Controlled Capacitance TransGuard

**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**

VCAC 0603 22 A 470 N

Varistor Chip
Automotive Capacitance

**PART NUMBER INFORMATION**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>VW (DC)</th>
<th>VW (AC)</th>
<th>VB</th>
<th>VC</th>
<th>IL</th>
<th>ET</th>
<th>IP</th>
<th>Cap</th>
<th>Cap Tolerance</th>
<th>Case Size</th>
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<tbody>
<tr>
<td>VCAC060309B102N</td>
<td>9.0</td>
<td>6.4</td>
<td>12.7x15%</td>
<td>22</td>
<td>25</td>
<td>0.2</td>
<td>2</td>
<td>1000</td>
<td>±30%</td>
<td>0603</td>
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<tr>
<td>VCAC060317X150N</td>
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<td>12</td>
<td>27x120%</td>
<td>52</td>
<td>10</td>
<td>0.05</td>
<td>2</td>
<td>15</td>
<td>±30%</td>
<td>0603</td>
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<tr>
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<td>27x120%</td>
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<td>10</td>
<td>0.05</td>
<td>2</td>
<td>33</td>
<td>±20%</td>
<td>0603</td>
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<tr>
<td>VCAC060322A470N</td>
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<td>17</td>
<td>32x125%</td>
<td>50</td>
<td>10</td>
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<tr>
<td>VCAC060326C820M</td>
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<td>36x15%</td>
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<td>30</td>
<td>82</td>
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<td>0.05</td>
<td>10</td>
<td>38</td>
<td>±30%</td>
<td>0402</td>
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**0603 DISCRETE DIMENSIONS**

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

**TERMINATION**

P = Ni Barrier/100% Sn (matte)
Controlled Capacitance
Multilayer Varistor

V-I Curve

Current (A)

Volt (V)


VCAC060322A470N  VCAC060326C820M

S21

Insertion Loss (dB)

Frequency (MHz)

VCAC060322A470N  VCAC060326C820M

The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer by reference and should be reviewed in full before placing any order.

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