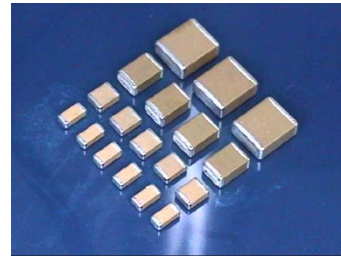


SAC Series Tip & Ring Capacitors



Telephone lines use a DC voltage of 48 volts and pass the subscriber's AC signal pulse of 15 to 25Hz at 70 to 90Vrms. These MLCC Tip & Ring capacitors replace bulky leaded film capacitors and offer excellent frequency response, low ESR and improved temperature characteristics. Ideal for telecommunication and modem applications.

◆ Features

- Small size & high capacitance.
- Suitable for wave and reflow soldering.
- Surface mount.
- Low ESR characteristics & improved temperature performance.
- RoHS compliant.

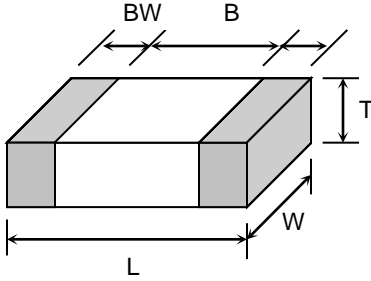
◆ Summary of Specifications

Operating Temperature	X7R : -55~+125 °C , Y5U : -30~+85 °C
Rated Voltage	250Vdc
Temperature Coefficient	Y5U : ≤ +22 /-56 % , -30~+85 °C (EIA Class II)
	X7R : ≤ ± 15% , -55~+125 °C (EIA Class II)
Capacitance Range	Y5U : 10nF ~ 1.0uF
	X7R : 180pF ~ 2.2uF
Dissipation Factor	Y5U : D.F.≤4.0% ; X7R : D.F.≤2.5%
Insulation Resistance	10GΩ or 500/C Ω whichever is smaller
Dielectric Strength	200% rated voltage for 5 second @ 50mA max. current
Ageing	Y5U: 4.0 %; X7R: 1.0 % per decade hr , typical

◆ How To Order

C	1812	X	474	M	251	T
Product Code	Chip Size	Dielectric	Capacitance Unit : pF	Tolerance	Rated Voltage	Packaging
C : MLCC Multilayer Ceramic Capacitor	Ex. : 0805 1206 1210 1812 2220	Ex. : X : X7R E : Y5U	Ex. : 103 : 10×10 ³ 474 : 47×10 ⁴	Ex. : K : +/- 10% M : +/- 20%	Ex. : 251 : 250Vdc	T : Tape & Reel B : Bulk

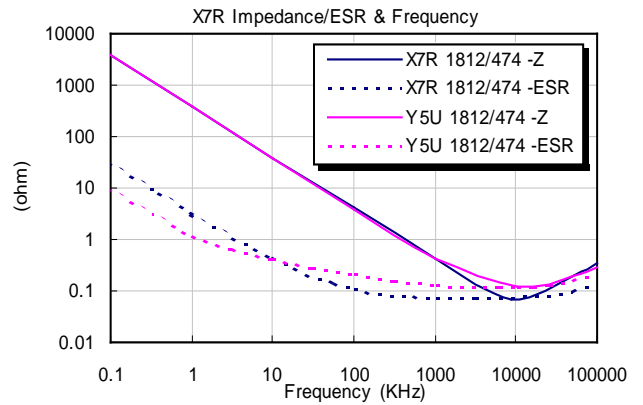
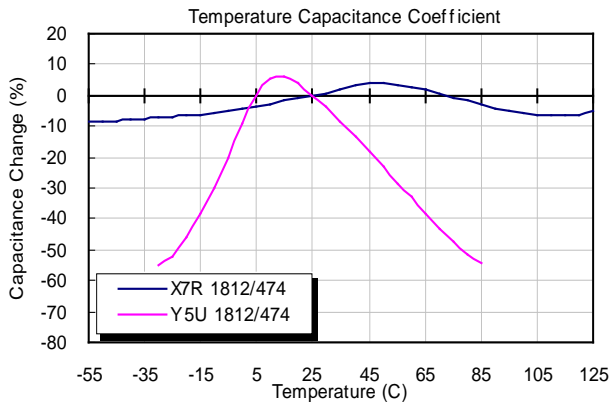
◆ Dimensions



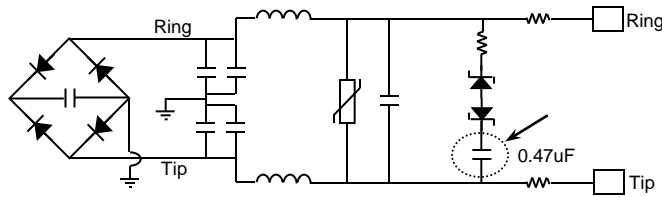
Unit : mm [inches]

TYPE	L	W	T (max)	B (min)	BW (min)
0805	2.00±0.2 [.079±.008]	1.25±0.2 [.049±.008]	1.45 [.043]	0.70 [.028]	0.20 [.008]
1206	3.20±0.3 [.126±.012]	1.60±0.2 [.063±.008]	1.80 [.071]	1.50 [.059]	0.30 [.012]
1210	3.20±0.3 [.126±.012]	2.50±0.2 [.098±.008]	2.60 [.102]	1.60 [.063]	0.30 [.012]
1812	4.60±0.3 [.181±.012]	3.20±0.3 [.126±.012]	3.00 [.118]	2.50 [.098]	0.30 [.012]
2220	5.70±0.4 [.220±.016]	5.00±0.4 [.197±.016]	3.00 [.118]	3.50 [.137]	0.30 [.012]

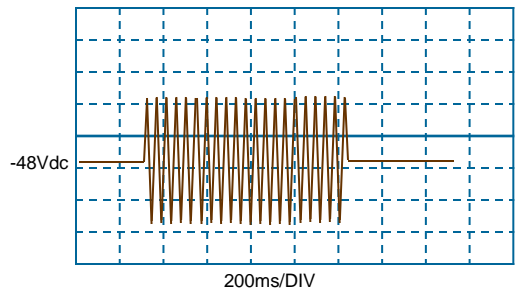
◆ Characteristics



◆ Application Example Circuit



Subscribers AC Signal



◆ Capacitance Range

Dielectric Characteristic	Size	Voltage	Capacitance Range																																						
			181	221	271	331	471	681	102	152	182	222	332	472	562	682	103	153	223	273	333	393	473	563	683	823	104	154	224	334	474	564	684	824	105	155	225				
X7R	0805	250V				B/CB/CB/CB/CB/CB/CB/CB/CB/CB/CB/CB/CB/CB/C	D	D	D																																
	1206	250V	B/CB/CB/CB/CB/CB/CB/CB/CB/CB/CB/CB/CB/CB/C	CC/DD/E/E																																					
	1210	250V															C	C	C	C	C	C	C	C	C	C	C	D	D	D											
	1812	250V																D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
	2220	250V																																							
Y5U	1812	250V																D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
Symbol Code	S	O	A	B	C	D	E	F	G	H																															
Thickness(mm)	0.3±0.03	0.5±0.05	0.6±0.1	0.85±0.1	1.0±0.1	1.25±0.15	1.6±0.2	2.0±0.2	2.4±0.2	2.8±0.2																															

■ Other dimensions, capacitance values and voltage ratings are available. Please contact HEC.