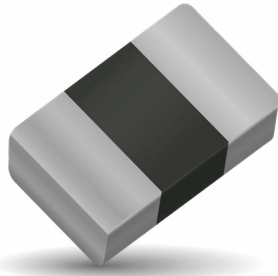


# Controlled Capacitance Multilayer Varistor



## GENERAL DESCRIPTION

The Controlled Capacitance TransGuard is an application specific bi-directional transient voltage suppressor developed for use in mixed signal environments. The Controlled Cap MLV has three purposes: 1) reduce emissions from a high speed ASIC, 2) prevent induced E fields from conducting into the IC, and 3) clamp transient voltages. By controlling capacitance of the MLV, the center frequency and 20db range for filtering purposes can be targeted. A Controlled Cap MLV can greatly improve overall system EMC performance and reduce system size.

## GENERAL CHARACTERISTICS

- Operating Temperature: -55°C to +125°C
- Working Voltage: 9 - 30Vdc
- Case Size: 0402, 0603

## FEATURES

- Single Chip Solution
- Targeted EMI/RFI Filtering
- 20dB Range for filtering purposes
- Improves system EMC performance
- Very fast response to ESD
- 25kV ESD

## APPLICATIONS

- EMI TVS Module Control
- High Speed ASICS
- Mixed Signal Environment
- Sensors and more

## HOW TO ORDER

<b>VCAC</b> Varistor Chip Automotive Capacitance	<b>0603</b> Chip Size 0402 0603	<b>22</b> Working Voltage 09 = 9V 17 = 17V 22 = 22V 26 = 26V 30 = 30V	<b>A</b> Energy Rating X = 0.05J A = 0.1J B = 0.2J C = 0.3J	<b>470</b> Capacitance 15 = 15pF 330 = 33pF 380 = 38pF 470 = 47pF 820 = 82pF 102 = 1000pF	<b>N</b> Tolerance N = ±30% M = ±20%	<b>R</b> Packaging R = 4k pcs D = 7" reel (1,000 pcs) R = 7" reel (4,000 pcs) T = 13" reel (10,000 pcs) W = 7" Reel (10,000 pcs 0402 only)	<b>P</b> Termination P = Ni Barrier/ 100% Sn (matte)
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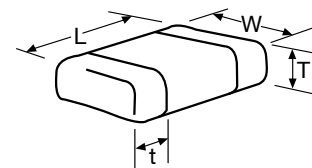
Part Number	VW (DC)	VW (AC)	VB	VC	IL	ET	IP	Cap	Cap Tolerance	Case Size
VCAC060309B102N	9.0	6.4	12.7±15%	22	25	0.2	120	1000	±30%	0603
VCAC060317X150N	17	12	27±20%	52	10	0.05	2	15	±30%	0603
VCAC060317X330M	17	12	27±20%	52	10	0.05	2	33	±20%	0603
VCAC060322A470N	22	17	32.5±25%	50	10	0.1	30	47	30%	0603
VCAC060326C820M	26	20	36.0±15%	67	10	0.3	30	82	20%	0603
VCAC040230X380N	30	21	41±10%	67	5	0.05	10	38	±30%	0402

VW(DC)	DC Working Voltage [V]	$I_L$	Maximum leakage current at the working voltage, 25°C [µA]
VW(AC)	AC Working Voltage [V]	$E_T$	Transient Energy Rating [J, 10x1000µS]
VB	Breakdown Voltage [V @ 1mA]	$I_p$	Peak Current Rating [A, 8x20µS]
VC	Clamping Voltage [V @ 1A]	Cap	Capacitance [pF] @ 1KHz specified and 0.5VRMS, 25°C

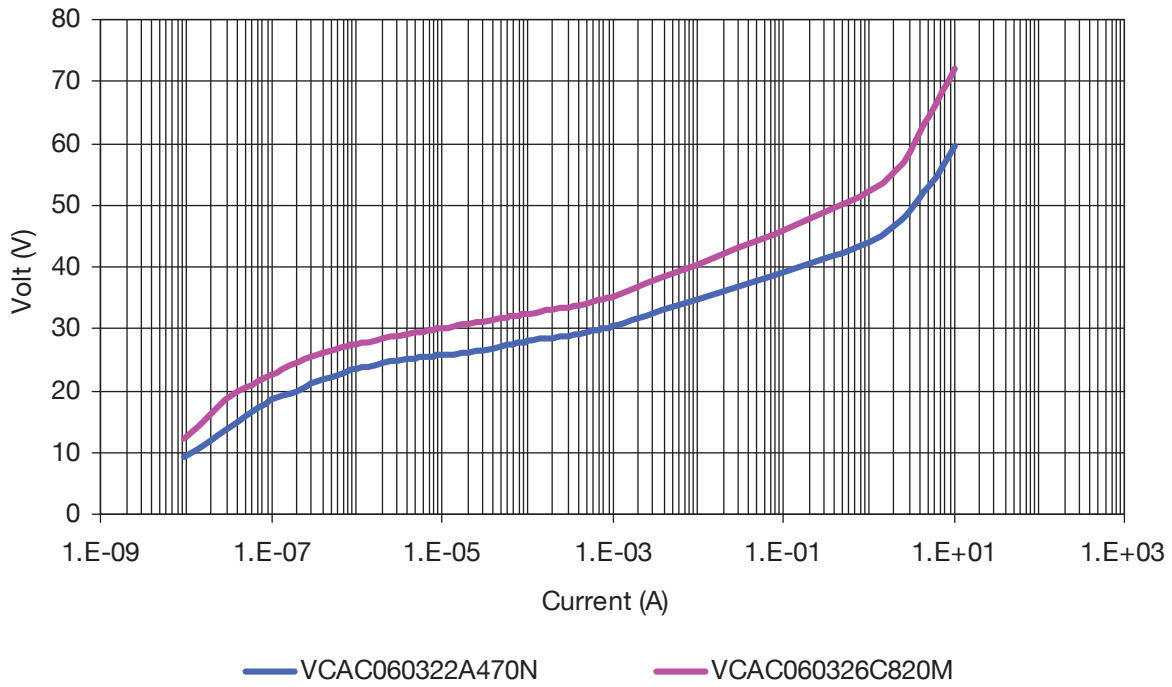
## 0603 DISCRETE DIMENSIONS

mm (inches)

Size (EIA)	Length (L)	Width (W)	Max Thickness (T)	Land Length (t)
0402	1.00±0.10 (0.040±0.004)	0.50±0.10 (0.020±0.004)	0.60 (0.024)	0.25±0.15 (0.010±0.006)
0603	1.60±0.15 (0.063±0.006)	0.80±0.15 (0.031±0.006)	0.90 (0.035)	0.35±0.15 (0.014±0.006)



### V-I Curve



### S21

