



SPECIFICATION

(Reference sheet)

· Supplier : Samsung electro-mechanics · Samsung P/N : CL03A105MQ3CSNH

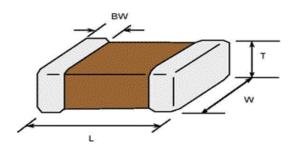
· Product : Multi-layer Ceramic Capacitor · Description : CAP, 1uF, 6.3V, ±20%, X5R, 0201

A. Samsung Part Number

<u>CL</u> <u>03</u> <u>A</u> <u>105</u> <u>M</u> <u>Q</u> <u>3</u> <u>C</u> <u>S</u> <u>N</u> <u>H</u> 1 2 3 4 5 6 7 8 9 10 11

1	Series	Samsung Multi-layer Ceramic Capacitor					
2	Size	0201 (inch code)	L: 0.60	± 0.05 mm	W:	$0.30 \pm 0.05 \text{ mm}$	
3	Dielectric	X5R	8	Inner electrode		Ni	
4	Capacitance	1 uF		Termination		Control code	
(5)	Capacitance	±20 %		Plating		Sn 100% (Pb Free)	
	tolerance		9	Product		Size control code	
6	Rated Voltage	6.3 V	10	Special		Reserved for future use	
7	Thickness	$0.30 \pm 0.05 \text{ mm}$	11)	Packaging		Cardboard Type, 7" reel	

B. Structure & Dimension



Samsung P/N	Dimension(mm)					
Samsung F/N	L	W	Т	BW		
CL03A105MQ3CSNH	0.60 ± 0.05	0.30 ± 0.05	0.30 ± 0.05	0.15 ± 0.05		

C. Samsung Reliablility Test and Judgement Condition

Tan δ (DF)0.125 max.treated at 150 ℃ +0/-10 ℃ for ambient air for 24±2 hours.	20 sec.		
Tan δ (DF)0.125 max.treated at 150° C+0/- 10° C for ambient air for 24±2 hours.Insulation10,000Mohm or 10Mohm× μ FRated Voltage60~12	or 1hour and maintained in 20 sec.		
Resistance Whichever is smaller			
Appearance No abnormal exterior appearance Microscope (×10)			
Withstanding No dielectric breakdown or 250% of the rated voltage.	250% of the rated voltage		
Voltage mechanical breakdown			
Temperature X5R			
Characteristics (From-55 ℃ to 85 ℃, Capacitance change should be within ±15%)			
Adhesive Strength No peeling shall be occur on the 200g·f, for 10±1 sec.			
of Termination terminal electrode			
Bending Strength Capacitance change: within ±12.5% Bending to the limit (1mm)			
with 1.0mm/sec.			
Solderability More than 75% of terminal surface SnAg3.0Cu0.5 solder			
is to be soldered newly 245±5°C, 3±0.3sec.			
(preheating : 80~120°C for	10~30sec.)		
Resistance to Capacitance change: within ±7.5% Solder pot: 270±5°C, 10±1:	sec.		
Soldering Heat Tan δ, IR : initial spec.			
Vibration TestCapacitance change : within \pm 5%Amplitude : 1.5mmTan δ, IR : initial spec.From 10Hz to 55Hz (return : 2hours \times 3 direction (x, y, z)	•		
Moisture Capacitance change: within ±12.5% With rated voltage			
Resistance Tan δ : 0.25 max 40±2°C, 90~95%RH, 500+1	12/-0hrs		
IR: 500Mohm or 1Mohm × Whichever is smaller			
High Temperature Capacitance change: within ±12.5% With 150% of the rated	d voltage		
Resistance Tan δ : 0.25 max Max. operating temperature	е		
IR : 1,000Mohm or 2Mohm × 1,000+48/-0hrs Whichever is smaller			
Temperature Capacitance change: within ±15% 1 cycle condition			
	→ 25 °C		
→ Max. operating tempe	erature → 25°C		
5 cycle test			

D. Recommended Soldering method:

Reflow (Reflow Peak Temperature : 260±5°C, 30sec.)



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.

- ① Aerospace/Aviation equipment
- 2 Automotive or Transportation equipment (vehicles, trains, ships, etc)
- 3 Medical equipment
- 4 Military equipment
- ⑤ Disaster prevention/crime prevention equipment
- 6 Power plant control equipment
- Atomic energy-related equipment
- Undersea equipment
- Traffic signal equipment
- Data-processing equipment
- ## Electric heating apparatus, burning equipment
- Safety equipment
- ® Any other applications with the same as or similar complexity or reliability to the applications