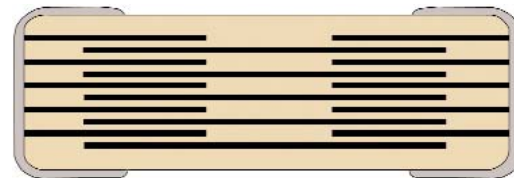


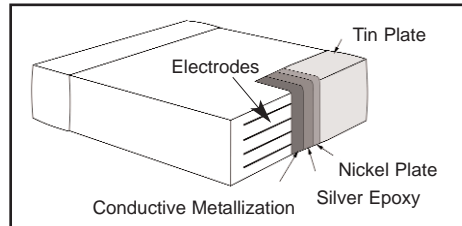
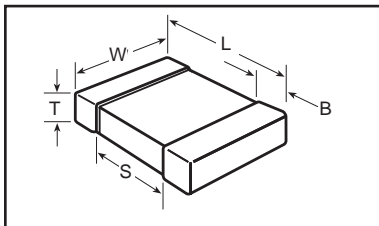
Fail-Safe Floating Electrode MLCC with Flexible Termination *FF-CAP* / X7R Dielectric



Floating (Cascading) Electrode Internal Design



Outline Drawing



Product Description

The FF-CAP incorporates two existing KEMET technologies; Floating Electrode (cascading electrode design) and Flexible Termination. The floating electrode component of these capacitors yields improved voltage and ESD performance over standard designs, and also mitigates the risk of low IR or short circuit failures associated with mechanical flex cracks. The flexible termination component incorporates a measure of flexibility to the capacitor, shifting flex stress away from the ceramic body and into the termination area.

The combination of these technologies ensures an increased measure of protection from board flex, offering up to 5mm of flex-bend capability. This provides for an enhanced level of mechanical flex crack protection for low to mid capacitance part types.

Dimensions – Millimeters (Inches)

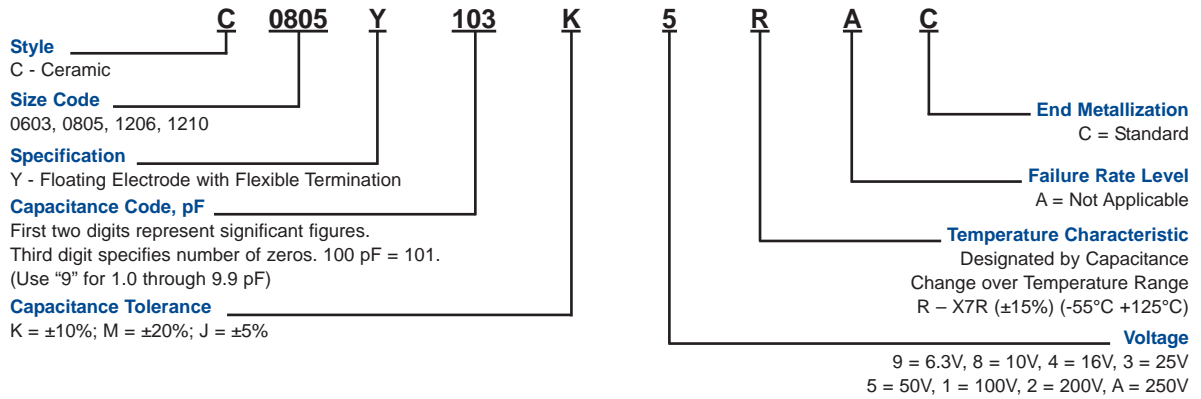
EIA Size Code	Metric Size Code	L Length	W Width	B Bandwidth	S Separation
0603	1608	1.8 (.071) ± 0.15 (.006)	0.8 (.032) ± 0.15 (.006)	0.35 (.014) ± 0.15 (.006)	0.70 (.028)
0805	2012	2.2 (.087) ± 0.20 (.008)	1.25 (.049) ± 0.20 (.008)	0.05 (.02) ± 0.25 (.010)	0.75 (.030)
1206	3216	3.4 (.134) ± 0.20 (.008)	1.6 (.063) ± 0.20 (.008)	0.50 (.02) ± .25 (.010)	N/A
1210	3225	3.4 (.134) ± 0.20 (.008)	2.5 (.098) ± 0.20 (.008)	0.50 (.02) ± .25 (.010)	N/A

Refer to standard thickness dimensions and table located in the F3102 SMT catalog on pages 73, 74, and 77.

X7R Capacitance Range

CAP (pF)	CAP (nF)	CAP CODE	0603								0805								1206								1210														
			6.3	10	16	25	50	100	200		6.3	10	16	25	50	100	200	250		6.3	10	16	25	50	100	200	250		6.3	10	16	25	50	100	200	250					
150	0.15	151																																							
180	0.18	181																																							
220	0.22	221																																							
270	0.27	271																																							
330	0.33	331																																							
390	0.39	391																																							
470	0.47	471																																							
560	0.56	561																																							
680	0.68	681																																							
820	0.82	821																																							
1000	1.00	102																																							
1200	1.2	122																																							
1500	1.5	152																																							
1800	1.8	182																																							
2200	2.2	222																																							
2700	2.7	272																																							
3300	3.3	332																																							
3900	3.9	392																																							
4700	4.7	472																																							
5600	5.6	562																																							
6800	6.8	682																																							
8200	8.2	822																																							
10000	10	103																																							
12000	12	123																																							
15000	15	153																																							
18000	18	183																																							
22000	22	223																																							
27000	27	273																																							
33000	33	333																																							
39000	39	393																																							
47000	47	473																																							
56000	56	563																																							
68000	68	683																																							
82000	82	823																																							
100000	100	104																																							
120000	120	124																																							
150000	150	154																																							
180000	180	184																																							
220000	220	224																																							

Ordering Information



Electrical Parameters

As detailed in the KEMET Surface Mount Catalog F3102 for X7R, with following specific requirements based on room temperature (25°C) parameters:

- Operating Range: -55°C to +125°C, with no-bias capacitance shift limited to ± 15% over that range.
- Insulation Resistance (IR) measured after 2 minutes at rated voltage @ 25°C: Limit is 1,000 megohm microfarads or 100 gigohm, whichever is less.
- Capacitance and Dissipation Factor (DF) measured at 1kHz and 1 Vrms.
DF Limits are:

50 - 250 Volts	2.5%
16 - 25 Volts	3.5%
6.3 - 10 Volts	5.0%

Soldering Process

These components are suitable for reflow and wave soldering. All parts incorporate the standard KEMET barrier layer of pure nickel, with an overplate of pure tin to provide excellent solderability as well as resistance to leaching.

Marking

These chips will be supplied unmarked. If required, they can be laser-marked as an extra option. Details on the marking format are included in KEMET Surface Mount catalog F3102.

Qualification/Certification

AEC-Q200 Rev. C - Automotive
RoHS 6 - 100% tin termination

In general, the information in the KEMET Surface Mount catalog F3102 applies to these capacitors. The information in this bulletin supplements that in the catalog.