



# UltraGuard® Series

## ESD Protection for Low Leakage Requirements



AVX Part Number	VW	VW	VB (Min)	VC	IVC	IL	ET	IP	Cap	Freq	Case	Elements
MGUG040030L2__	3.0	2.3	6.8	18	1	1	0.05	15	300	M	0405	2
MGUG050030L2__	3.0	2.3	17.2	32	1	1	0.1	30	425	M	0508	2
MGUG060030L4__	3.0	2.3	17.2	32	1	1	0.1	30	425	M	0612	4
VCUG040030L1__	3.0	2.3	6.8	18	1	1	0.05	20	175	M	0402	1
VCUG060030L1__	3.0	2.3	6.8	18	1	1	0.1	30	750	K	0603	1
VCUG080030H1__	3.0	2.3	6.8	18	1	1	0.3	120	3000	K	0805	1
VCUG080030L1__	3.0	2.3	6.8	18	1	1	0.1	40	1100	K	0805	1
VCUG120030H1__	3.0	2.3	6.8	18	1	1	0.4	150	3000	K	1206	1
VCUG120030L1__	3.0	2.3	6.8	18	1	1	0.1	40	1200	K	1206	1
MGUG040050L2__	5.0	3.5	20	50	1	1	0.02	15	40	M	0405	2
MGUG050050L2__	5.0	3.5	17.2	32	1	1	0.1	30	425	M	0508	2
MGUG060050L4__	5.0	3.5	17.2	32	1	1	0.1	30	425	M	0612	4
VCUG040050L1__	5.0	3.5	10.8	22	1	1	0.05	20	175	M	0402	1
VCUG060050L1__	5.0	3.5	10.8	22	1	1	0.1	30	550	K	0603	1
VCUG080050L1__	5.0	3.5	10.8	22	1	1	0.1	40	750	K	0805	1
VCUG120050H1__	5.0	3.5	16.3	32	1	1	0.4	150	1050	K	1206	1
VCUG120050L1__	5.0	3.5	16.3	32	1	1	0.1	40	600	K	1206	1
MGUG040075L2__	7.5	5.3	20	50	1	1	0.02	15	40	M	0405	2
MGUG050075L2__	7.5	5.3	17.2	32	1	1	0.1	30	425	M	0508	2
MGUG060075L4__	7.5	5.3	17.2	32	1	1	0.1	30	425	M	0612	4
VCUG040075L1__	7.5	5.3	16.3	32	1	1	0.05	20	85	M	0402	1
VCUG060075L1__	7.5	5.3	16.3	32	1	1	0.1	30	350	K	0603	1
VCUG080075H1__	7.5	5.3	16.3	32	1	1	0.3	120	900	K	0805	1
VCUG080075L1__	7.5	5.3	16.3	32	1	1	0.1	40	325	K	0805	1
VCUG120075H1__	7.5	5.3	16.3	32	1	1	0.4	150	1050	K	1206	1
VCUG120075L1__	7.5	5.3	16.3	32	1	1	0.1	40	600	K	1206	1
MGUG040100L2__	10	7.1	20	50	1	1	0.02	15	40	M	0405	2
MGUG050100L2__	10	7.1	23	42	1	1	0.1	30	225	M	0508	2
MGUG060100L4__	10	7.1	23	42	1	1	0.1	15	120	M	0612	4
VCUG040100L1__	10	7.1	23	42	1	1	0.05	20	65	M	0402	1
VCUG060100L1__	10	7.1	23	42	1	1	0.1	30	150	K	0603	1
VCUG080100H1__	10	7.1	23	42	1	1	0.3	100	550	K	0805	1
VCUG080100L1__	10	7.1	23	42	1	1	0.1	30	225	K	0805	1
VCUG120100H1__	10	7.1	23	42	1	1	0.4	150	900	K	1206	1
VCUG120100L1__	10	7.1	23	42	1	1	0.1	30	350	K	1206	1
MGUG040150L2__	15	11	20	50	1	1	0.02	15	50	M	0405	2
MGUG050150L2__	15	11	20	50	1	1	0.1	20	50	M	0508	2
MGUG060150L4__	15	11	20	50	1	1	0.05	20	75	M	0612	4
VCUG040150L1__	15	11	25	50	1	1	0.02	15	40	M	0402	1
VCUG060150L1__	15	11	31.1	60	1	1	0.1	30	155	K	0603	1
VCUG080150H1__	15	11	31.1	60	1	1	0.3	100	250	K	0805	1
VCUG080150L1__	15	11	31.1	60	1	1	0.1	30	120	K	0805	1
VCUG120150H1__	15	11	31.1	60	1	1	0.4	120	500	K	1206	1
VCUG040180L1__	18	14	28	55	1	1	0.05	10	30	M	0402	1
VCUG080320L1__	32	22	42.3	77	1	1	0.1	40	50	M	0805	1

Termination Finish Code  
 Packaging Code

- V<sub>CIR</sub> (DC) DC Circuit Voltage (V)
- V<sub>CIR</sub> (AC) AC Circuit Voltage (V)
- Cap Req Standard or Low
- I<sub>L</sub> Maximum Leakage Current at the Circuit Voltage (µA)
- Cap Typical Capacitance (pF) @ frequency specified and 0.5 Vrms
- Freq Frequency at which capacitance is measured (K = 1kHz, M = 1MHz)



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# UltraGuard® Series

## ESD Protection for Low Leakage Requirements



### PHYSICAL DIMENSIONS

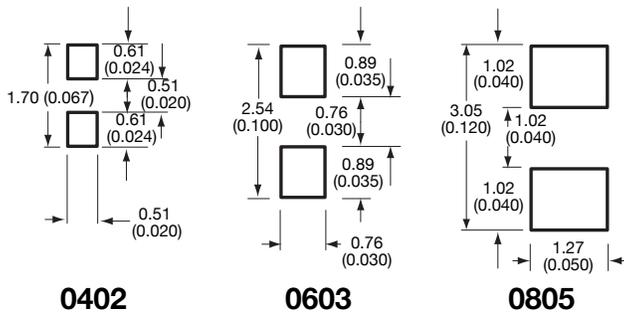
mm (inches)

	0402 Discrete	0603 Discrete	0805 Discrete
<b>Length</b>	1.00 ±0.10 (0.040 ±0.004)	1.60 ±0.15 (0.063 ±0.006)	2.01 ±0.20 (0.079 ±0.008)
<b>Width</b>	0.50 ±0.10 (0.020 ±0.004)	0.80 ±0.15 (0.032 ±0.006)	1.25 ±0.20 (0.049 ±0.008)
<b>Thickness</b>	0.60 Max. (0.024 Max.)	0.90 Max. (0.035 Max.)	1.02 Max. (0.040 Max.)
<b>Term Band Width</b>	0.25 ±0.15 (0.010 ±0.006)	0.35 ±0.15 (0.014 ±0.006)	0.71 Max. (0.028 Max.)

	0405 Array	0508 Array	0612 Array
<b>Length</b>	1.00 ±0.15 (0.039 ±0.006)	1.25 ±0.20 (0.049 ±0.008)	1.60 ±0.20 (0.063 ±0.008)
<b>Width</b>	1.37 ±0.15 (0.054 ±0.006)	2.01 ±0.20 (0.079 ±0.008)	3.20 ±0.20 (0.126 ±0.008)
<b>Thickness</b>	0.66 Max. (0.026 Max.)	1.02 Max. (0.040 Max.)	1.22 Max. (0.048 Max.)
<b>Term Band Width</b>	0.36 ±0.10 (0.014 ±0.004)	0.41 ±0.10 (0.016 ±0.004)	0.41 ±0.10 (0.016 ±0.004)

### SOLDER PAD DIMENSIONS

mm (inches)



#### 0612 4-Element Array

A	B	C	D	E
0.89 (0.035)	1.65 (0.065)	2.54 (0.100)	0.46 (0.018)	0.76 (0.030)

#### 2-Element Arrays

	A	B	C	D	E
<b>0405</b>	0.46 (0.018)	0.74 (0.029)	1.20 (0.047)	0.38 (0.015)	0.64 (0.025)
<b>0508</b>	0.89 (0.035)	1.27 (0.050)	2.16 (0.085)	0.46 (0.018)	0.76 (0.030)

