

# Multilayer Ceramic Capacitors Microwave Series



RoHS  
Compliant



## Description:

MLCC consists of a conducting material and electrodes. To manufacture a chip-type SMT and achieve miniaturization, high density and high efficiency, ceramic condensers are used. WTC RF series MLCC is used at high frequencies generally have a small temperature coefficient of capacitance, typical within the  $\pm 30\text{ppm}/^\circ\text{C}$  required for NP0 (C0G) classification and have excellent conductivity internal electrode. Thus, WTC RF series MLCC will be with the feature of low ESR and high Q characteristics.

## Features:

- High Q and low ESR performance at high frequency.
- Ultra low capacitance to 0.1pF.
- Can offer high precision tolerance to  $\pm 0.05\text{pF}$ .
- Quality improvement of telephone calls for low power loss and better performance

## Applications:

- Telecommunication products & equipments : Mobile phone, WLAN, Base station.
- RF module: Power amplifier, VCO.
- Tuners.

## External Dimensions:

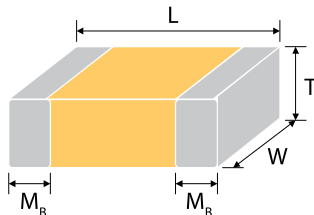


Fig. 1 The outline of MLCC

Size Inch (mm)	L (mm)	W (mm)	T (mm)/Symbol	MB (mm)
0201 (0603)	0.60 $\pm$ 0.03	0.30 $\pm$ 0.03	0.30 $\pm$ 0.03	L 0.15 $\pm$ 0.05
0402 (1005)	1.00 $\pm$ 0.05	0.50 $\pm$ 0.05	0.50 $\pm$ 0.05	N 0.25 $^{+0.05}_{-0.1}$

\* Reflow soldering only.

## General Electrical Data:

Dielectric	NP0
Size	Size 0201 & 0402
Capacitance*	0201: 0.1pF to 33pF & 0402: 0.1pF to 22pF
Capacitance tolerance	Cap $\leq$ 5pF: A ( $\pm 0.05\text{pF}$ ), B ( $\pm 0.1\text{pF}$ ), C ( $\pm 0.25\text{pF}$ ) 5pF<Cap<10pF: B ( $\pm 0.1\text{pF}$ ), C ( $\pm 0.25\text{pF}$ ), D ( $\pm 0.5\text{pF}$ ) Cap $\geq$ 10pF: F ( $\pm 1\%$ ), G ( $\pm 2\%$ ), J ( $\pm 5\%$ )
Rated voltage (WVDC)	6.3V, 10V, 25V, 50V, 100V
Q*	Cap $\geq$ 30pF, Q $\geq$ 1000; Cap<30pF, Q $\geq$ 400+20C
Insulation resistance at Ur	$\geq 10\text{G}$
Operating temperature	-55 $^\circ\text{C}$ to +125 $^\circ\text{C}$
Capacitance change	$\pm 30\text{ppm}/^\circ\text{C}$ ; 0201Cap $\geq 22\text{pF}$ , $\pm 60\text{ppm}/^\circ\text{C}$
Termination	Ni/Sn (lead-free termination)

\* Measured at the conditions of 25 $^\circ\text{C}$  ambient temperature and 30~70% related humidity.

Apply 1  $\pm 0.2\text{Vrms}$ , 1MHz  $\pm 10\%$  for Cap $\leq 1,000\text{pF}$  and 1  $\pm 0.2\text{Vrms}$ , 1kHz  $\pm 10\%$  for Cap $> 1,000\text{pF}$



# Multilayer Ceramic Capacitors

## Microwave Series



### Capacitance Range

Dielectric	NP0					Tolerance	
	Size		0201				0402
	6.3	10	25	50	100		
Rated Voltage (V DC)	6.3	10	25	50	100	Tolerance	
Capacitance	0.1pF (0R1)	L	L	L	N	N	B
	0.2pF (0R2)	L	L	L	N	N	A, B
	0.3pF (0R3)	L	L	L	N	N	A, B
	0.4pF (0R4)	L	L	L	N	N	A, B
	0.5pF (0R5)	L	L	L	N	N	A, B, C
	0.6pF (0R6)	L	L	L	N	N	A, B, C
	0.7pF (0R7)	L	L	L	N	N	A, B, C
	0.8pF (0R8)	L	L	L	N	N	A, B, C
	0.9pF (0R9)	L	L	L	N	N	A, B, C
	1.0pF (1R0)	L	L	L	N	N	A, B, C
	1.1pF (1R1)	L	L	L	N	N	A, B, C
	1.2pF (1R2)	L	L	L	N	N	A, B, C
	1.3pF (1R3)	L	L	L	N	N	A, B, C
	1.4pF (1R4)	L	L	L	N	N	A, B, C
	1.5pF (1R5)	L	L	L	N	N	A, B, C
	1.6pF (1R6)	L	L	L	N	N	A, B, C
	1.7pF (1R7)	L	L	L	N	N	A, B, C
	1.8pF (1R8)	L	L	L	N	N	A, B, C
	1.9pF (1R9)	L	L	L	N	N	A, B, C
	2.0pF (2R0)	L	L	L	N	N	A, B, C
	2.1pF (2R1)	L	L	L	N	N	A, B, C
	2.2pF (2R2)	L	L	L	N	N	A, B, C
	2.3pF (2R3)	L	L	L	N	N	A, B, C
	2.4pF (2R4)	L	L	L	N	N	A, B, C
	2.5pF (2R5)	L	L	L	N	N	A, B, C
	2.6pF (2R6)	L	L	L	N	N	A, B, C
	2.7pF (2R7)	L	L	L	N	N	A, B, C
	2.8pF (2R8)	L	L	L	N	N	A, B, C
	2.9pF (2R9)	L	L	L	N	N	A, B, C
	3.0pF (3R0)	L	L	L	N	N	A, B, C

Dielectric	NP0					Tolerance	
	Size		0201				0402
	6.3	10	25	50	100		
Rated Voltage (V DC)	6.3	10	25	50	100	Tolerance	
Capacitance	3.1pF (3R1)	L	L	L	N	N	A, B, C
	3.2pF (3R2)	L	L	L	N	N	A, B, C
	3.3pF (3R3)	L	L	L	N	N	A, B, C
	3.4pF (3R4)	L	L	L	N	N	A, B, C
	3.5pF (3R5)	L	L	L	N	N	A, B, C
	3.6pF (3R6)	L	L	L	N	N	A, B, C
	3.7pF (3R7)	L	L	L	N	N	A, B, C
	3.8pF (3R8)	L	L	L	N	N	A, B, C
	3.9pF (3R9)	L	L	L	N	N	A, B, C
	4.0pF (4R0)	L	L	L	N	N	A, B, C
	4.1pF (4R1)	L	L	L	N	N	A, B, C
	4.2pF (4R2)	L	L	L	N	N	A, B, C
	4.3pF (4R3)	L	L	L	N	N	A, B, C
	4.4pF (4R4)	L	L	L	N	N	A, B, C
	4.5pF (4R5)	L	L	L	N	N	A, B, C
	4.6pF (4R6)	L	L	L	N	N	A, B, C
	4.7pF (4R7)	L	L	L	N	N	A, B, C
	4.8pF (4R8)	L	L	L	N	N	A, B, C
	4.9pF (4R9)	L	L	L	N	N	A, B, C
	5.0pF (5R0)	L	L	L	N	N	A, B, C
	5.1pF (5R1)	L	L	L	N	N	B, C, D
	5.2pF (5R2)	L	L	L	N	N	B, C, D
	5.3pF (5R3)	L	L	L	N	N	B, C, D
	5.4pF (5R4)	L	L	L	N	N	B, C, D
	5.5pF (5R5)	L	L	L	N	N	B, C, D
	5.6pF (5R6)	L	L	L	N	N	B, C, D
	5.7pF (5R7)	L	L	L	N	N	B, C, D
	5.8pF (5R8)	L	L	L	N	N	B, C, D
	5.9pF (5R9)	L	L	L	N	N	B, C, D
	6.0pF (6R0)	L	L	L	N	N	B, C, D

1. The letter in cell is expressed the symbol of product thickness.
2. WTC provide E96 (IEC-63) product range with which capacitance≤10pF.
3. For more information about products with special capacitance or other data, please contact WTC local representative.



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### Capacitance Range

Dielectric	NP0					Tolerance
	201		402			
	6.3	10	25	50	100	
Size						
Rated Voltage (V DC)						
6.1pF (6R1)	L	L	L	N	N	B, C, D
6.2pF (6R2)	L	L	L	N	N	B, C, D
6.3pF (6R3)	L	L	L	N	N	B, C, D
6.4pF (6R4)	L	L	L	N	N	B, C, D
6.5pF (6R5)	L	L	L	N	N	B, C, D
6.6pF (6R6)	L	L	L	N	N	B, C, D
6.7pF (6R7)	L	L	L	N	N	B, C, D
6.8pF (6R8)	L	L	L	N	N	B, C, D
6.9pF (6R9)	L	L	L	N	N	B, C, D
7.0pF (7R0)	L	L	L	N	N	B, C, D
7.1pF (7R1)	L	L	L	N	N	B, C, D
7.2pF (7R2)	L	L	L	N	N	B, C, D
7.3pF (7R3)	L	L	L	N	N	B, C, D
7.4pF (7R4)	L	L	L	N	N	B, C, D
7.5pF (7R5)	L	L	L	N	N	B, C, D
7.6pF (7R6)	L	L	L	N	N	B, C, D
7.7pF (7R7)	L	L	L	N	N	B, C, D
7.8pF (7R8)	L	L	L	N	N	B, C, D
7.9pF (7R9)	L	L	L	N	N	B, C, D
8.0pF (8R0)	L	L	L	N	N	B, C, D
8.1pF (8R1)	L	L	L	N	N	B, C, D
8.2pF (8R2)	L	L	L	N	N	B, C, D
8.3pF (8R3)	L	L	L	N	N	B, C, D
8.4pF (8R4)	L	L	L	N	N	B, C, D
8.5pF (8R5)	L	L	L	N	N	B, C, D
8.6pF (8R6)	L	L	L	N	N	B, C, D
8.7pF (8R7)	L	L	L	N	N	B, C, D
8.8pF (8R8)	L	L	L	N	N	B, C, D
8.9pF (8R9)	L	L	L	N	N	B, C, D
9.0pF (9R0)	L	L	L	N	N	B, C, D

Dielectric	NP0					Tolerance
	201		402			
	6.3	10	25	50	100	
Size						
Rated Voltage (V DC)						
9.1pF (9R1)	L	L	L	N	N	B, C, D
9.2pF (9R2)	L	L	L	N	N	B, C, D
9.3pF (9R3)	L	L	L	N	N	B, C, D
9.4pF (9R4)	L	L	L	N	N	B, C, D
9.5pF (9R5)	L	L	L	N	N	B, C, D
9.6pF (9R6)	L	L	L	N	N	B, C, D
9.7pF (9R7)	L	L	L	N	N	B, C, D
9.8pF (9R8)	L	L	L	N	N	B, C, D
9.9pF (9R9)	L	L	L	N	N	B, C, D
10pF (100)	L	L	L	N	N	F, G, J
11pF (110)	L	L	L	N		F, G, J
12pF (120)	L	L	L	N		F, G, J
13pF (130)	L	L	L	N		F, G, J
15pF (150)	L	L	L	N		F, G, J
16pF (160)	L	L	L	N		F, G, J
18pF (180)	L	L	L	N		F, G, J
20pF (200)	L	L	L	N		F, G, J
22pF (220)	L	L		N		F, G, J
24pF (240)	L	L				F, G, J
27pF (270)	L	L				F, G, J
30pF (300)	L	L				F, G, J
33pF (330)	L	L				F, G, J
36pF (360)						F, G, J
39pF (390)						F, G, J
43pF (430)						F, G, J
47pF (470)						F, G, J
56pF (560)						F, G, J
68pF (680)						F, G, J
82pF (820)						F, G, J
100pF (101)						F, G, J

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3. For more information about products with special capacitance or other data, please contact WTC local representative.



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## Microwave Series



### Packaging Dimension And Quantity:

Size	Thickness (mm)/Symbol		Paper Tape	
			7" reel	13" reel
0201 (0603)	0.3 ±0.03	L	15,000	70,000
0402 (1005)	0.5 ±0.05	N	10,000	50,000

Unit : pieces

### Reliability Test Conditions and Requirements:

No	Item	Test Condition	Requirements
1	Visual and Mechanical		No remarkable defect. Dimensions to conform to individual specification sheet.
2	Capacitance	1 ±0.2Vrms, 1MHz ±10% At 25°C ambient temperature.	Shall not exceed the limits given in the detailed spec.
3	Q/ D.F. (Dissipation Factor)		Cap ≥30pF, Q ≥1,000; Cap <30pF, Q ≥400 +20C
4	Dielectric Strength	To apply voltage: ≤100V, ≥250% of rated voltage. 250V, ≥200% of rated voltage. Duration: 1 to 5 sec. Charge and discharge current less than 50mA.	No evidence of damage or flash over during test.
5	Insulation Resistance	To apply rated voltage for max. 120 sec.	≥10GΩ
6	Temperature Coefficient	With no electrical load. Operating temperature: -55°C~125°C at 25°C	Capacitance change : Within ±30ppm/°C; 0201Cap ≥22pF, Within ±60ppm/°C
7	Adhesive Strength of Termination	Pressurizing force: 0201: 2N 0402 : 5N Test time: 10±1 sec.	No remarkable damage or removal of the terminations.
8	Vibration Resistance	Vibration frequency: 10~55 Hz/min. Total amplitude: 1.5mm Test time: 6 hrs. (Two hrs each in three mutually perpendicular directions.) Measurement to be made after keeping at room temp. for 24±2 hrs.	No remarkable damage. Cap change and Q/D.F.: To meet initial spec.
9	Solderability	Solder temperature : 235 ±5°C Dipping time : 2 ±0.5 sec.	95% min. coverage of all metalized area.

# Multilayer Ceramic Capacitors

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No	Item	Test Condition	Requirements															
10	Bending Test	The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1 mm per second until the deflection becomes 1mm and then the pressure shall be maintained for 5±1 sec. Measurement to be made after keeping at room temp. for 24±2 hrs.	No remarkable damage. Cap change: within ±5.0% or ±0.5pF whichever is larger. (This capacitance change means the change of capacitance under specified flexure of substrate from the capacitance measured before the test.)															
11	Resistance to Soldering Heat	Solder temperature: 260 ±5°C Dipping time: 10 ±1sec Preheating: 120 to 150°C for 1 minute before immerse the capacitor in a eutectic solder. Before initial measurement (Class II only): Perform 150+0/-10°C for 1 hr and then set for 24 ±2hrs at room temp. Measurement to be made after keeping at room temp. for 24±2 hrs.	No remarkable damage. Cap change: within ±2.5% or ±0.25pF whichever is larger. Q/D.F., I.R. and dielectric strength: To meet initial requirements. 25% max. leaching on each edge.															
12	Temperature Cycle	Conduct the five cycles according to the temperatures and time. <table border="1" data-bbox="432 1048 879 1330"> <thead> <tr> <th>Step</th> <th>Temp. (°C)</th> <th>Time (Min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Min. operating temp. +0/-3</td> <td>30 ±3</td> </tr> <tr> <td>2</td> <td>Room temp.</td> <td>2~3</td> </tr> <tr> <td>3</td> <td>Max. operating temp. +3/-0</td> <td>30 ±3</td> </tr> <tr> <td>4</td> <td>Room temp.</td> <td>2~3</td> </tr> </tbody> </table> Before initial measurement (Class II only): Perform 150+0/-10°C for 1 hr and then set for 24 ±2hrs at room temp. Measurement to be made after keeping at room temp. for 24 ±2hrs.	Step	Temp. (°C)	Time (Min.)	1	Min. operating temp. +0/-3	30 ±3	2	Room temp.	2~3	3	Max. operating temp. +3/-0	30 ±3	4	Room temp.	2~3	No remarkable damage. Cap change : within ±2.5% or ±0.25pF whichever is larger. Q/D.F., I.R. and dielectric strength: To meet initial requirements.
Step	Temp. (°C)	Time (Min.)																
1	Min. operating temp. +0/-3	30 ±3																
2	Room temp.	2~3																
3	Max. operating temp. +3/-0	30 ±3																
4	Room temp.	2~3																
13	Humidity (Damp Heat) Steady State	Test temp.: 40±2°C Humidity: 90~95% RH Test time: 500+24/-0hrs. Before initial measurement (Class II only): Perform 150+0/-10°C for 1hrs and then set for 24 ±2hrs at room temp. Measurement to be made after keeping at room temp. for 24 ±2hrs.	No remarkable damage. Cap change: NPO: within ±5% or ±0.5pF whichever is larger. Q/D.F. value: Cap ≥30pF, Q ≥350; 10pF ≤ Cap <30pF, Q ≥ 275 +2.5C Cap <10pF; Q ≥200 +10C															



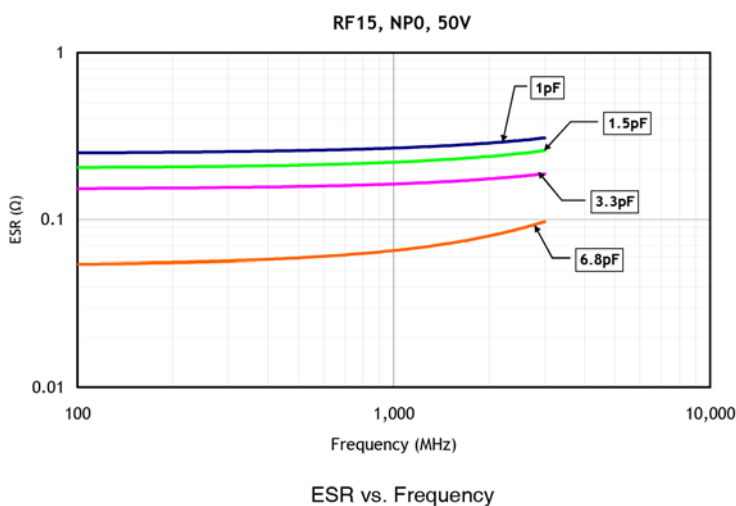
# Multilayer Ceramic Capacitors

## Microwave Series



No	Item	Test Condition	Requirements				
14	Humidity Load (Damp Heat)	Test temp. : 40 ±2°C Humidity : 90~95%RH Test time : 500 +24/-0 hrs. To apply voltage: rated voltage. Before initial measurement (Class II only): To apply test voltage for 1hrs at 40°C and then set for 24 ±2hrs at room temp. Measurement to be made after keeping at room temp. for 24±2 hrs.	No remarkable damage. Cap change: within ±7.5% or ±0.75pF whichever is larger. Q/D.F. value : Cap ≥ 30pF, Q ≥ 200; Cap < 30pF, Q ≥ 100 +10/3C I.R. : ≥500MΩ				
15	High Temperature Load (Endurance)	Test temp. : 125±3°C To apply voltage : 200% of rated voltage. Test time : 1,000+24/-0hrs. Before initial measurement (Class II only): To apply test voltage for 1hrs at test temp. and then set for 24 ±2hrs at room temp. Measurement to be made after keeping at room temp. for 24 ±2 hrs	No remarkable damage. Cap change: within ±3.0% or ±0.3pF whichever is larger. Q/D.F. value : Cap ≥30pF, Q ≥350 10pF ≤Cap <30pF, Q≥275+2.5C Cap<10pF, Q≥200+10C I.R. : ≥1GΩ.				
16	ESR	The ESR should be measured at room temperature and tested at frequency 1 ±0.1GHz.	<table border="1"> <tr> <td>0201 &amp; 0402</td> </tr> <tr> <td>0.5pF≤Cap≤1pF : &lt; 350mΩ</td> </tr> <tr> <td>1pF&lt;Cap≤5pF : &lt; 300mΩ</td> </tr> <tr> <td>5pF&lt;Cap≤22pF : &lt; 250mΩ</td> </tr> </table>	0201 & 0402	0.5pF≤Cap≤1pF : < 350mΩ	1pF<Cap≤5pF : < 300mΩ	5pF<Cap≤22pF : < 250mΩ
		0201 & 0402					
0.5pF≤Cap≤1pF : < 350mΩ							
1pF<Cap≤5pF : < 300mΩ							
5pF<Cap≤22pF : < 250mΩ							
		The ESR should be measured at room temperature and tested at frequency 500 ±50MHz	0201, 22pF≤Cap≤33pF: < 300mΩ				

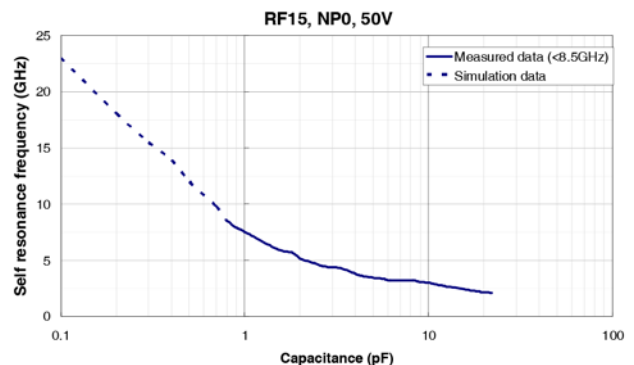
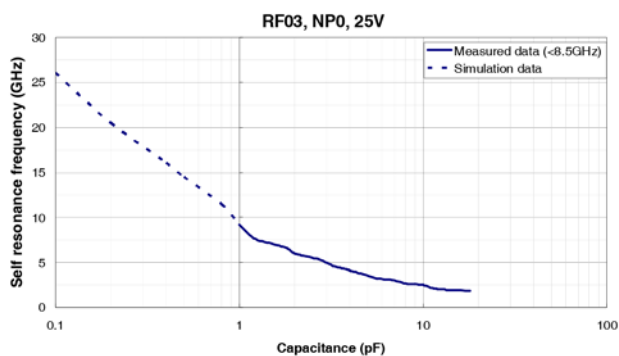
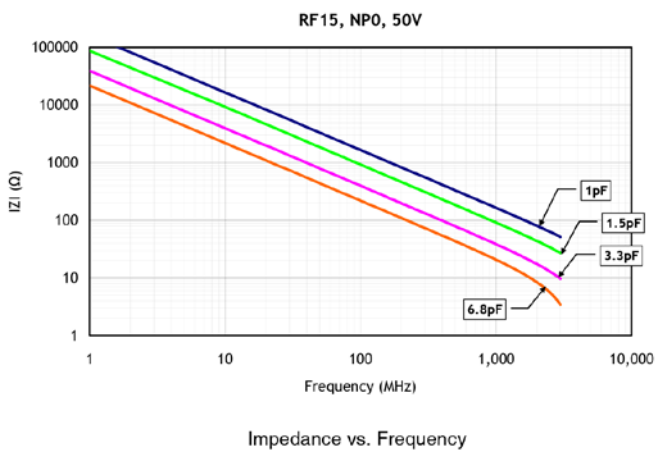
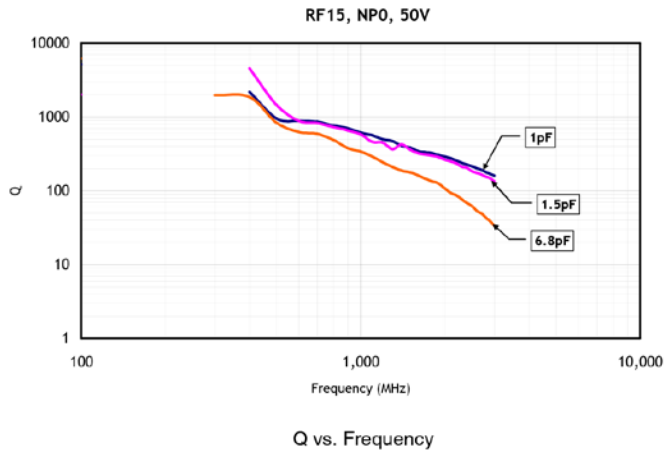
### Electrical Characteristics



# Multilayer Ceramic Capacitors Microwave Series



## Electrical Characteristics

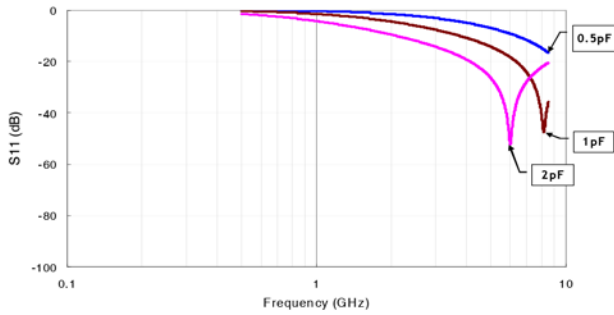


# Multilayer Ceramic Capacitors Microwave Series



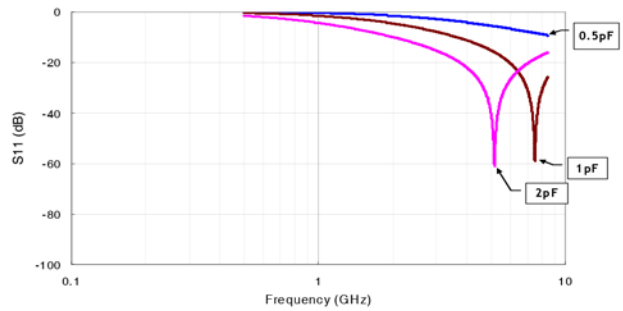
## Electrical Characteristics

RF03, NP0, 25V Comparison



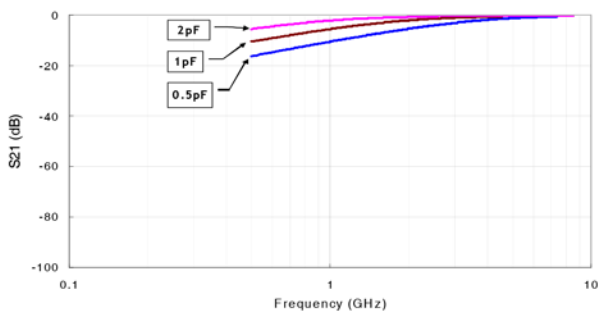
S11 vs. frequency. (0201 size)

RF15, NP0, 50V Comparison



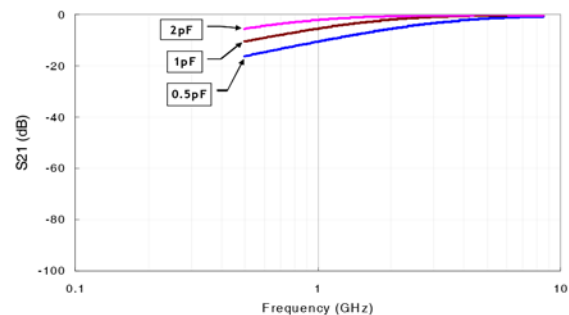
S11 vs. frequency. (0402 size)

RF03, NP0, 25V Comparison



S21 vs. frequency. (0201 size)

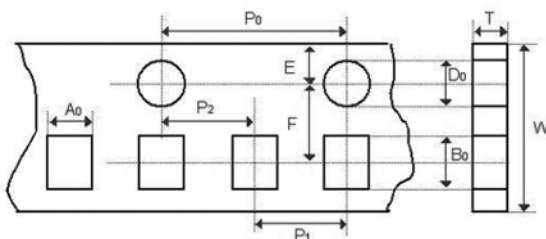
RF15, NP0, 50V Comparison



S21 vs. frequency. (0402 size)

## Appendixes

### Tape & Reel Dimensions



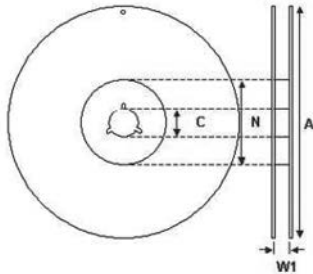
The dimension of paper tape

Size	0201	0402
<b>Thickness</b>	<b>L</b>	<b>N</b>
A <sub>0</sub>	0.37 ±0.03	0.62 ±0.05
B <sub>0</sub>	0.67 ±0.03	1.12 ±0.05
T	0.42 ±0.03	0.6 ±0.05
K <sub>0</sub>	-	-
W	8 ±0.10	8 ±0.10
P <sub>0</sub>	4 ±0.10	4 ±0.10
10xP <sub>0</sub>	40 ±0.10	40 ±0.10
P <sub>1</sub>	2 ±0.05	2 ±0.05
P <sub>2</sub>	2 ±0.05	2 ±0.05
D <sub>0</sub>	1.55 ±0.05	1.55 ±0.05
D <sub>1</sub>	-	-
E	1.75 ±0.05	1.75 ±0.05
F	3.5 ±0.05	3.5 ±0.05





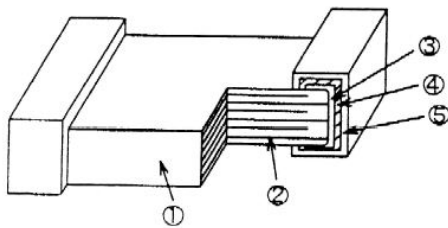
# Multilayer Ceramic Capacitors Microwave Series



The dimension of reel

Size	0201 & 0402	
Reel size	7"	13"
C	13 +0.5/-0.2	13 +0.5/-0.2
W1	8.4 +1.5/-0	8.4 +1.5/-0
A	178 ±0.1	330 ±1
N	60 +1/-0	100 ±1

## Constructions:



No.	Name	NP0
1	Ceramic material	BaTiO <sub>3</sub> based
2	Inner electrode	Cu
3	Termination	Inner layer
4		Middle layer
5		Outer layer
		Sn (Matt)

## Storage and handling conditions

- (1) To store products at 5°C to 40°C ambient temperature and 20 to 70% related humidity conditions.
- (2) The product is recommended to be used within one year after shipment. Check solderability in case of shelf life extension is needed.

## Cautions:

- a. The corrosive gas reacts on the terminal electrodes of capacitors, and results in the poor solderability. Do not store the capacitors in the ambience of corrosive gas (e.g., hydrogen sulfide, sulfur dioxide, chlorine, ammonia gas etc.)
- b. In corrosive atmosphere, solderability might be degraded, and silver migration might occur to cause low reliability.
- c. Due to the dewing by rapid humidity change, or the photochemical change of the terminal electrode by direct sunlight, the solderability and electrical performance may deteriorate. Do not store capacitors under direct sunlight or dewing condition. To store products on the shelf and avoid exposure to moisture.

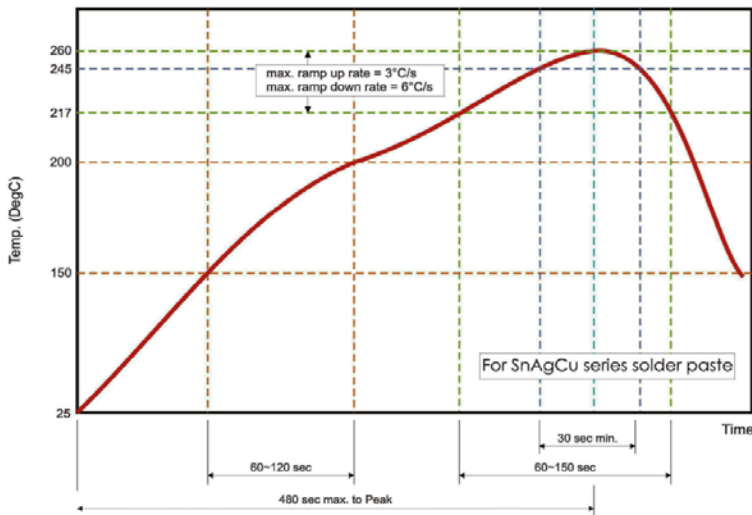


# Multilayer Ceramic Capacitors Microwave Series

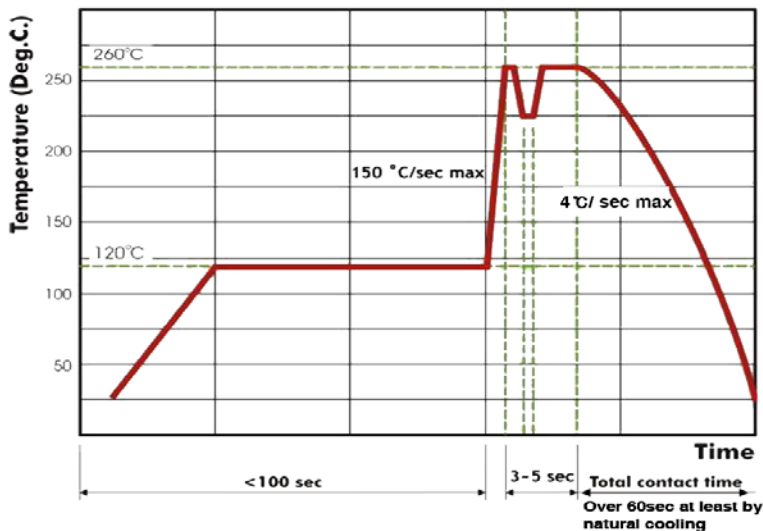


## Recommended Soldering Conditions:

The lead-free termination MLCCs are not only to be used on SMT against lead-free solder paste, but also suitable against lead-containing solder paste. If the optimized solder joint is requested, increasing soldering time, temperature and concentration of N2 within oven are recommended.



Recommended reflow soldering profile for SMT process with SnAgCu series solder paste.



Recommended wave soldering profile for SMT process with SnAgCu series solder.



# Multilayer Ceramic Capacitors

## Microwave Series



### Part Number Table

Description	Part Number
Capacitor, RF, 0.2PF, 25V, NP0, 0201	MC000302
Capacitor, RF, 0.2PF, 25V, NP0, 0201	MC000303
Capacitor, RF, 0.3PF, 25V, NP0, 0201	MC000304
Capacitor, RF, 0.5PF, 25V, NP0, 0201	MC000305
Capacitor, RF, 0.6PF, 25V, NP0, 0201	MC000306
Capacitor, RF, 0.8PF, 25V, NP0, 0201	MC000307
Capacitor, RF, 10PF, 25V, NP0, 0201	MC000308
Capacitor, RF, 15PF, 25V, NP0, 0201	MC000309
Capacitor, RF, 18PF, 25V, NP0, 0201	MC000310
Capacitor, RF, 1.0PF, 25V, NP0, 0201	MC000311
Capacitor, RF, 1.0PF, 25V, NP0, 0201	MC000312
Capacitor, RF, 1.2PF, 25V, NP0, 0201	MC000313
Capacitor, RF, 1.2PF, 25V, NP0, 0201	MC000314
Capacitor, RF, 1.8PF, 25V, NP0, 0201	MC000315
Capacitor, RF, 22PF, 10V, NP0, 0201	MC000316
Capacitor, RF, 2.0PF, 25V, NP0, 0201	MC000317
Capacitor, RF, 2.2PF, 25V, NP0, 0201	MC000318
Capacitor, RF, 2.7PF, 25V, NP0, 0201	MC000319
Capacitor, RF, 33PF, 10V, NP0, 0201	MC000320
Capacitor, RF, 4.7PF, 25V, NP0, 0201	MC000321
Capacitor, RF, 5.6PF, 25V, NP0, 0201	MC000322
Capacitor, RF, 8.2PF, 25V, NP0, 0201	MC000323
Capacitor, RF, 8.2PF, 25V, NP0, 0201	MC000324
Capacitor, RF, 9.0PF, 25V, NP0, 0201	MC000325
Capacitor, RF, 0.2PF, 50V, NP0, 0402	MC000326
Capacitor, RF, 0.2PF, 50V, NP0, 0402	MC000327
Capacitor, RF, 0.3PF, 50V, NP0, 0402	MC000328
Capacitor, RF, 0.3PF, 50V, NP0, 0402	MC000329
Capacitor, RF, 0.4PF, 50V, NP0, 0402	MC000330

Description	Part Number
Capacitor, RF, 0.4PF, 50V, NP0, 0402	MC000331
Capacitor, RF, 0.5PF, 50V, NP0, 0402	MC000332
Capacitor, RF, 0.5PF, 50V, NP0, 0402	MC000333
Capacitor, RF, 0.6PF, 50V, NP0, 0402	MC000334
Capacitor, RF, 0.8PF, 50V, NP0, 0402	MC000335
Capacitor, RF, 10PF, 50V, NP0, 0402	MC000336
Capacitor, RF, 1.0PF, 50V, NP0, 0402	MC000337
Capacitor, RF, 1.0PF, 50V, NP0, 0402	MC000338
Capacitor, RF, 1.0PF, 50V, NP0, 0402	MC000339
Capacitor, RF, 1.2PF, 50V, NP0, 0402	MC000340
Capacitor, RF, 1.2PF, 50V, NP0, 0402	MC000341
Capacitor, RF, 1.2PF, 50V, NP0, 0402	MC000342
Capacitor, RF, 1.5PF, 50V, NP0, 0402	MC000343
Capacitor, RF, 1.5PF, 50V, NP0, 0402	MC000344
Capacitor, RF, 1.8PF, 50V, NP0, 0402	MC000345
Capacitor, RF, 1.8PF, 50V, NP0, 0402	MC000346
Capacitor, RF, 2.0PF, 50V, NP0, 0402	MC000347
Capacitor, RF, 2.0PF, 50V, NP0, 0402	MC000348
Capacitor, RF, 2.2PF, 50V, NP0, 0402	MC000349
Capacitor, RF, 2.4PF, 50V, NP0, 0402	MC000350
Capacitor, RF, 2.4PF, 50V, NP0, 0402	MC000351
Capacitor, RF, 2.7PF, 50V, NP0, 0402	MC000352
Capacitor, RF, 3.3PF, 50V, NP0, 0402	MC000353
Capacitor, RF, 3.3PF, 50V, NP0, 0402	MC000354
Capacitor, RF, 3.9PF, 50V, NP0, 0402	MC000355
Capacitor, RF, 4.7PF, 50V, NP0, 0402	MC000356
Capacitor, RF, 8.2PF, 50V, NP0, 0402	MC000357
Capacitor, RF, 9.0PF, 50V, NP0, 0402	MC000358

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