Issued No.: SPEC-CBE20260415
Date:2026/05/07

EYANG TECHNOLOGY DEVELOPMENT CO.,LTD

High Q Multilayer Ceramic Chip Capacitors
Model selection reference book

ADD：EYANG Buiding,No.13Gaoxin North 4th Rd,Songpingshan Community,
Xili Subdistrict,Nanshan District,shenzhen,Guangdong province,China
Postcode：518057 TEL：0755-86252187 FAX：0755-86252237
Mark：The Model selection reference book is for design reference only.

High Q Multilayer Ceramic Chip Capacitors

1. Scope

This specification applies to High-Q, High-Frequency Multilayer Ceramic Chip Capacitors (MLCCs) .

Application Scope: Wearable devices, mobile phones, routers, PAs (Power Amplifiers) and related modules, Wi-Fi modules, 5G low-power base stations, IoT (Internet of Things) modules, and other radio frequency (RF) applications in mobile communications and network communications.

1.1 Temperature Characteristics:

Class1 (Temperature Compensating Type): C0G

1.2 Size Code: 0105(01005)\0201\0402\0603

1.3 Capacitance: 0.1 pF ~100 pF

2. Part Number System

U	0201	C0G	330	J	500	N	T	A
① Series Code	② Size Code	③ Temperature Characteristics	④ Nominal Capacitance	⑤ Capacitance Tolerance	⑥ Rated Voltage	⑦ Termination Type	⑧ Packaging Code	⑨ Thickness Code

① Series Code U - High Q Multilayer Ceramic Chip Capacitors（Internal Electrodes：Cu)

② Size Code（Unit:mm）

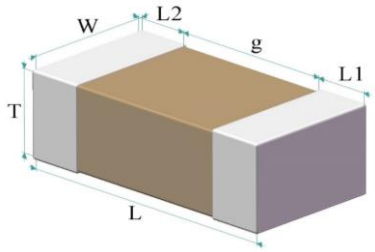


Fig.1 Structure & Dimension

Size Code	L	W	L1,L2	g	T	⑨Thickness Code
0105	0.40 ± 0.02	0.20 ± 0.02	0.07 - 0.13	0.13 min	0.20 ± 0.02	**Z**
0201	0.60 ± 0.03	0.30 ± 0.03	0.10 - 0.20	0.20 min	0.30 ± 0.03	**A**
0402	1.00 ± 0.05	0.50 ± 0.05	0.15 - 0.35	0.30 min	0.50 ± 0.05	**B**
0603	1.60 ± 0.10	0.80 ± 0.10	0.20 - 0.50	0.50 min	0.70 ± 0.10	**U**

③ Temperature Characteristics

Temperature Characteristics	Operating Temp. Range	Temperature Characteristics		
		Temp. coeff. or Cap. Change	Temp. Range	Ref. Temp.
C0G	-55 ℃-125 ℃	0 ± 30 ppm/℃	25 ℃ - 125 ℃	25 ℃
X8G	-55℃ - 150℃	0 ± 30 ppm/℃	25 ℃ - 150 ℃	25 ℃

④ Nominal Capacitance （Unit: pF）1pF=10^{-3}nF =10^{-6}μF

Example :R47=0.47 pF ,2R2=2.2 pF ,120=12×10^{0}=12pF，104=10×10^{4}=100000 pF=100 nF，

Class1(C0G) Capacitance Step in E24 series. Capacitance: See Table3

⑤ Capacitance Tolerance

Code	Capacitance Tolerance	**Code**	Capacitance Tolerance
A	±0.05pF	**F**	±1%
B	±0.1pF	**G**	±2%
C	±0.25pF	**J**	±5%
D	±0.5pF	**K**	±10%

⑥ Rated Voltage

Code	Voltage Values	**Code**	Voltage Values
2R5	2.5V	**250**	25V
4R0	4.0V	**350**	35V
6R3	6.3V	**500**	50V
100	10V	**101**	100V
160	16V	**-**	-

⑦ Termination Type

Code	Terminal Electrodes	Plating Material
N	Cu	Ni/Sn

⑧ Packaging Code See Table 4.

Table 3: Capacitance Table (Class1-C0G)

NO.	Series Code	Temperature Characteristics	Size Code	Rated Voltage	Thickness code	Capacitance
1	U	C0G	0105	100V	Z	0.1pF ~ 22pF
2	U	C0G	0105	50V	Z	0.1pF ~ 33pF
3	U	C0G	0105	25V	Z	0.1pF ~ 33pF
4	U	C0G	0105	16V	Z	0.1pF ~ 33pF
5	U	C0G	0201	100V	A	0.1pF ~ 33pF
6	U	C0G	0201	50V	A	0.1pF ~ 33pF
7	U	C0G	0201	25V	A	0.1pF ~ 33pF
8	U	C0G	0402	100V	B	0.1pF ~ 100pF
9	U	C0G	0402	50V	B	0.1pF ~ 100pF
10	U	C0G	0402	25V	B	0.1pF ~ 100pF
11	U	C0G	0603	50V	U	0.1pF~100pF
12	U	C0G	0603	25V	U	0.1pF~100pF
13	U	X8G	0105	100V	Z	0.1pF ~ 22pF
14	U	X8G	0105	50V	Z	0.1pF ~ 22pF
15	U	X8G	0105	25V	Z	0.1pF ~ 22pF
16	U	X8G	0201	100V	A	0.1pF ~ 22pF

Table 4 Packaging (Minimum Quantity)

NO.	Size Code	Thickness Code	Square hole spacing	Disc Size	Carrier Tape Type	QTY (Kpcs)	Packaging Code
1	0105	Z	2mm	7〃	Paper	20	T
2	0105	Z	1mm	7〃	Plastic	40	P
3	0201	A	2mm	7〃	Paper	15	T
4	0201	A	2mm	13〃	Paper	50	J
5	0201	A	1mm	13〃	Paper	140	A
6	0201	A	2mm	13〃	Paper	70	M
7	0402	B	2mm	7〃	Paper	10	T
8	0402	B	2mm	13〃	Paper	50	J
9	0603	U	4mm	7〃	Paper	4	T

First packaging: Each multi-disc material is packed into a box.

The second packaging: the first packaged packaging box is loaded into the paper packaging box,and the remaining space in the box is filled with light auxiliary materials.

The above packaging forms can also be packaged according to user needs.

3.Technical Specifications and Test Methods

3.1 Operating Environment

Temp. Characteristics	Temp. Range	Relative Humidity	Atmospheric Pressure
C0G	-55 ℃-125 ℃	≤ 95% (25 ℃)	86 kPa - 106 kPa
X8G	-55 ℃ - 150 ℃	≤ 95% (25 ℃)	86 kPa - 106 kPa

3.2 Reliablility Test Specifications and Methods

Without specific note, the "test method" in Table 5 is based on GB/T 21041/21042 IDT IEC60384 .

Table 5 Specifications and Methods

No.	Item	Specification	Test Method
1	Appearance	No obvious defects on ceramic body and termination.	Visual examination under a microscope
2	Size Code	See Fig.1 and ② Size Code	Measuring by gages which precision is not less than 0.01 mm.
3	Capacitance	Within the specified tolerance	Measurement Temperature 18 ℃-28 ℃ Relative Humidity ≤ 80% RH Measurement Frequency C ≤ 1nF, f = 1.0 ± 0.1 MHz C > 1 nF, f = 1.0 ± 0.1 KHz Measurement Voltage 1.0 ± 0.2 Vrms
4	Q	C ≥ 30 pF, Q ≥ 1000 C < 30 pF, Q ≥ 400 + 20 C C: Nominal Capacitance (pF)	
5	Insulation Resistance (I.R.)	≥10,000MΩ	Measurement Temperature 18 ℃-28 ℃ Relative Humidity ≤ 80% RH Measurement Voltage Rated Voltage Charging Time 1 min Charge/discharge current ≤ 50 mA
6	Voltage proof	No defects or abnormalities.	Test Voltage ≥ 2.5 × U_R Applied Time t = 1 -5 s Charge/discharge current ≤ 50 mA
7	Temperature Characteristics of Capacitance	C0G: αc ≤ ± 30 ppm/℃ (125 ℃); -72 ≤ αc ≤ + 30 ppm/℃ (-55 ℃) X8G: c ≤ ± 30 ppm/℃ (150 ℃); -72 ≤ αc ≤ + 30 ppm/℃ (-55 ℃);	Pre-drying 16-24 hours Measure the capacitance separately in 25 ℃, θ1, 25 ℃, θ2, 25 ℃, should satisfied relatived Temperature Coefficient of Capacitance (αc) . C0G θ1 = -55 ℃, θ2 = 125 ℃ X8G θ1 = -55 ℃, θ2 = 150 ℃ T.C Measurement Voltage 1.0 ± 0.2 Vrms

No.	Item	Specification		Test Method	
8	Resistance to Soldering Heat	Appearance	No visible damage and terminations uncovered shall be less than 25%.	Pre-heating	Temp. : 120 ℃-150 ℃,Time: 60 s
				Test Method	Solder bath
		Cap. Change	ΔC/C ≤ ± 2.5% or ± 0.25 pF, (Whichever is larger)	Solder alloy	Sn-Ag-Cu(Lead Free Solder)
		I.R.	initial specification	Temperature	(270 ± 5) ℃
		Q	initial specification	Duration of immersion	(10±1) s
		Voltage proof	No defects or abnormalities.	Depth of immersion	10 mm
				Post-treatment	Let sit for (24 ± 2) h at room temperature, then measure.
9	Solderability	Appearance	95% of the terminations is to be soldered evenly and continuously	Pre-heating	Temp. : 80 ℃-120 ℃,Time: 10-30 s
				Test Method	Solder bath
				Flux	Solution of rosin ethanol
				Solder alloy	Sn-Ag-Cu (Lead Free Solder)
				Temperature	(245 ± 5) ℃
				Duration of immersion	(2.0 ± 0.5) s
				Depth of immersion	10 mm
10	Substrate Bending test	Appearance	No defects or abnormalities	Mounting method	Solder the capacitor to the test substrate as shown in Fig 2
		Cap. Change	ΔC/C ≤ ± 5% or ± 0.5 pF, (Whichever is larger)	Pressurization Method	Shown in Fig 3
				Flexure	1 mm
				Holding Time	(5 ± 1) s

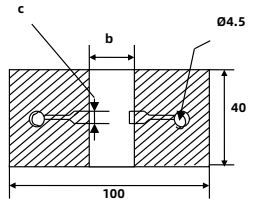


Fig. 2

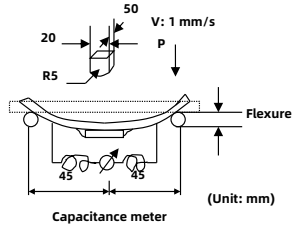


Fig. 3

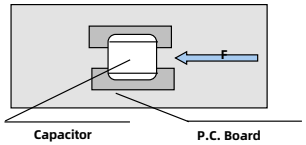
<table>
<tr><th>No.</th><th>Item</th><th>Specification</th><th>Test Method</th></tr>
<tr><td>11</td><td>Adhesive Strength of Termination</td><td>Appearance — No defects or abnormalities</td><td>Subjected to 3 cycles of lead-free reflow at 260 ℃ (standard profile) for thermal shock testing, with ~30 minutes between cycles.
Mounting method — Solder the capacitor to the test substrate and apply the normal force F indicated in Fig. 4
Holding Time — t = (10 ± 1) s
Pushing force — 0105:F = 1 N
0201:F = 2 N
0402/0603:F = 5 N
 

Fig. 4</td></tr>
<tr><td>12</td><td>Vibration</td><td>Appearance — No defects or abnormalities
Cap. Change — initial specification
I.R. — initial specification
Q — initial specification</td><td>Mounting method — Solder the capacitor to the test substrate
Amplitude — 1.5 mm
Kind of Vibration — A simple harmonic motion
Frequency — 10 Hz-55 Hz-10 Hz
Vibration Time — 1 min
Repeat this for 2 hours each in 3 perpendicular directions X, Y, Z, total 6 hours.</td></tr>
<tr><td>13</td><td>Rapid Change of Temperature</td><td>Appearance — No defects or abnormalities
Cap. Change — ΔC/C ≤ ± 2.5% or ± 0.25 pF, (Whichever is larger)
I.R. — initial specification
Q — initial specification
Voltage proof — No defects or abnormalities.</td><td>Subjected to 3 cycles of lead-free reflow at 260 ℃ (standard profile) for thermal shock testing, with ~30 minutes between cycles.
Mounting method — Solder the capacitor to the test substrate
The number of cycles — 100 cycles
Temperature Step
<table>
<tr><th>Step</th><th>Temp.(℃)</th><th>Time (min.)</th></tr>
<tr><td>1</td><td>θ1</td><td>30 ± 3</td></tr>
<tr><td>2</td><td>25</td><td>2-5</td></tr>
<tr><td>3</td><td>θ2</td><td>30 ± 3</td></tr>
<tr><td>4</td><td>25</td><td>2-5</td></tr>
</table>
C0G — θ1 = - 55 ℃、θ2 = 125 ℃
X8G — θ1 = - 55 ℃、θ2 = 150 ℃
Post-treatment — Let sit for (24 ± 2) h at room temperature, then measure.</td></tr>
</table>

No.	Item	Specification	Test Method
14	Damp heat (steady state)	Appearance: No defects or abnormalities Cap. Change: ΔC/C ≤ ± 7.5% or 0.75 pF, (Whichever is larger) I.R.: ≥ 500 MΩ Q: C ≥ 30 pF, Q ≥ 200 C < 30 pF, Q ≥ 100 + 10 C/3 C: Nominal Capacitance (pF)	Subjected to 3 cycles of lead-free reflow at 260 ℃ (standard profile) for thermal shock testing, with ~30 minutes between cycles. Mounting method: Solder the capacitor to the test substrate Test Temperature: (60 ± 2) ℃ Test Humidity: 90%-95% RH Test Time: (500 ± 12) h Post-treatment: Let sit for (24 ± 2) h at room temperature, then measure.
15	High Temperature High Humidity (Steady)	Appearance: No defects or abnormalities Cap. Change: ΔC/C ≤ ± 7.5% or 0.75 pF, (Whichever is larger) I.R.: ≥ 500 MΩ Q: C ≥ 30 pF, Q ≥ 200 C < 30 pF, Q ≥ 100 + 10 C/3 C: Nominal Capacitance (pF)	Subjected to 3 cycles of lead-free reflow at 260 ℃ (standard profile) for thermal shock testing, with ~30 minutes between cycles. Mounting method: Solder the capacitor to the test substrate Test Temperature: (60 ± 2) ℃ Test Humidity: 90%-95% RH Test Voltage: 1.0 × U_R Test Time: (500 ± 12) h Charge/discharge curren: ≤ 50 mA Post-treatment: Let sit for (24 ± 2) h at room temperature, then measure.
16	Endurance	Appearance: No defects or abnormalities Cap. Change: ΔC/C ≤ ± 2% or ± 0.2 pF, (Whichever is larger) I.R.: ≥ 1000 MΩ Q: C ≥ 30 pF, Q ≥ 350 10 pF < C < 30 pF, Q ≥ 275 + 5 C/2 C ≤ 10 pF, Q ≥ 200 + 10 C C: Nominal Capacitance (pF)	Subjected to 3 cycles of lead-free reflow at 260 ℃ (standard profile) for thermal shock testing, with ~30 minutes between cycles. Mounting method: Solder the capacitor to the test substrate Test Temperature: θ2 ± 3 ℃ [C0G:θ2 = 125 ℃, X8G:θ2 = 150 ℃] Test Voltage: 2.0 × U_R Test Time: (1000 ± 12) h Charge/discharge curren: ≤ 50 mA Post-treatment: Let sit for (24 ± 2) h at room temperature, then measure.
17	ESR	See test report	Measurement Frequency: 500 MHz-3GHz Measurement Temperature: Room Temperature Measurement Instrument: Keysight 4991B
18	SRF	See test report	Measurement Temperature: Room Temperature Measurement Instrument: Keysight 4991B/5080B

4. Packaging,Shipment and storage

4.1 Packaging

4.1.1 packaging type

Reel Packaging (standard carrier tape disc packaging), single disc smallest package see Table 4

4.1.2 Carrier Tape size

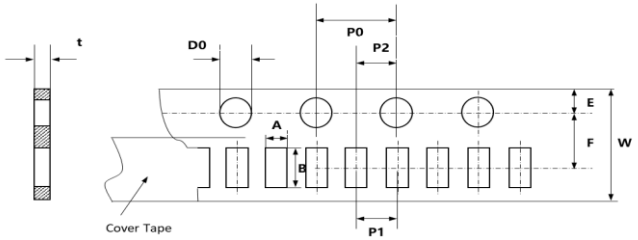


Fig. 5-1 0402 (Paper tape/ 2 mm pitch)

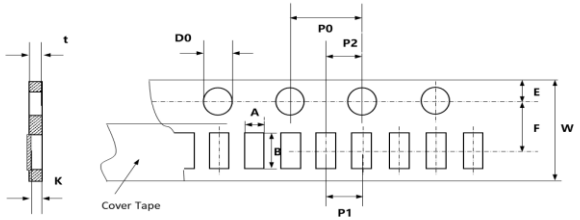


Fig. 5-2 0105, 0201 (Paper tape/ 2 mm pitch)

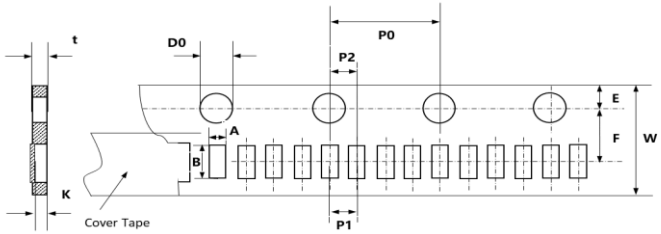


Fig. 5-3 0201 (Paper tape/ 1 mm pitch)

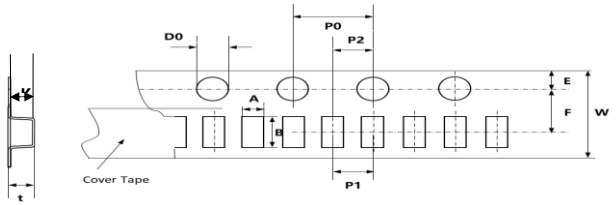


Fig. 5-4 0105 (Plastic tape/ 1 mm pitch)

Table 2-1: Carrier size (Size Code:0105, 0201, 0402) (Unit:mm)

Size Code	Thickness code	Carrier Tape Type	Packaging Code	A	B	F	P1	E	D0	P2	K	W	P0	t
0105	Z	Paper	T	0.24 ± 0.02	0.45 ± 0.02	3.50 ± 0.05	2.00 ± 0.05	1.75 ± 0.10	1.55 ± 0.05	2.00 ± 0.05	0.24 ± 0.02	8.00 ± 0.10	4.00 ± 0.10	0.5 max
0105	Z	Plastic	P	0.24 ± 0.02	0.45 ± 0.02	1.80 ± 0.05	1.00 ± 0.05	0.90 ± 0.10	0.80 ± 0.05	1.00 ± 0.05	0.24 ± 0.02	4.00 ± 0.10	2.00 ± 0.10	0.5 max
0201	A	Paper	T	0.38 ± 0.03	0.68 ± 0.03	3.50 ± 0.05	2.00 ± 0.05	1.75 ± 0.10	1.55 ± 0.05	2.00 ± 0.05	0.36 ± 0.02	8.00 ± 0.10	4.00 ± 0.10	0.5 max
0201	A	Paper	J	0.38 ± 0.03	0.68 ± 0.03	3.50 ± 0.05	2.00 ± 0.05	1.75 ± 0.10	1.55 ± 0.05	2.00 ± 0.05	0.36 ± 0.02	8.00 ± 0.10	4.00 ± 0.10	0.5 max
0201	A	Paper	A	0.38 ± 0.03	0.68 ± 0.03	3.50 ± 0.05	1.00 ± 0.05	1.75 ± 0.10	1.55 ± 0.05	1.00 ± 0.05	0.36 ± 0.02	8.00 ± 0.10	4.00 ± 0.10	0.5 max
0201	A	Paper	M	0.38 ± 0.03	0.68 ± 0.03	3.50 ± 0.05	2.00 ± 0.05	1.75 ± 0.10	1.55 ± 0.05	2.00 ± 0.05	0.36 ± 0.02	8.00 ± 0.10	4.00 ± 0.10	0.5 max
0402	B	Paper	T	0.63 ± 0.05	1.13 ± 0.05	3.50 ± 0.05	2.00 ± 0.05	1.75 ± 0.10	1.55 ± 0.05	2.00 ± 0.05	/	8.00 ± 0.10	4.00 ± 0.10	0.8 max
0402	B	Paper	J	0.63 ± 0.05	1.13 ± 0.05	3.50 ± 0.05	2.00 ± 0.05	1.75 ± 0.10	1.55 ± 0.05	2.00 ± 0.05	/	8.00 ± 0.10	4.00 ± 0.10	0.8 max

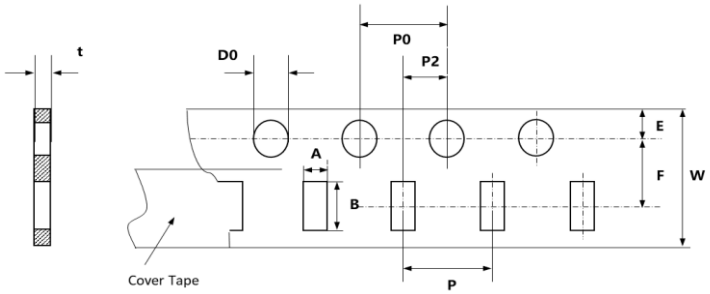


Fig. 5-5 0603 (Paper tape)

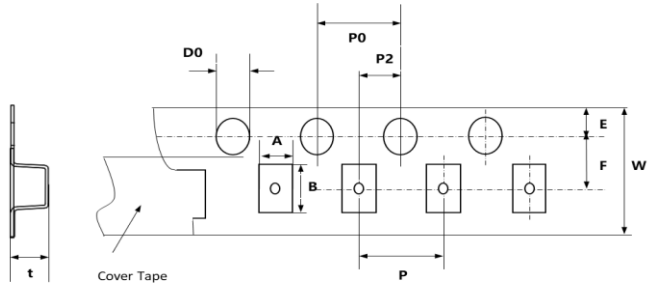


Fig. 5-6 0603 (Plastic tape)

Table 2-2: Carrier size (Size Code:0603 min) (Unit:mm)

Size Code	Thickness code	Carrier Tape Type	Packaging Code	A	B	F	P	E	D0	P2	K	W	P0	t
0603	U	Paper	T	1.00 ± 0.10	1.80 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	1.75 ± 0.10	1.55 ± 0.05	2.00 ± 0.05	/	8.00 ± 0.20	4.00 ± 0.10	0.95 max

4.1.3 Disc size

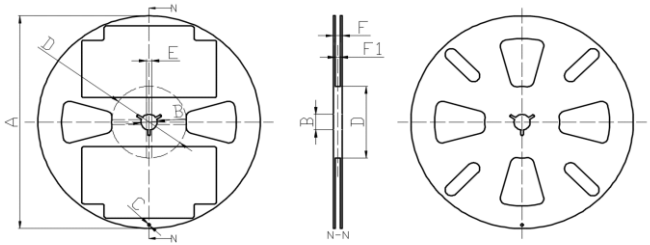


Fig. 6-1 Disc (Width of carrier-4 mm)

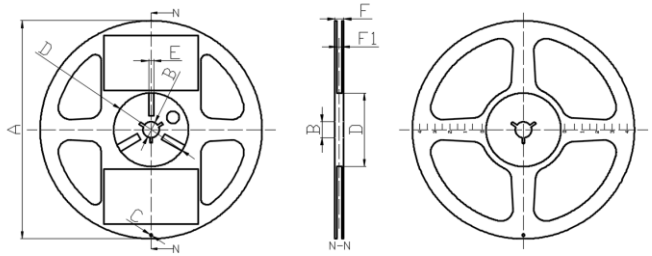


Fig. 6-2 Disc (Width of carrier-8 mm)

Table 3: Disc size (Unit:mm)

Disc size	Width of carrier	A	B	C	D	E	F	F1	Size Code
7″	8.00 ± 0.10	Φ178 ± 2.0	Φ13 ± 1.0	Φ4.0 ± 0.5	Φ60 ± 2.0	4.0 ± 1.0	11.5 ± 1.0	10.0 ± 2.0	All
13″	8.00 ± 0.10	Φ330 ± 2.0	Φ13 ± 1.0	Φ4.0 ± 0.5	Φ108 ± 2.0	4.0 ± 1.0	13.5 ± 2.0	10.0 ± 2.0	All
7″	4.00 ± 0.10	Φ178 ± 2.0	Φ13 ± 1.0	Φ4.0 ± 0.5	Φ60 ± 2.0	3.5 ± 0.5	7.3 ± 0.5	4.5 ± 1.0	0105

4.1.4 Carrier Tape specifications

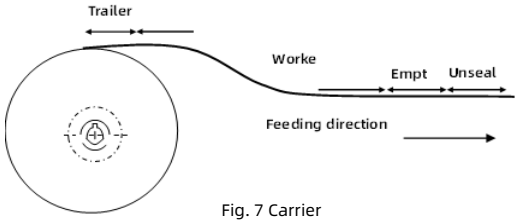


Fig. 7 Carrier

Packaging	The minimum length of the reserved spaces		
Carrier	Trailer	Empty	Unseal
	60 mm	200 mm	160 mm

4.1.5 Performance of Carrier Taping

4.1.5.1 Strength of Carrier Tape and Top Cover Tape

a. Carrier Tape

When a tensile force 1.02 kgf is applied in the direction to unreel the tape, the tape shall withstand this force.

b. Top cover Tape

When a tensile force 1.02 kgf is applied to the tape, the tape shall withstand this force.

4.1.5.2 Peeling Strength of Top Cover Tape

Unless otherwise specified, the peeling strength of top cover tape shall be within 10.2 gf to 71.4 gf when the top cover tape is pulled at a speed of 300 mm/min with the angle of 0° to 15° (see Fig.8).

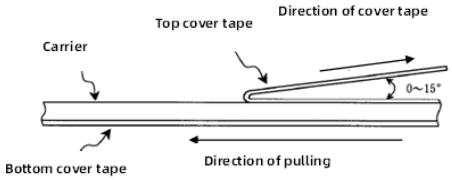


Fig.8 Cover tape peel-off force

4.2 Shipment

Transport packaging products to adapt to the modern means of transport, but the product in the process of transport to prevent rain and acid and alkali corrosion, shall not be whipped extrusion casting and gravity

4.3 Storage

4.3.1 Storage Conditions

Capacitors: Complies with MSL Level 1 standard. Floor Life: Unlimited time, under the condition of ≤ 30℃ and 85% RH.

Packaging Material: Standard temperature range: 5℃ to 40℃, with a recommended temperature below 30℃; Relative humidity: less than 70% RH.

Storage conditions for the packaged product should be used as the primary reference. High temperature, humidity, and/or prolonged storage may lead to deterioration of the packaging materials.

If the storage duration exceeds one year, solderability should be checked before use. The performance of the product may be affected by storage conditions; therefore, it should be used promptly after delivery.

4.3.2 Corrosive gas can react with the termination (external) electrodes or lead wires of capacitors, and result in poor solderability.

Do not store the capacitors in an atmosphere consisting of corrosive gas (e.g.,hydrogen sulfide, sulfur dioxide, chlorine, ammonia gas etc.)

5. MLCC Application of Technical Requirements

5.1 Circuit Design

5.1.1 Operating Temperature

a. Do not use capacitor above the maximum allowable operating temperature.

b. Surface temperature including self-heating should be below maximum operating temperature.

5.1.2 Operating Voltage

The operating voltage for capacitors must always be lower than their rated voltage.

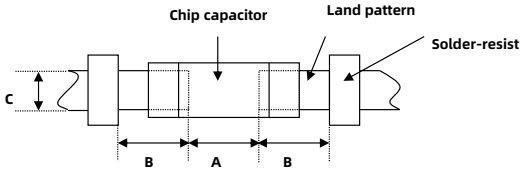
5.2 PCB Design

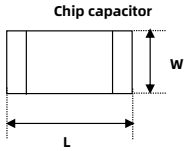
5.2.1 Design of Land-patterns

When the capacitors are mounted on a PCB, the amount of solder at the terminations has a direct effect on the performance of the capacitors.

The greater the amount of solder, the higher the stress on the capacitor. Therefore, when designing land-patterns, it is necessary to consider the appropriate size and configuration of the solder pads.

Size and recommended land dimensions are shown in the following figure and table.



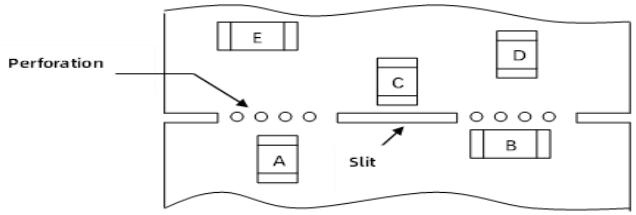


Recommended land dimensions for reflow-soldering (unit: mm)

Size Code	Length	Width	Tolerance	A	B	C
0105	0.4	0.2	all	0.16 - 0.20	0.12 - 0.18	0.20 - 0.23
0201	0.6	0.3	±0.03	0.20-0.25	0.20-0.30	0.20-0.35
0201	0.6	0.3	±0.05	0.20-0.25	0.25-0.35	0.30-0.40
0201	0.6	0.3	±0.09,±0.1	0.23-0.30	0.25-0.35	0.30-0.40
0402	1.0	0.5	±0.05	0.30-0.50	0.35-0.45	0.40-0.60
0402	1.0	0.5	±0.15, ±0.20	0.40-0.60	0.40-0.50	0.50-0.70
0402	1.0	0.5	±0.30	0.40-0.60	0.40-0.50	0.50-0.80
0603	1.6	0.8	±0.10	0.60-0.80	0.60-0.70	0.60-0.80
0603	1.6	0.8	±0.20	0.70-0.90	0.70-0.80	0.80-1.00
0603	1.6	0.8	±0.25, ±0.30	0.70-0.90	0.70-0.90	0.80-1.10

5.2.2 Capacitor Layout on PC Board

Mechanical stress varies according to the location of capacitors on PC board. The recommendation for better design is as follows

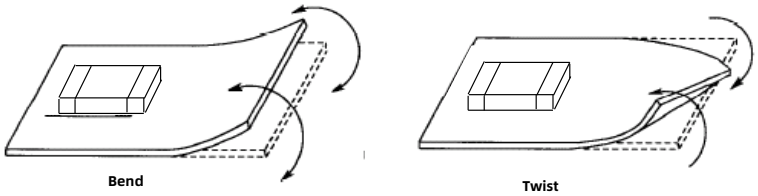


The stress in capacitors is in the following order: A > B = C > D > E

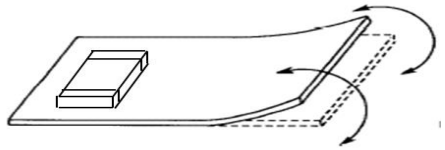
Pay attention not to bend or distort the PC board otherwise the capacitor may crack.

Please refer to the following examples of good and bad capacitors layout.

a. Not recommended

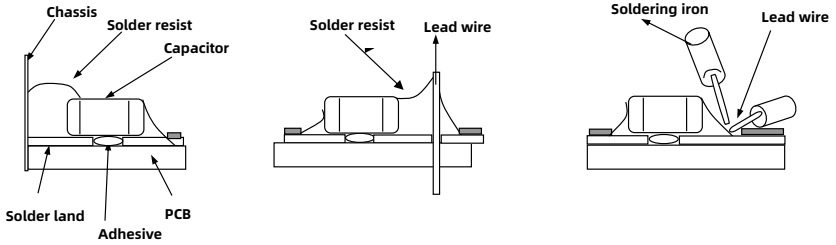


b.Recommended

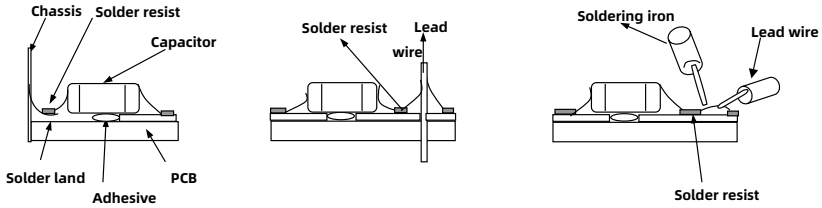


5.2.3 Solder Buildup and Soldering

a. Examples of soldering method not recommended



b. Examples of soldering method recommended



5.3 Consideration for Automatic Placement

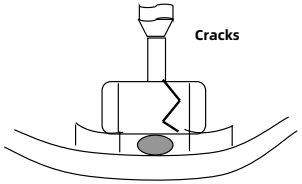
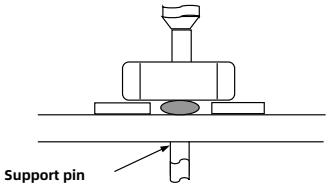
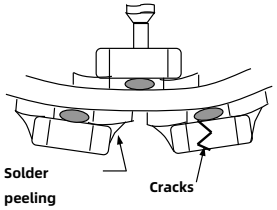
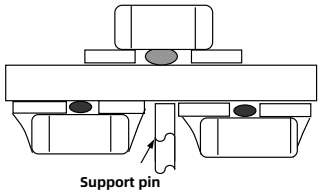
If the mounting head is adjusted too low, it may induce excessive stress in the chip capacitor to result in cracking. Please take following precautions

a.Adjust the bottom dead center of the mounting head to reach on the PC board surface and not press it;

b.Adjust the mounting head pressure to be 1N to 3N of static weight;

c.To minimize the impact energy from mounting head, it is important to provide support from the bottom side of the PC board.

Please refer to the following samples

Mounting	Not recommended	Recommended
Singel-sided Mounting		
Double-sided Mounting		

5.4 Soldering

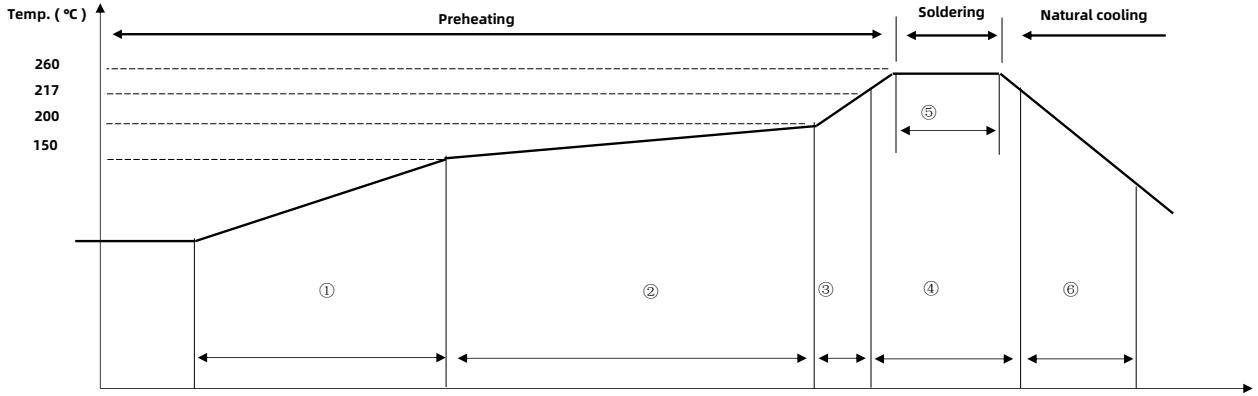
5.4.1 Flux Selection

a.It is recommended to use a mildly activated rosin flux (less than 0.1wt% chlorine). Strong flux is not recommended.

b.Please provide proper amount of flux. Excessive flux must be avoided.

c.When water-soluble flux is used, enough washing is necessary.

5.4.2 Recommended Soldering Profile



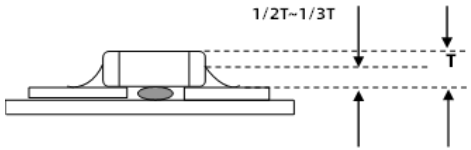
5.4.2.1 Reflow Soldering Condition

NO.	Reflow Soldering zone	Reflow Soldering Condition
①	Preheating 1	≤ 3 ℃/s, ≥ 60 s
②	Constant temperature	150℃- 200℃, 60 s-120 s, ≤1 ℃/s
③	Preheating 1	1-5 ℃/s
④	Soldering 1	Above 217 ℃, 60-150 s
⑤	Soldering 1	Above 260 ℃,over 10 s
⑥	Natural cooling	≤6 ℃/s

Caution

a.Excessive solder will induce higher tensile force in chip capacitor when temperature changes and result in cracking. Insufficient solder may detach the capacitor from the PC board.

The ideal condition is to have solder mass controlled to 1/2 to 1/3 of the thickness of the capacitors.



b.Soldering duration should be kept as close to recommended times as possible, because excessive duration can detrimentally affect solderability.

c.The peak temperature of reflow soldering is 245 ℃ ± 15 ℃.

d. For MLCC applications, EYANG recommends no more than 3 reflow soldering cycles.

6. All products in this specification comply with the EU RoHS directive

The EU RoHS Directive refers to the "Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment" stipulated by the European Union.