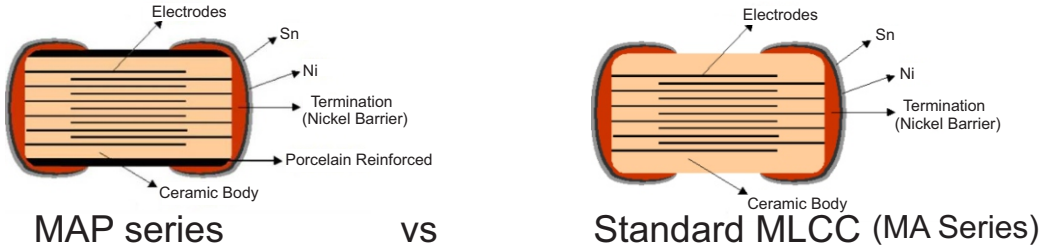


INTRODUCTION

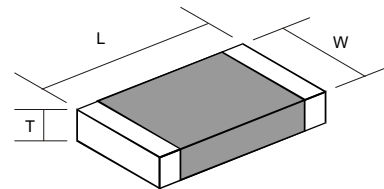
The RFE MAP Series was designed to replace many soft or flexible termination capacitor applications. This capacitor resists flexing by adding porcelain re-enforcement layers. This has the result of greatly reducing MLCC cracks and subsequent crack related failures.

MAP vs Standard MLCC



DIMENSIONS

Size	Length (mm)	Width (mm)	Thickness Max (mm)
0402 (1005)	1.00	0.50	See Capacitance Chart
0603 (1608)	1.60	0.80	
0805 (2012)	2.00	1.25	
1206 (3216)	3.20	1.60	



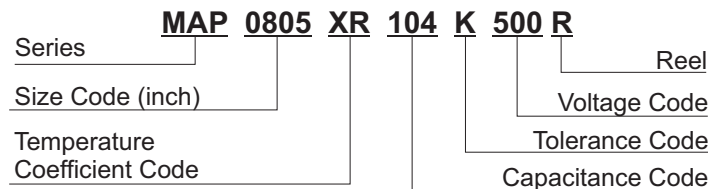
GENERAL ELECTRICAL DATA

Dielectric	X5R	X7R
Temperature Coefficient Code	X5R	XR
Size	See Capacitance Chart on page 2	
Rated Voltage (WVDC)	See Capacitance Chart on page 2	
Capacitance Range	See Capacitance Chart on page 2	
Capacitance Tolerance	J (±5%), K (±10%), M (±20%)	
Tan δ * / DF	< 3% to 10% (depending on value/voltage combination)	
Operating Temperature	- 55 to + 85°C	- 55 to + 125°C
Capacitance Characteristic	± 15%	

* Measured at the condition of 30~70% related humidity, apply 1.0±0.2Vrms, 1.0MHz±10% at 25°C.

** Preconditioning for Class II MLCC: Perform a heat treatment at 150±10°C for 1 hour, Then leave in ambient condition for 24±2 hours before measurement.

HOW TO MAKE PART NUMBER



CAPACITANCE CODE EXAMPLES

Code	221	102	222	103	473	104	105	106
in µF	0.00022	0.001	0.0022	0.01	0.047	0.1	1.0	10
in pF	220	1,000	2,200	10,000	47,000	100,000	1,000,000	10,000,000

TOLERANCE CODE J=±5%, K=±10%,

■ CAPACITANCE RANGE (pF)

Temperature Coefficient			X5R (X5R)	Thickness (max) mm	X7R (XR)	Thickness (max) mm
Size Code	Voltage	Code				
0402 (1005)	6.3V	060	220 ~ 220,000	0.50±0.10	220 ~ 220,000	0.50±0.10
	10V	100	220 ~ 220,000	0.50±0.10	220 ~ 220,000	0.50±0.10
	16V	160	220 ~ 220,000	0.50±0.10	220 ~ 220,000	0.50±0.10
	25V	250	220 ~ 220,000	0.50±0.10	220 ~ 220,000	0.50±0.10
	50V	500	220 ~ 68,000	0.50±0.10	220 ~ 68,000	0.50±0.10
0603 (1608)	6.3V	060	220 ~ 2,200,000	0.80±0.10	220 ~ 2,200,000	0.80±0.10
	10V	100	220 ~ 2,200,000	0.80±0.10	220 ~ 2,200,000	0.80±0.10
	16V	160	220 ~ 2,200,000	0.80±0.10	220 ~ 2,200,000	0.80±0.10
	25V	250	220 ~ 1,000,000	0.80±0.10	220 ~ 1,000,000	0.80±0.10
	50V	500	220 ~ 470,000	0.80±0.10	220 ~ 470,000	0.80±0.10
	100V	101	220 ~ 18,000	0.80±0.10	220 ~ 18,000	0.80±0.10
0805 (2012)	6.3V	060	220 ~ 270	0.60±0.10	220 ~ 270	0.60±0.10
			330 ~ 1,000,000	0.85±0.10	330 ~ 1,000,000	0.85±0.10
			2,200,000 ~ 10,000,000	1.25±0.20	2,200,000 ~ 10,000,000	1.25±0.20
	10V	100	220 ~ 270	0.60±0.10	220 ~ 270	0.60±0.10
			330 ~ 1,000,000	0.85±0.10	330 ~ 1,000,000	0.85±0.10
			2,200,000 ~ 10,000,000	1.25±0.20	2,200,000 ~ 10,000,000	1.25±0.20
	16V	160	220 ~ 270	0.60±0.10	220 ~ 270	0.60±0.10
			330 ~ 330,000	0.85±0.10	330 ~ 330,000	0.85±0.10
			470,000 ~ 10,000,000	1.25±0.20	470,000 ~ 10,000,000	1.25±0.20
	25V	250	220 ~ 270	0.60±0.10	220 ~ 270	0.60±0.10
			330 ~ 330,000	0.85±0.10	330 ~ 330,000	0.85±0.10
			470,000 ~ 2,200,000	1.25±0.20	470,000 ~ 2,200,000	1.25±0.20
	50V	500	220 ~ 270	0.60±0.10	220 ~ 270	0.60±0.10
			330 ~ 180,000	0.85±0.10	330 ~ 180,000	0.85±0.10
			220,000 ~ 1,000,000	1.25±0.20	220,000 ~ 1,000,000	1.25±0.20
	100V	101			220 ~ 100,000	1.25±0.20
	200V	201			220 ~ 47,000	1.25±0.20
250V	251			220 ~ 47,000	1.25±0.20	
500V	501			220 ~ 2,200	1.25±0.20	
1206 (3216)	6.3V	060	220 ~ 330,000	0.85±0.10	220 ~ 330,000	0.85±0.10
			470,000 ~ 2,200,000	1.25±0.20	470,000 ~ 2,200,000	1.25±0.20
			4,700,000 ~ 22,000,000	1.60±0.20	4,700,000 ~ 22,000,000	1.60±0.20
	10V	100	220 ~ 330,000	0.85±0.10	220 ~ 330,000	0.85±0.10
			470,000 ~ 2,200,000	1.25±0.20	470,000 ~ 2,200,000	1.25±0.20
			4,700,000 ~ 22,000,000	1.60±0.20	4,700,000 ~ 22,000,000	1.60±0.20
	16V	160	220 ~ 330,000	0.85±0.10	220 ~ 330,000	0.85±0.10
			470,000 ~ 2,200,000	1.25±0.20	470,000 ~ 2,200,000	1.25±0.20
			4,700,000 ~ 10,000,000	1.60±0.20	4,700,000 ~ 10,000,000	1.60±0.20
	25V	250	220 ~ 330,000	0.85±0.10	220 ~ 330,000	0.85±0.10
			470,000 ~ 2,200,000	1.25±0.20	470,000 ~ 2,200,000	1.25±0.20
			4,700,000	1.60±0.20	4,700,000	1.60±0.20
	50V	500	220 ~ 330,000	0.85±0.10	220 ~ 330,000	0.85±0.10
			470,000	1.25±0.20	470,000	1.25±0.20
			680,000 ~ 1,000,000	1.60±0.20	680,000 ~ 1,000,000	1.60±0.20
	100V	101			220 ~ 27,000	1.25±0.20
					33,000 ~ 100,000	1.25±0.20
	250V	251			220 ~ 27,000	1.25±0.20
					33,000 ~ 100,000	1.25±0.20
500V	501			220 ~ 22,000	1.25±0.20	
				27,000 ~ 47,000	1.25±0.20	
1000V	102			220 ~ 1,000	1.25±0.20	
				2,200 ~ 10,000	1.25±0.20	
2000V	202			220 ~ 1,000	1.25±0.20	

*Surface mount offerings continue to change, please contact RFE International, for values, sizes, and voltages not listed.

■ CHARACTERISTIC CURVES

X5R

X7R

