



SPECIFICATION

- · Supplier : Samsung electro-mechanics
- Product : Multi-layer Ceramic Capacitor
- · Samsung P/N :
- CL10A474KQ8NNNC

(Reference sheet)

- · Description :
- CAP, 470nF, 6.3V, ±10%, X5R, 0603

A. Samsung Part Number

		<u>CL</u> ①	<u>10</u> ②	<u>▲</u> ③	<u>474</u> ④	<u>K</u> 5	<mark>Q</mark> 6	<u>8</u> 7	<u>N</u> 8	<u>N</u> 9	<u>N</u> 10	<u>C</u> 11		
1	Series	Samsung Multi-layer Ceramic Capacitor												
2	Size	0603 (inch c	ode)		L:	1.60	± 0.10	mm			W:	0.80 ± 0.10	mm	
3	Dielectric	X5R				(8)	Inner	elect	rode			Ni		
4	Capacitance	470 nF				-	Term	inatio	on			Cu		
5	Capacitance	±10 %					Platir	ıg				Sn 100%	(Pb Free)	
	tolerance					9	Prod	uct				Normal		
6	Rated Voltage	6.3 V			10 Special					Reserved for future use				
1	Thickness	0.80 ± 0.10 mm				1	Packa	aging	I			Cardboard ⁻	Type, 7" reel	

B. Structure & Dimension



Samsung P/N	Dimension(mm)								
Samsung F/N	L	W	Т	BW					
CL10A474KQ8NNNC	1.60 ± 0.10	0.80 ± 0.10	0.80 ± 0.10	0.30 ± 0.20					

C. Samsung Reliablility Test and Judgement Condition

Tan δ (DF)0.05 max.treated at 150 °C +0/-10 °C for 1 hour and maintai ambient air for 24±2 hours.Insulation10,000Mohm or 100Mohm×μFRated Voltage60~120 sec.ResistanceWhichever is smallerMicroscope (×10)WithstandingAppearanceNo abnormal exterior appearanceMicroscope (×10)WithstandingNo dielectric breakdown or250% of the rated voltageVoltagemechanical breakdown250% of the rated voltageTemperatureX5RCharacteristicsCharacteristics(From-55°C to 85°C, Capacitance change should be within ±15%)Adhesive Strength of Terminationterminal electrodeBending StrengthCapacitance change : within ±12.5%Bending StrengthGapacitance change : within ±12.5%SolderabilityMore than 75% of terminal surface is to be soldered newlySnAg3.0Cu0.5 solder 245±5°C, 3±0.3sec. (preheating : 80~120°C for 10~30sec.)Resistance to Soldering HeatCapacitance change : within ±7.5%Solder pot : 270±5°C, 10±1sec.Vibration TestCapacitance change : within ±5% Tan δ, IR : initial spec.Amplitude : 1.5mm From 10Hz to 55Hz (return : 1min.) 2hours × 3 direction (x, y, z)Moisture ResistanceCapacitance change : within ±12.5%With rated voltage 40±2°C, 90~95%RH, 500+12/-0hrsIR : S00Mohm or 25Mohm × μF Whichever is smallerWith 200% of the rated voltage					
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High Temperature Capacitance change : within ±12.5% With ^{200%} of the rated voltage					
Resistance Tan δ : 0.075 max Max. operating temperature					
IR : 1,000Mohm or 50Mohm × <i>μ</i> F 1000+48/-0hrs					
Whichever is smaller					
Temperature Capacitance change : within ±7.5% 1 cycle condition					
Cycling Tan δ , IR : initial spec. Min. operating temperature $\rightarrow 25^{\circ}$ C					
\rightarrow Max. operating temperature \rightarrow 25°C					
5 cycle test					

X The reliability test condition can be replaced by the corresponding accelerated test condition.

D. Recommended Soldering method :

Reflow (Reflow Peak Temperature : 260+0/-5°C, 10sec. Max)

Product specifications included in the specifications are effective as of March 1, 2013. Please be advised that they are standard product specifications for reference only. We may change, modify or discontinue the product specifications without notice at any time.

So, you need to approve the product specifications before placing an order.

Should you have any question regarding the product specifications,

please contact our sales personnel or application engineers.

- Disclaimer & Limitation of Use and Application -

The products listed in this Specification sheet are **NOT** designed and manufactured for any use and applications set forth below.

Please note that any misuse of the products deviating from products specifications or information provided in this Spec sheet may cause serious property damages or personal injury. We will **NOT** be liable for any damages resulting from any misuse of the products, specifically including using the products for high reliability applications as listed below.

If you have any questions regarding this 'Limitation of Use and Application', you should first contact our sales personnel or application engineers.

- Aerospace/Aviation equipment
- 2 Automotive or Transportation equipment (vehicles, trains, ships, etc)
- 3 Medical equipment
- ④ Military equipment
- *⑤* Disaster prevention/crime prevention equipment
- *ⓐ* Any other applications with the same as or similar complexity or reliability to the applications set forth above.