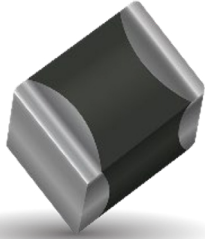


# VW80808 Qualified Failsafe Varistors with FLEXITERM®



## General Specifications



### GENERAL DESCRIPTION

With increased requirements from the automotive industry for additional component robustness, KYOCERA AVX recognized the need to product a MLV with enhanced mechanical strength. It was noted that many components may be subject to severe flexing and vibration when used under the hood automotive and other harsh environment applications.

To satisfy the requirement for enhanced mechanical strength, KYOCERA AVX had to find a way of ensuring electrical integrity is maintained whilst external forces are being applied to the component. It was found that the structure of the termination needed to be flexible and after much research and development, KYOCERA AVX launched FLEXITERM®, multilayer varistor. The industry standard for flexure is 2mm minimum. Using FLEXITERM®, KYOCERA AVX provides up to 5mm of flexure without internal cracking.

As well as for automotive applications, FLEXITERM® will product Design Engineers with a satisfactory solution when designing PCB's which may be subject to high levels of board flexure.

### PRODUCT ADVANTAGES

- Operating Temperature Range: -55°C to + 125/150 °C
- Qualified in 0805, 1206, and 1210 Case Sizes
- Flexible Termination Guaranteed to Withstand 5mm Bend Test
- Increased Temperature Cycling Performance ≥ 3000 Cycles
- Reduction in Circuit Board Flex Failures
- AEC-Q200 Qualified
- Approved to VW 80808 Specification
- Pass VW 80808 Failsafe Requirements

### APPLICATIONS

- Non-connected electrical system terminals
- Connected electrical system terminals
- Voltage supply terminals (30, 15 etc.), potentials derived from them or connected potentials

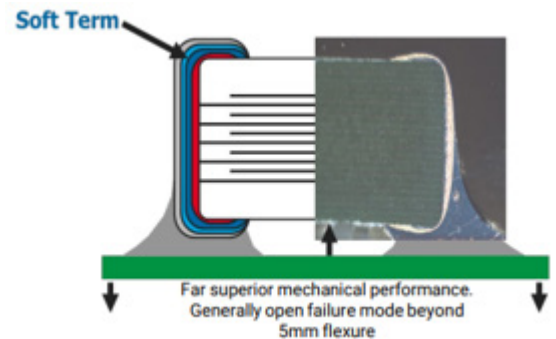
### HOW TO ORDER

VC	AS	0805	18	A	400	R	Z
<b>Varistor Chip</b> VC = Varistor Chip VT = Varistor Temp Rated	<b>Automotive Series</b> AS = 125°C A3 = 150°C	<b>Size</b> 0805 1206 1210	<b>Working Voltage</b> 18 = 18V <sub>dc</sub> 26 = 26V <sub>dc</sub>	<b>Energy Rating</b> C = 0.3J D = 0.4J E = 0.5J F = 0.7J H = 1.2J J = 1.5J	<b>Clamping Voltage</b> 380 = 38V 390 = 42V 400 = 42V 540 = 54V 560 = 60V 580 = 60V	<b>Packaging</b> D = 7" (1000)* R = 7" (4000)* T = 13" (1000)	<b>Terminations</b> Z = FLEXITERM®

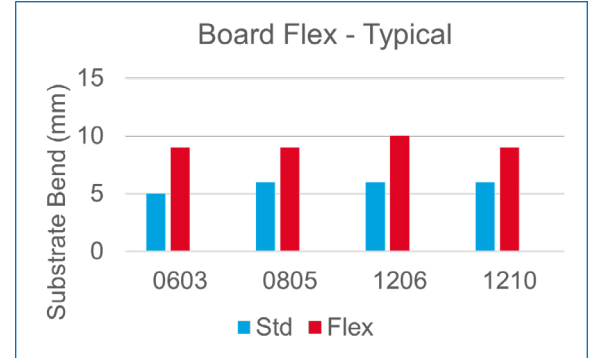
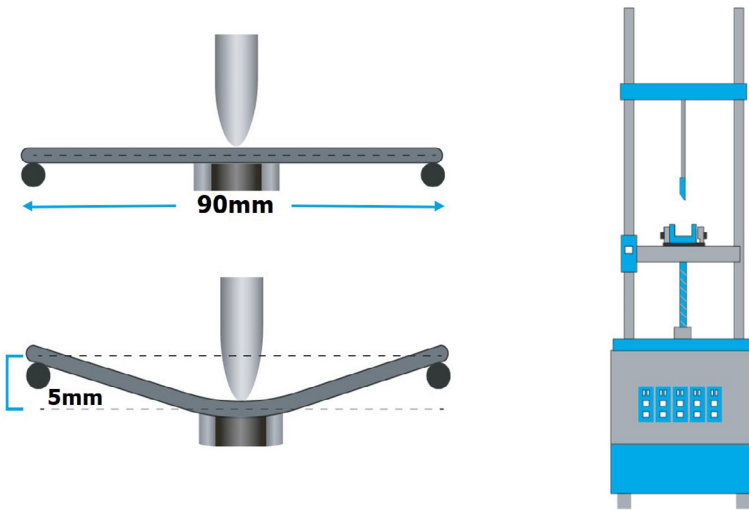


NOTE: Additional parts can be qualified to VW80808 upon request

+ 125 °C		+ 150 °C	
18V	26V	18V	26V
VCAS080518C400*Z	VCAS080526C580*Z	VTA3080518C400*Z	VTA3080526D540*Z
VCAS120618E380*Z	VCAS120626F540*Z	VTA3120618D380*Z	VTA3120626F540*Z
VCAS121018J390*Z	VCAS121026H560*Z	VTA3121018J390*Z	VTA3121026H560*Z



### BOARD BEND FLEX TEST



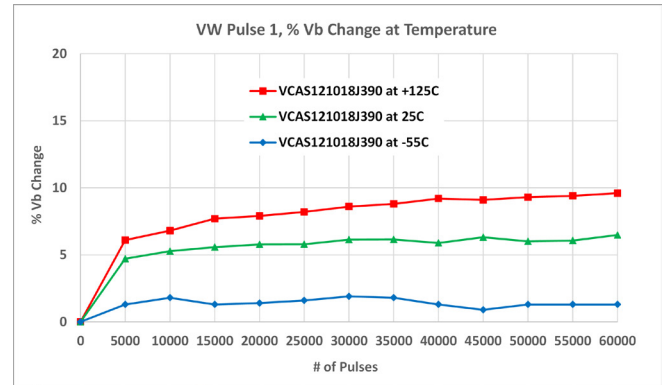
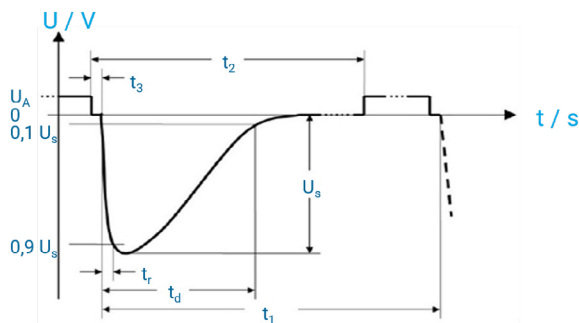
- Varistors with FLEXITERM® passed 5mm bend test required in VW 80808

### ELECTRICAL PULSE

#### POWER LINE TEST PROCEDURE:

- TL 81000: Pulse 1  
Non-connected terminals: 5,000 pulses Connected terminals: 60,000 pulses
- Temperature: -55°C, 25°C, & +125°C or +150°C

#### Pulse 1



Pulse Quantity	V <sub>s</sub> (V)	t <sub>d</sub> (μs)	t <sub>r</sub> (μs)	Ri (Ω)		t <sub>1</sub> (s)	t <sub>2</sub> (μs)
				12 V	42V / 48V		
60,000	-100	2,000	0.5 - 1	4	10	5	V <sub>off</sub>

- Varistors with FLEXITERM® pass VW 80808 failsafe requirements
- US Patent 2022/0246334 A1