.8~24.2)	16	38	5	0.3	321.2	100	800(560 to 1040)

# Multilayer Chip Varistor : AVR-M2012C220KT6AB

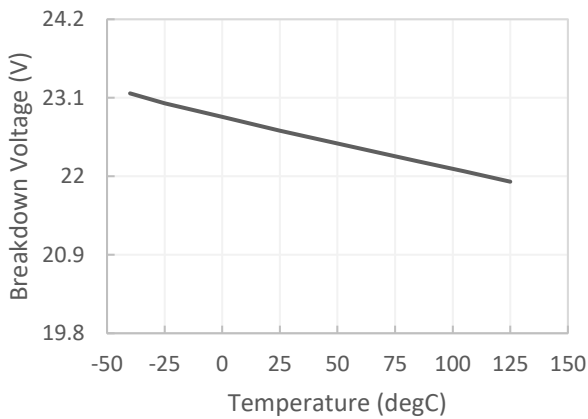
**Current - Voltage**



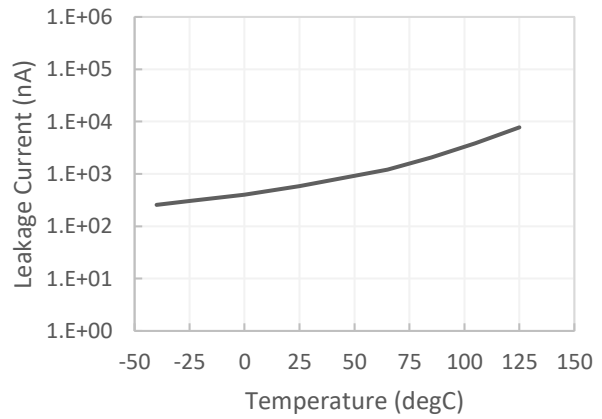
**Current - Voltage (TLP)**



**Breakdown Voltage - Temp.**



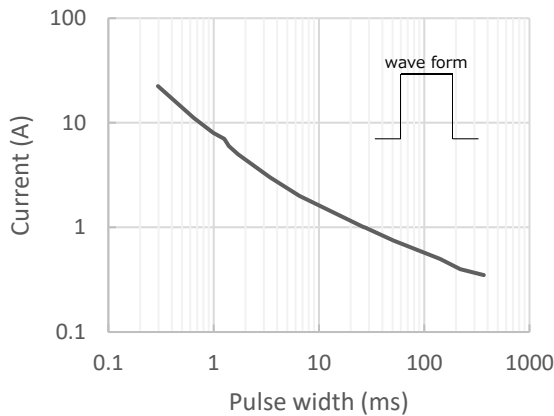
**Leakage current - Temp.**



※ Voltage : 16 V

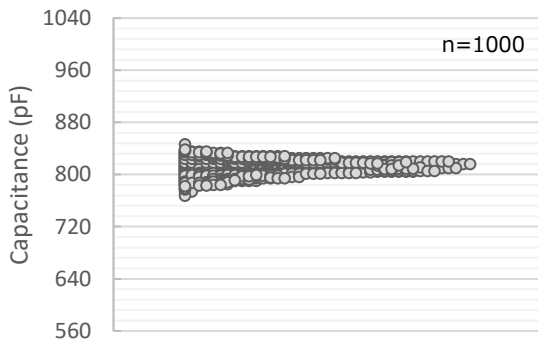
**Durability of Pulse Current**

( Typ. values )

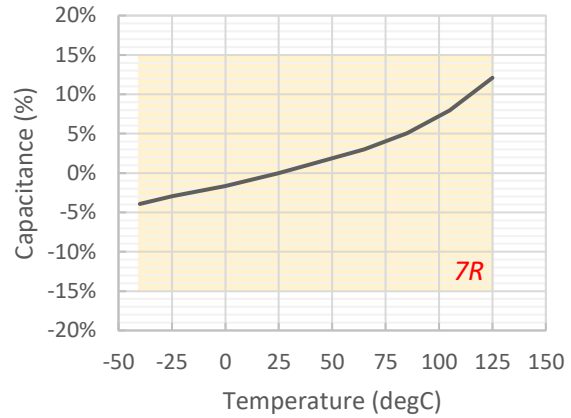


# Multilayer Chip Varistor : AVR-M2012C220KT6AB

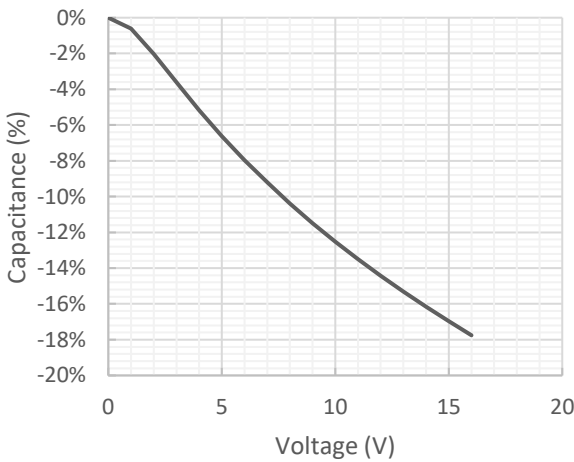
**Capacitance Dispersion** ※1kHz, 1Vrms



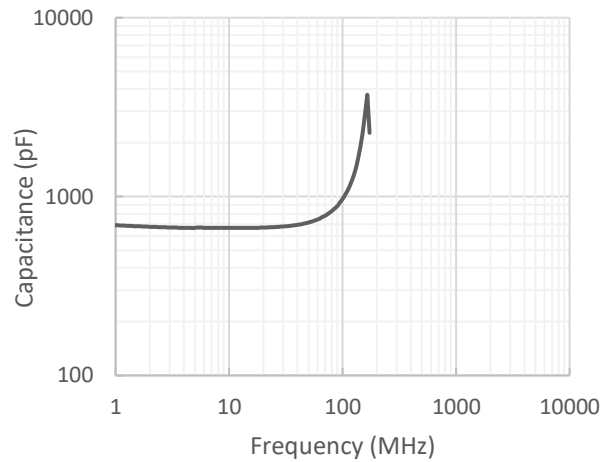
**Capacitance - Temp.** ※1kHz, 1Vrms



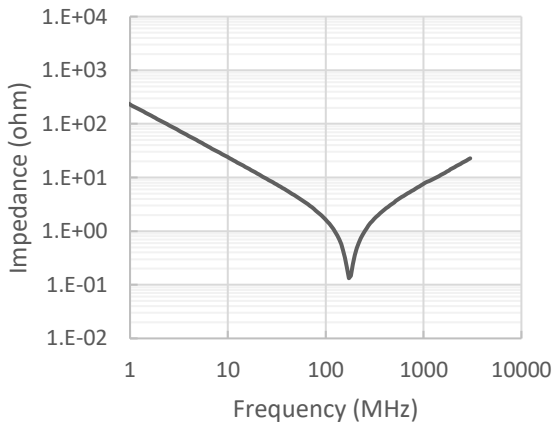
**DC bias** ※1MHz, 1Vrms



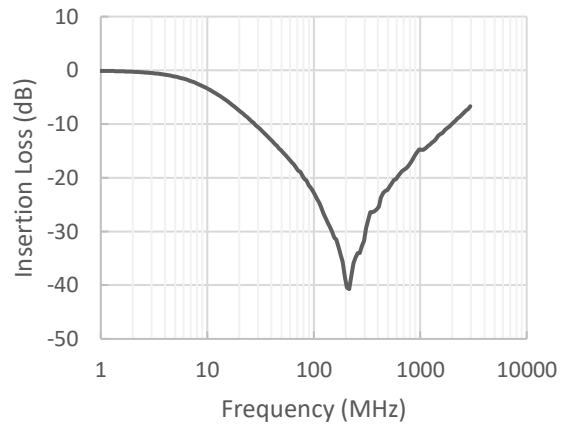
**Capacitance - Freq.**



**Impedance - Freq.**



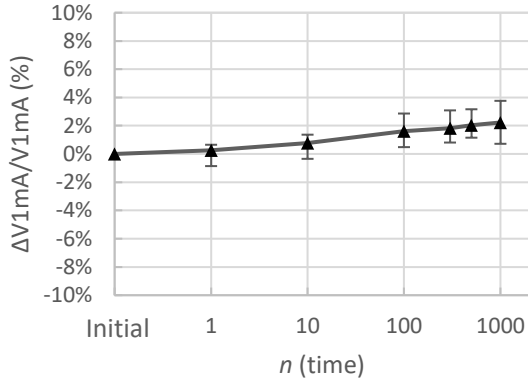
**Insertion Loss**



# Multilayer Chip Varistor : AVR-M2012C220KT6AB

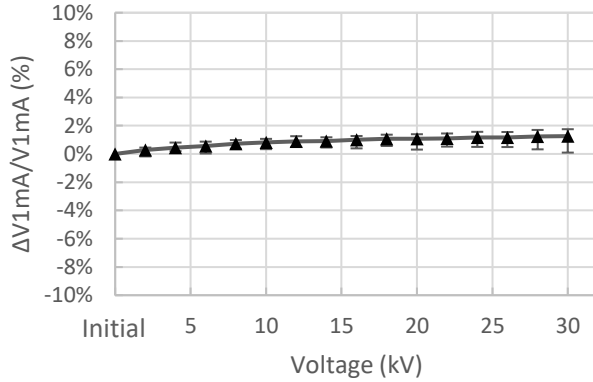
## ESD Discharge

▶ 150pF/330ohm, ±25kV, 1000times



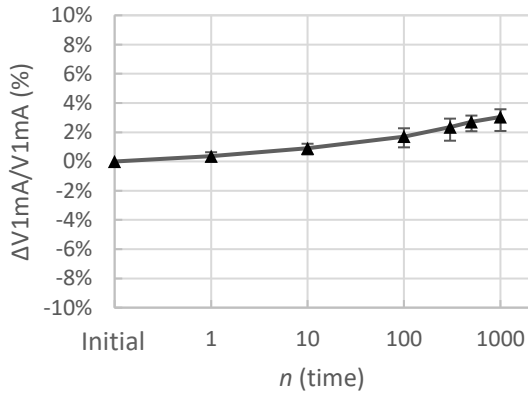
## ESD Discharge

▶ 150pF/330ohm, ~±30kV, 10times



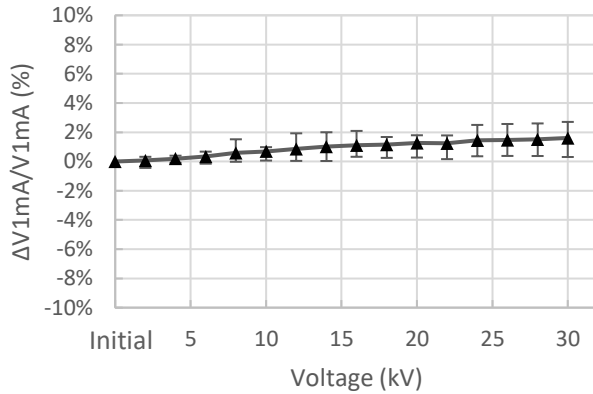
## ESD Discharge

▶ 330pF/2000ohm, ±25kV, 1000times



## ESD Discharge

▶ 330pF/2000ohm, ~±30kV, 10times



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