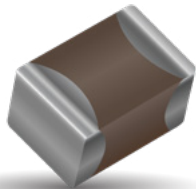


FLEXISAFE MLCC, KAS series

General Specifications and Capacitance Range

For Ultra Safety Critical Applications





KYOCERA AVX have developed a range of components specifically for safety critical applications.

Utilizing the award-winning FLEXITERM™ layer in conjunction with the cascade design previously used for high voltage MLCCs, a range of ceramic capacitors is now available for customers who require components designed with an industry leading set of safety features.

The FLEXITERM™ layer protects the component from any damage to the ceramic resulting from mechanical stress during PCB assembly or use with end customers. Board flexure type mechanical damage accounts for the majority of MLCC failures. The addition of the cascade structure protects the component from low insulation resistance failure resulting from other common causes for failure; thermal stress damage, repetitive strike ESD damage and placement damage. With the inclusion of the cascade design structure to complement the FLEXITERM™ layer, the FLEXISAFE range of capacitors has unbeatable safety features. Flexisafe capacitors are qualified in accordance with AEC-Q200 standard. AEC-Q200 detailed qualification data is available on request.

HOW TO ORDER

KAS

Series

15

Size

15=0603
21=0805
31=1206
32=1210
43=1812
55=2220

A

Thickness

See Cap Chart

R7

Dielectric

X7R= R7

1H

Voltage

1C=16V 2E=250V
1E= 25V 2H=500V
1H=50V 2J=630V
2A=100V

103

Capacitance Code Code (in pF)

2 Significant Digits
+Number of zeros
eg. 10µF = 106
10nF = 103
47pF = 470

K

Capacitance Tolerance

J* = +/- 5%
K = +/- 10%
M = +/- 20%

T

Packaging

See Table Below



PACKAGING CODES

Code	EIA (inch)	IEC(mm)	7" Paper	7" Embossed	13" Paper	13" Embossed
15	0603	1608	T		M	
21	0805	2012	T	U	M	L
31	1206	3216	T	U	M	L
32	1210	3225		U		L
43	1812	3225		V		S
55	2220	3225		V		S

CAPACITANCE RANGE FLEXISAFE X7R

SIZE		0603					0805				1206							1210						1812			2220					
Soldering		Reflow/Wave					Reflow/Wave				Reflow/Wave							Reflow Only						Reflow Only			Reflow Only					
(L) Length	mm	1.6 ± 0.15					2.01 ± 0.2				3.2 ± 0.2							3.2 ± 0.2						4.50 ± 0.30			5.70 ± 0.50					
	(in.)	(0.063 ± 0.006)					(0.079 ± 0.008)				(0.126 ± 0.008)							(0.126 ± 0.008)						(0.177 ± 0.012)			(0.224 ± 0.020)					
(W) Width	mm	0.81 ± 0.15					1.25 ± 0.2				1.6 ± 0.2							2.5 ± 0.2						3.20 ± 0.20			5.00 ± 0.40					
	(in.)	(0.032 ± 0.006)					(0.049 ± 0.008)				(0.063 ± 0.008)							(0.098 ± 0.008)						(0.126 ± 0.008)			(0.197 ± 0.016)					
(t) Terminal	mm	0.35 ± 0.15					0.5 ± 0.25				0.5 ± 0.25							0.5 ± 0.25						0.61 ± 0.36			0.64 ± 0.39					
	(in.)	(0.014 ± 0.006)					(0.02 ± 0.01)				(0.02 ± 0.01)							(0.02 ± 0.01)						(0.024 ± 0.014)			(0.025 ± 0.015)					
WVDC		16V	25V	50V	100V	250V	16V	25V	50V	100V	16V	25V	50V	250V	500V	630V	1000V	16V	25V	50V	500V	630V	1000V	500V	630V	1000V	500V	630V	1000V			
102	1	A	A	A	A	A	B	B	B	B	B	B	B	G	A	A	A					H	H	H	E	E	E	C	C	C		
152	1.5	A	A	A	A	A	B	B	B	B	B	B	B	G	A	A	A					H	H	H	F	F	F	C	C	C		
182	1.8	A	A	A	A	A	B	B	B	B	B	B	B	G	A	A						H	H	H	F	F	F	C	C	C		
222	2.2	A	A	A	A	A	B	B	B	B	B	B	B	G	A	A						H	J	J	F	F	F	C	C	C		
332	3.3	A	A	A	A		B	B	B	B	B	B	B	G									H	J	J	F	F	F	C	C	C	
472	4.7	A	A	A	A		B	B	B	B	B	B	B	G									H	L		F	F	F	C	C	C	
562	5.6	A	A	A	A		B	B	B	B	B	B	B	G									L	L		F	J		C	C	C	
682	6.8	A	A	A	A		B	B	B	B	B	B	B	G												F	J		C	C	C	
103	10	A	A	A	A	A	B	B	B	B	B	B	B	G													F	J		C	C	C
123	12	A	A	A			B	B	B	B	B	B	B	G																C	C	C
153	15	A	A	A			B	B	B	B	B	B	B	G																C	C	C
183	18	A	A	A			B	B	B	B	B	B	B	G																C	C	C
223	22	A	A	A			K	K	K	K	B	B	B	B	G															C	C	C
273	27						K	K	K	K	B	B	B	B	G																	
333	33						K	K	K	K	B	B	B	B	G																	
473	47						K	K	K	K	N	N	N	N	G																	
563	56						K	K	K	K	N	N	N	N																		
683	68						K	K	K	K	N	N	N	N																		
823	82						K	K	K	K	N	N	N	N																		
104	100						K	K	K	K	N	N	N	N																		
124	120										N	N	N																			
154	150										N	N	N					G	G	G												
224	220																	G	G	G												
334	330																	G	G	G												
474	470																	G	G	G												
WVDC		16V	25V	50V	100V	250V	16V	25V	50V	100V	16V	25V	50V	250V	500V	630V	1000V	16V	25V	50V	500V	630V	1000V	500V	630V	1000V	500V	630V	1000V			
SIZE		0603					0805				1206							1210						1812			2220					

Case Size	0603(KAS15)	0805(KAS21)			1206(KAS31)				1210(KAS32)				1812(KAS43)			2220(KAS55)	
Thickness Letter	A	B	K		B	N	G	A	G	H	J	L	E	F	J	C	
Max Thickness (mm)	0.90	0.94	1.40		0.94	1.27	1.78	1.8	1.78	1.80	2.21	2.80	1.80	2.21	2.80	2.80	
Carrier Tape	PAPER	PAPER	EMB		PAPER	EMB	EMB	EMB	EMB	EMB	EMB	EMB	EMB	EMB	EMB	EMB	
Packaging Code 7"reel	T	T	U		T	U	U	U	U	U	U	U	V	V	V	V	
Packaging Code 13"reel	M	M	L		M	L	L	L	L	L	L	L	S	S	S	S	
		PAPER									EMBOSED(EMB)						

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