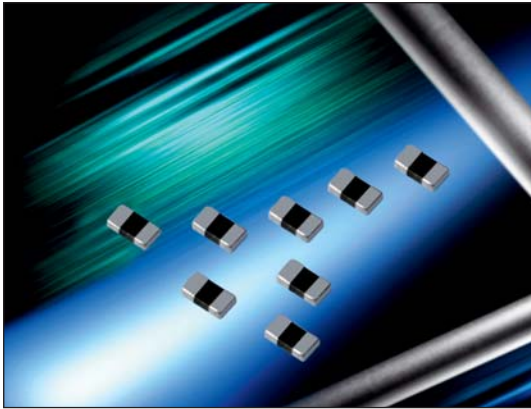


Controlled Capacitance Multilayer Varistor



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: 22, 26Vdc
- Case Size: 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

VCAC	0603	22	A	470	N	R	P
Varistor Chip Automotive Capacitance	Chip Size	Working Voltage	Energy Rating	Capacitance	Tolerance	Packaging	Termination
	0402 0603	09 = 9V 17 = 17V 22 = 22V 26 = 26V 30 = 30V	X = 0.05J A = 0.1J B = 0.2J C = 0.3J	330 = 33pF 380 = 38pF 470 = 47pF 820 = 82pF 102 = 1000pF	N = ±30% M = ±20%	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)	P = Ni Barrier/ 100% Sn (matte)

AVX Part Number	V _w (DC)	V _w (AC)	V _B	V _C	I _L	E _T	I _P	Cap	Cap Tolerance	Case Size
VCAC060309B102N	9.0	6.4	12.7±15%	22	25	0.2	120	1000	±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

V_w(DC) DC Working Voltage [V]

V_w(AC) AC Working Voltage [V]

V_B Breakdown Voltage [V @ 1mA_{DC}]

V_C Clamping Voltage [V @ 1A]

I_L Maximum leakage current at the working voltage [µA]

E_T Transient Energy Rating [J, 10x1000µS]

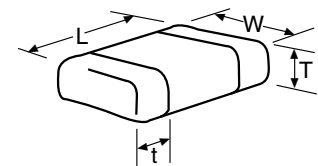
I_P Peak Current Rating [A, 8x20µS]

Cap Capacitance [pF] @ 1KHz specified and 0.5V_{RMS}

0603 Discrete Dimensions

mm (inches)

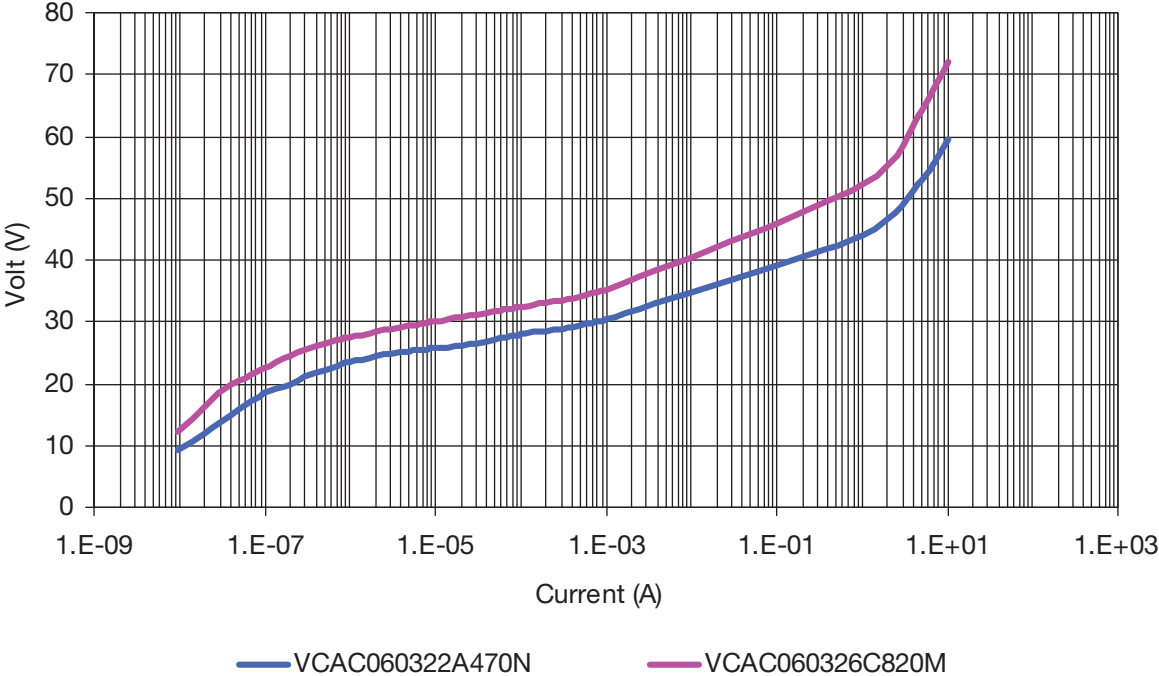
Size (EIA)	Length (L)	Width (W)	Max Thickness (T)	Land Length (t)
0402	1.00±0.10 (0.040±0.004)	0.50±0.10 (0.020±0.004)	0.60 (0.024)	0.25±0.15 (0.010±0.006)
0603	1.60±0.15 (0.063±0.006)	0.80±0.15 (0.031±0.006)	0.90 (0.035)	0.35±0.15 (0.014±0.006)



Controlled Capacitance Multilayer Varistor



V-I Curve



S21

