

Surface Mount Chip Capacitors

Application Notes

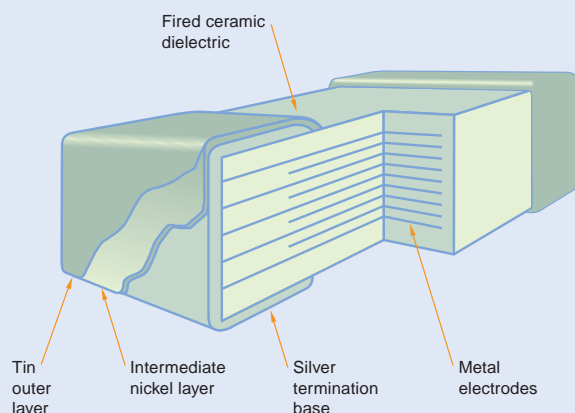
Leaching

Leaching is the term for the dissolution of silver into the solder during the soldering operation. This weakens the terminations leading to an increase in equivalent series resistance (ESR), $\tan \delta$ and open circuit faults as well as the possibility of the chip becoming detached from the substrate.

To prevent leaching, the following should be observed:-

1. Prework should be kept to a minimum.
2. An adequate preheat period is essential.
3. Solder temperature should be held at the lower end of the normal range.
4. Dwell time should be kept to a minimum.
5. Use ceramic chip capacitors with an "anti-leaching layer". We incorporate a "barrier layer" of nickel in the end terminations to prevent leaching.

Multilayer Ceramic Chip - with Nickel Barrier Termination



Ordering information for Surface Mount Chip Capacitors

Example:0805 J 100 0101 J C T □ □ □

Type No/Size ref0805

Termination

- J = Nickel Barrier with Silver Termination base (100% tin finish)
- Y = Nickel Barrier with Polymeric Silver Termination base (100% tin finish)
- A = Nickel Barrier with Silver Termination base (tin/lead finish with min 10% lead)
- F = Silver Palladium

Voltage d.c.

016 = 16 Volts	1K0 = 1kV
025 = 25 Volts	2K0 = 2kV
050 = 50 Volts	3K0 = 3kV
063 = 63 Volts	4K0 = 4kV
100 = 100 Volts	5K0 = 5kV
200 = 200 Volts	
250 = 250 Volts	
500 = 500 Volts	
630 = 630 Volts	

Capacitance (pF)

- First digit - 0
- Second digit - First significant figure of capacitance value
- Third digit - Second significant figure of capacitance value
- Fourth digit - Number of zeros following.
eg. 0102 = 1000pF.

For values that do not fit the model above, insert the capacitance code letter for the decimal point
e.g. 8P20 = 8.2pF
13N6 = 13.6nF

Suffix Code

The remaining alpha/numeric digits are used to denote variations from standard products to customer special requirements (electrical, packing, mechanical, environmental, coding etc.)

Taped and Reeled Chips (see applicable individual catalogue page for quantities)

- T = 178mm (7" reel)
- R = 330mm (13" reel)
- B = Bulk pack - tubs
- C = Bulk pack - cassette

Dielectric code

Dielectric		Classes		
Class	Code	CECC	EIA	MIL
Ultra stable	C	1B/CG	COG(NP0)	CG/(BP)
Stable	X	2R1	X7R	
Ultra High Frequency	Q			
To special order				
Stable	B	2X1		BX
Stable	R	2C1		BZ

Capacitance Tolerance Code

Ultra stable class		Stable class	
Cr < 10pF	± 0.10 pF	B ± 5%	J
	± 0.25 pF	C ± 10%	K
	± 0.5 pF	D ± 20%	M
Cr ≥ 10pF	± 1%	F	
	± 2%	G	
	± 5%	J	
	± 10%	K	