

03

GOLD WIRE BONDING MLCC(MD)

Type: MD

MD Gold-wire Bonding MLCC(MD)

1 Features

- 1) Wire bonding, AnSn soldering and conductive adhesive are applicable
- 2) Small chip size, especially for optical communication industry



2 Applications

- 1) Filtering and noise reduction in peripheral circuits of GaAs, GaN chips;
- 2) Filtering and noise reduction in micro-assembly circuits.

3 How to order

MD	0402	X7R	1H	102	K	D	B	C
Type	Case size Code	TCC	Rated V.	Normal Capacitance	Capacitance Tolerance	Termination Type	Thickness Code	Packing
Gold wire bonding MLCC	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 1	Table 7

Table 1 Case size code (mm)						
Drawing	Case size code	L	W	T	B	Thickness code
	0201	0.60 ± 0.05	0.30 ± 0.05	0.30 ± 0.05	0.15 ± 0.05	3
	0402	1.00 ± 0.05	0.50 ± 0.05	0.50 ± 0.05	0.25 ± 0.10	B
	0603	1.60 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.30 ± 0.20	8
	0805	2.00 ± 0.20	1.25 ± 0.20	0.60 ± 0.15	0.50 ± 0.20	A
				0.85 ± 0.15	0.50 ± 0.20	C
				1.25 ± 0.20	0.50 ± 0.20	F

Table 2 TCC			Table 3 Rated DC Voltage	
Dielectric code	Capacitance tolerance	Operating temperature		
X7R	± 15%	-55℃ ~125℃	1A	10V
			1C	16V
			1E	25V
			1H	50V
			2A	100V

Table 4 Nominal Capacitance		Table 5 Capacitance tolerance	
EIA Capacitance code in pF.1st two digit are significant figures of capacitance; 3rd digit denotes number of Zeros; R=decimal point; For examples: 103=10,000pF; 3R9=3.9pF.		K	± 10%
		M	± 20%

Table 6 Termination Type		Table 7 Packing	
D	Nickel - Gold (Gold thickness≥ 1μm)	B	Bulk with Bag
E	Nickel - Gold (Gold thickness≥ 2.54μm)	C	Waffle
G	Nickel - Gold (Gold thickness≥ 5μm)	R	Reel

4 Capacitance Value Table

Size	0201			0402			0603			0805		
$\frac{U_R(V)}{C_R}$	10	16	25	16	25	50	25	50	100	25	50	100
101												
151												
221												
331												
471												
681												
102												
152												
222												
332												
472												
682												
103												
153												
223												
333												
473												
683												
104												
154												
224												
334												
474												
105												

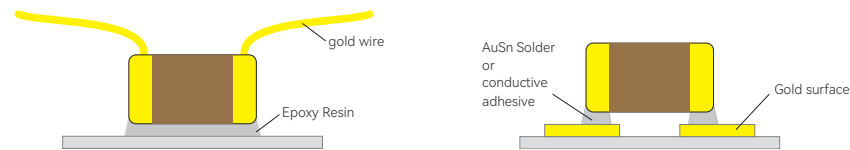
X7R

5 Electrical Specifications&Test Conditions

ITEMS	Test Conditions (25°C ±2°C)	Electrical Specifications
Capacitance	Test Frequency: $C_R \leq 100\text{pF}$ 1.0MHz±0.1MHz $C_R > 100\text{pF}$ 1.0kHz±0.1kHz	Capacitance is up to requirements
Dissipation factor tanδ	Test Voltage: 1.0Vrms±0.2Vrms	$\tan\delta \leq 350 \times 10^{-4}$
Insulation Resistance Ri	Test Voltage: Rated Voltage UR Endurance: 2min±5s	$R_i \geq 10000\text{M}\Omega$ or $500\text{M}\Omega \cdot \mu\text{F}$ (whichever is lower)
Withstanding Voltage	2.5UR; Endurance 5s±1s; Surge current≤ 50mA	No breakdown, flash over or visible damages

1 Mounting of Gold wire bonding MLCC

Two mounting methods:



- About wire bonding:
- 1. Gold wire diameter: 25μm;
 - 2. Thermo-compression bonding or Ultrasonic ball bonding;
 - 3. Platform temperature: 150°C ~200°C;
 - 4. Pressure of bonding tool: from 0.2N to 0.5N;
 - 5. Link capacitors with substrates or other devices by gold wire;
- Conductive adhesive can be used for mounting, but don't apply too much adhesive and result in short circuits of two terminations.

2 Recommended Gold Thickness

Gold wire Dia.	Termination
25μm	Gold thickness≥ 1μm
38μm	Gold thickness≥ 2.54μm
50μm	Gold thickness≥ 5μm

3 Storage

Capacitors must be stored in the warehouse with the ambient temperature From -10°C to 40°C, relative humidity less than or equal to 80%, and free of acid, alkaline or detrimental gas.

Capacitors must be in vacuum packing or in the protection of Nitrogen after unpacking.

The max. storage period is 18 months.