

# TIP & RING CHIP CAPACITORS



The Tip & Ring MLCC series are designed specifically for telecom ringer circuit applications where it is necessary to provide a block of the line voltage (typically -48 VDC) while passing the AC ringing voltage. These compact ceramic SMD chips replace bulky leaded film caps saving board space and stream-lining the assembly process.

## KEY FEATURES

- Blocks Off-hook DC Voltage
- Passes AC Ring Signal
- 250 VDC Ratings For Telecom Interface
- Choice of SMD Chip Sizes
- Low ESR versus Frequency
- Stable Temperature Performance (X7R)

## CAPACITANCE SELECTION -1812-2225 SIZE

DIELECTRIC X7R	S43 / 1812		S49 / 1825		S47 / 2220		S48 / 2225	
	INCHES	(mm)	INCHES	(mm)	INCHES	(mm)	INCHES	(mm)
	L .175 ±.010	(4.45 ±.25)	L .180 ±.010	(4.57 ±.25)	L .225 ±.010	(5.72 ±.25)	L .225 ±.010	(5.72 ±.25)
	W .125 ±.010	(3.17 ±.25)	W .250 ±.010	(6.35 ±.25)	W .200 ±.010	(5.08 ±.25)	W .250 ±.010	(6.35 ±.25)
	T .125 Max.	(3.17)	T .140 Max.	(3.55)	T .140 Max.	(3.55)	T .140 Max.	(3.55)
	E/B .025 ±.015	(0.64±.38)	E/B .025 ±.015	(0.64±.38)	E/B .025 ±.015	(0.64±.38)	E/B .025 ±.015	(0.64±.38)
	250 VDC		250 VDC		250 VDC		250 VDC	
	.047 µF							
	.056 µF							
	.068 µF							
	.082 µF							
	.10 µF							
	.12 µF							
	.15 µF							
	.18 µF							
	.22 µF							
	.27 µF							
	.33 µF							
	.39 µF							
	.47 µF							
	.56 µF							
	.68 µF							
	.82 µF							
	1.00 µF							
	1.20 µF							
	1.50 µF							

Please contact the factory for capacitance, voltage, case size combinations not shown.

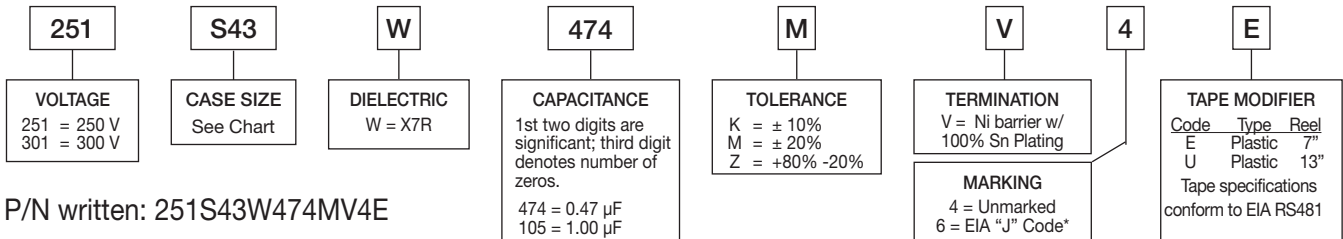
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## CAPACITANCE SELECTION - 0805-1808 SIZE

DIELECTRIC X7R	R15 / 0805		R18 / 1206		S41 / 1210		R29 / 1808	
	INCHES (mm)		INCHES (mm)		INCHES (mm)		INCHES (mm)	
	L	W	L	W	L	W	L	W
	.080 ±.010	(2.03 ±.25)	.125 ±.010	(3.17 ±.25)	.125 ±.010	(3.18 ±.25)	.180 ±.010	(4.57 ±.25)
	.050 ±.010	(1.27 ±.25)	.062 ±.010	(1.57 ±.25)	.095 ±.010	(2.41 ±.25)	.080 ±.010	(2.41 ±.25)
	.050 Max.	(1.27)	.055 Max.	(1.40)	.065 Max.	(1.65)	.065 Max.	(1.65)
	E/B .020 ±.010	(0.51±.25)	E/B .020 ±.010	(0.51±.25)	E/B .020 ±.010	(0.51±.25)	E/B .020 ±.010	(0.51±.25)
	250 VDC		250 VDC		250 VDC		250 VDC	
1000 pF								
1200 pF								
1500 pF								
1800 pF								
2200 pF								
2700 pF								
3300 pF								
3900 pF								
4700 pF								
5600 pF								
8200 pF								
.010 µF								
.012 µF								
.015 µF								
.018 µF								
.022 µF								
.027 µF								
.033 µF								
.039 µF								
.047 µF								
.056 µF								
.068 µF								
.082 µF								
0.10 µF								
0.22 µF								
0.27 µF								

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## HOW TO ORDER TIP & RING



P/N written: 251S43W474MV4E



# TIP & RING CHIP CAPACITORS

## X7R DIELECTRIC CHARACTERISTICS

TEMPERATURE COEFFICIENT:  $\pm 15\%$ , -55 to +125°C

DISSIPATION FACTOR: For  $\geq 50$  Volts: 2.5% max  
For 25 Volts: 3.0% max  
For 16 Volts: 3.5% max

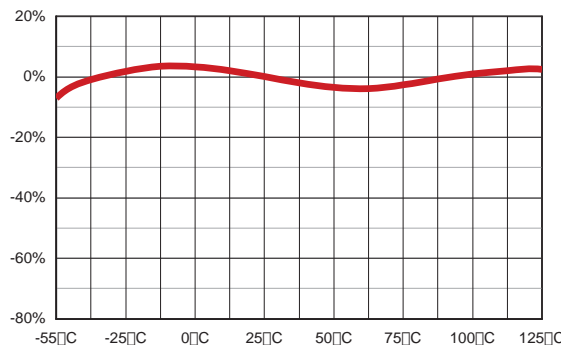
AGING: 2.5% / decade hour

INSULATION RESISTANCE: 1000  $\Omega$ F or 100 G $\Omega$ , whichever is less @ 25°C, WVDC  
(500  $\Omega$ F or 10 G $\Omega$  for Tanceram® capacitors)  
125°C IR is 10% of 25°C rating.

DIELECTRIC STRENGTH: 2.5 X rated voltages of 6 to 200 VDC  
2.0 X rated voltages of 201 to 499 VDC  
1.5 X rated voltages of 500 to 999 VDC  
1.2 X rated voltages of 1000 VDC or higher.

TEST PARAMETERS: 1kHz  $\pm 50$ Hz, 1.0 $\pm$ 0.2 VRMS, 25°C

## X7R CAP. VS TEMPERATURE



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