Data Sheet

Customer:	
Product:	**Multilayer Ceramic Chip Capacitor – MC Series**
Part No.:	**MC06KTB500106**
Issued Date:	**28-Jun-24**
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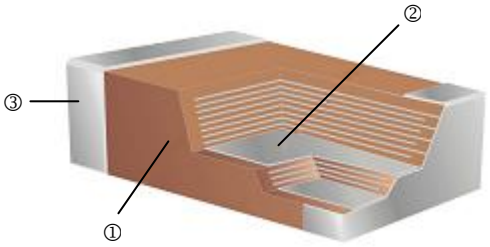
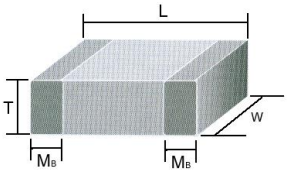
Multilayer Ceramic Chip Capacitor

■Construction



①	Ceramic Material	③	Termination:
②	Inner Electrodes		



■Dimensions

Unit: mm

Type	Size (Inch)	L	W	T	M_B	Packaging (7" Reel)	
						Paper tape	Plastic tape
06	1206	3.20±0.20	1.60±0.20	1.60±0.20	0.50±0.30	-	2K

■Part Numbering

MC	06	K	T	B	500	106
Product Type	Dimensions (L×W)	Capacitance Tolerance	Packaging	Dielectric	Voltage (VDCW)	Capacitance
	06: 1206	K: ±10%	T: Taping Reel	B: X7R	500: 50V	106: 10μF

■Environmental Characteristics

Size	1206
Dielectric	**X7R**
Capacitance*	10uF
Capacitance tolerance	K (±10%)
Rated voltage (VDCW)	50V
Operating temperature	-55 to +125°C
Capacitance change	±15%
Termination	Ni/Sn (lead-free termination)

■Environmental Characteristics

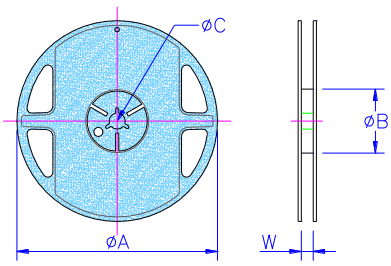
Item	Requirement	Test Method
Appearance	No defects or abnormalities.	Visual inspection
Insulation resistance	10,000MΩ min. or 500MΩ·μF min. (or 100MΩ·μF) product whichever is smaller (Rated voltage ≤16V :10,000MΩ min. or 100MΩ·μF min. product whichever is smaller)	Apply the rated voltage for 60 ~ 120sec. Rated voltage > 500V: Insulation Resistance shall be measured with 500±50Vdc
Withstanding voltage	No dielectric breakdown ormechanical breakdown	Apply the specified voltage* for 1~5 sec. Charge / Discharge current limit: 50mA max. * CLASS Ⅰ (Rated Voltage < 100V) : 300% of the rated Voltage CLASS Ⅱ (Rated Voltage < 100V) : 250% of the rated Voltage In the case of Vr ≥100V products, following condition shouldbe applied. 100V≤Rated Voltage < 500V : 250% of the rated Voltage 500V≤Rated Voltage < 1000V :150% of the rated Voltage Rated Voltage≥1000V :120% of the rated Voltage
Capacitance	Within the specified tolerance	≤10μF 1kHz±10% 1.0±0.2Vrms >10μF 120Hz±20% 0.5±0.1Vrms
Tanδ	X7R: 50V≥/ 35V / 25V : 0.025 max / 0.05 max*/ 0.10 max* ※ The conditions of measurement may be altered upon request.	
Adhesive strength of termination	No indication of peeling shall occur on the terminal electrode.	Apply 500g.f*pressure for 10±1 sec. *200g.f for 0201 *100g.f for 01005
Bending strength	Appearance: No mechanical damage shall occur Capacitance: X7R: Within ±10%	Bending Limit: 1mm Test Speed: 1.0mm/sec. Keep the test board at the limit point in 5 sec. Then Measure Capacitance
Solderability	More than 75% of the terminal surface is to be soldered newly, so metal part does not come out or dissolve In the case of Vr≥100V products: 95%	Solder Sn_Ag3_0.5Cu Solder temp. 245±5℃ Flux RMA Type Dip time 3±0.3sec Pre-heating at 80~120℃ for 10~30sec.
Resistance to soldering heat	Appearance: No mechanical damage shall occur Capacitance: Within ±7.5% Tanδ: Within the specified initial value Insulation resistance: Within the specified initial value Withstanding voltage: No breakdown of dielectric	Solder temperature: 270±5℃DIP TIME:10±1 sec. Each termination shall be fully immersed and preheated asbelow: Step / Temperature(℃) / Time(min) 1 / 80~100 / 60 2 / 150~180 / 60 Leave the capacitor in ambient condition for specified time* before measurement. * 24±2 Hours (Class Ⅰ) 24±2 Hours (Class Ⅱ)
Vibration test	Appearance: No mechanical damage shall occur. Capacitance: Within ±10% Tanδ: Within the specified initial value Insulation resistance: Within the specified initial value	The capacitor shall be subjected to a harmonic motion having a total amplitude of 1.5mm changing frequency from 10Hz to 55Hz and back to 10Hz in about 1 min. Repeat this for 2hours each in 3mutually perpendicular directions.
Moisture resistance	Appearance: No mechanical damage shall occur. Capacitance: Within ±12.5% Tanδ: 0.05 max / 0.125 max* (16V / 25V /35V / 50V≥) 0.075 max / 0.125 max* (≤10V) Insulation resistance: 500MΩ min. or 25MΩ·μF min. product whichever is smaller /12.5MΩ·μF or over*	Applied voltage : Rated voltage Temperature : 40±2℃ Humidity : 90~95%RH Duration time : 500+12/-0Hr. Charge/Discharge current : 50mA max. Perform the initial measurement according to Note1. Perform the final measurement according to Note2. This test is only applied to Vr≤500V products. You can check the specification at the web site or contact sales people for each product with mark*
High temperature resistance	Appearance: No mechanical damage shall occur. Capacitance: Within ±12.5% Tanδ: 0.05 max / 0.125 max* (16V / 25V /35V / 50V≥) 0.075 max / 0.125 max* (≤10V) Insulation resistance: 1,000MΩmin. or 50MΩ·μFmin. product whichever is smaller / 25MΩ·μFor over*	Temperature : max. operating temperature Duration Time: 1000+48/-0 Hr. Charge/Discharge Current: 50mAmax. Apply Voltage : 100% of Rated Voltage It depends on each item (120%/150%/200% Rated Voltage) Perform the initial measurement according to Note1 for class Ⅱ Perform the final measurement according to Note2. You can check the specification at the web site or contact sales people for each product with mark*
Temperature cycle	Appearance: No mechanical damage shall occur Capacitance: Within ±7.5% Tanδ: Within the specified initial value Insulation resistance: Within the specified initial value	Capacitor shall be subjected to 5 cycles. Condition for 1 cycle : Step / Temperature(℃) / Time(min) 1 / Min.rated temp.+0/-3 / 30+/-3 2 / 25 / 2 to 3 3 / Max.rated temp.+3/-0 / 30+/-3 4 / 25 / 2 to 3 Leave the capacitor in ambient condition for specified time before measurement. * 24±2 Hours (Class Ⅰ) ;24±2 Hours (Class Ⅱ)

■Packaging

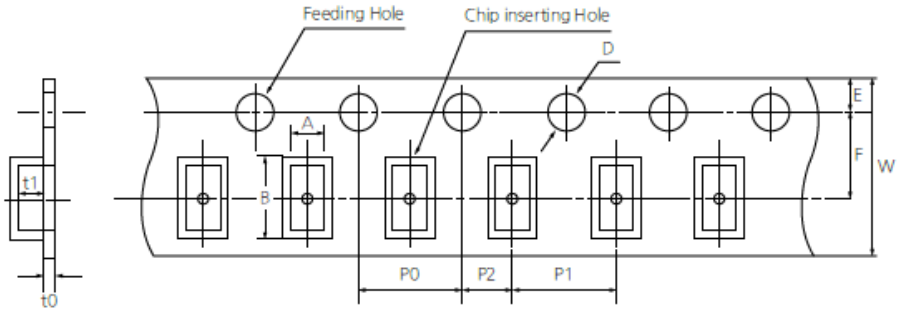
Packaging Quantity & Reel Specifications

Unit: mm

Type	ΦA	ΦB	ΦC	W	Packaging (7" Reel)
					Plastic tape
1206	178±2.0	50 min	13±0.5	10±1.5	2K



Plastic Tape Size Specification



Unit: mm

Type	A	B	C	F	E	P1	P2	P0	D	t1	t0
1206	1.90 ±0.20	3.50 ±0.20	8.00 ±0.30	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	2.00 ±0.10	4.00 ±0.10	1.50 +0.1/-0	2.92 below	0.60 below