

Thick film chip resistors							
Global CTC (Preferred)	Description	Size	Tolerance	Max. power	Resistance range	Resistor pieces	Min. items
RC0100-R-SKE24L	RC0100, $\pm 1\%$ & $\pm 5\%$, RoHS compliant, + Jumper	01005	F / J	1/32W	10 - 1M	100	100
RC0201-R-SKE24L	RC0201, $\pm 1\%$ & $\pm 5\%$, RoHS compliant, + Jumper	0201	F / J	1/20 W	10 - 1M	100	120
RC0402JR-SKE24L	RC0402, $\pm 5\%$, RoHS compliant, + Jumper	0402	J	1/16 W	10 - 1M	100	110
RC0402FR-SKE96L	RC0402, $\pm 1\%$, RoHS compliant, + Jumper	0402	F	1/16 W	10 - 1M	100	450
RC0603JR-SKE24L	RC0603, $\pm 5\%$, RoHS compliant, + Jumper	0603	J	1/10 W	10 - 1M	50	110
RC0603FR-SKE96L	RC0603, $\pm 1\%$, RoHS compliant, + Jumper	0603	F	1/10 W	10 - 1M	50	450
RC0805JR-SKE24L	RC0805, $\pm 5\%$, RoHS compliant, + Jumper	0805	J	1/8 W	10 - 1M	50	110
RC0805FR-SKE96L	RC0805, $\pm 1\%$, RoHS compliant, + Jumper	0805	F	1/8 W	10 - 1M	50	280
RC1206JR-SKE24L	RC1206, $\pm 5\%$, RoHS compliant, + Jumper	1206	J	1/4 W	10 - 1M	50	110
RC1206FR-SKE96L	RC1206, $\pm 1\%$, RoHS compliant, + Jumper	1206	F	1/4 W	10 - 1M	50	350

Thick film array chip resistors (convex)							
Global CTC (Preferred)	Description	Size	Tolerance	Max. power	Resistance range	Resistor pieces	Min. items
YC12X-JR-SK001L	YC124 / YC122, $\pm 5\%$, +Jumper, RoHS compliant,	0402 X 2 0402 X 4	J	1/16 W	10 - 1M	100	75

Engineering design kit for current sensing application							
Global CTC (Preferred)	Description	Size	Tolerance	Max. power	Resistance range	Resistor pieces	Min. items
CS0402-R-SK001L	RL0402 - RL2512, $\pm 1\%$ & $\pm 5\%$, RoHS compliant	0402 - 2512	F / J	---	100m - 910m	30	160

Engineering design kit for mobile application							
Global CTC (Preferred)	Description	Size	Tolerance	Max. power	Resistance range	Resistor pieces	Min. items
MD0402-R-SK001L	Chip resistors / MLCC / Attenuators	---	---	---	---	50 - 100	44

Note: Before ordering, please contact our sales force for detail of resistance

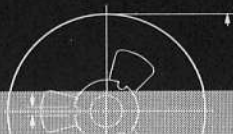
Engineering design kit for automotive application							
Global CTC (Preferred)	Description	Size	Tolerance	Max. power	Resistance range	Resistor pieces	Min. items
AC0402-R-SK001L	AC0402 - AC1206, $\pm 1\%$ & $\pm 5\%$, RoHS compliant, + Jumper	0402 - 1206	F/J	---	1 - 10M	50-100	200

0201 sample kits					
NP0 50 V		NP0 25 V		X7R 50 V	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
1	±0.25 pF	27	±5%	47	±10%
1.2	±0.25 pF	33	±5%	68	±10%
1.5	±0.25 pF	39	±5%	100	±10%
1.8	±0.25 pF	47	±5%	150	±10%
2.2	±0.25 pF	56	±5%	220	±10%
2.7	±0.25 pF	68	±5%	330	±10%
3.3	±0.25 pF	82	±5%	470	±10%
3.9	±0.25 pF	100	±5%	X7R 25 V	
4.7	±0.25 pF	Y5V 6.3V		Capacitance (pF)	Tolerance
5.6	±0.50 pF	Capacitance (pF)	Tolerance	680	±10%
6.8	±0.50 pF	100 000	-20% to +80%	1 000	±10%
8.2	±0.50 pF	X5R 6.3V		X7R 16V	
10	±5%	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
12	±5%	100 000	±10%	1 500	±10%
15	±5%			2 200	±10%
18	±5%			3 300	±10%
22	±5%			X7R 10 V	
				Capacitance (pF)	Tolerance
				10 000	±10%

Note: 100 pieces per value. Ordering code 432204407111 for Phycomp brand product, CC0201000000000000 for Yageo brand product

0402 sample kits					
NP0 50 V		Y5V 16 V		X7R 50 V	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
0.47	±0.25 pF	10 000	±20%	100	±10%
0.68	±0.25 pF	22 000	±20%	150	±10%
1	±0.25 pF	47 000	±20%	220	±10%
1.5	±0.25 pF	100 000	±20%	330	±10%
2.2	±0.25 pF	X5R 25V		470	±10%
3.3	±0.25 pF	Capacitance (pF)	Tolerance	680	±10%
4.7	±0.25 pF	100 000	±10%	1 000	±10%
6.8	±0.50 pF			1 500	±10%
10	±5%			2 200	±10%
15	±5%			3 300	±10%
22	±5%			X7R 25 V	
33	±5%			Capacitance (pF)	Tolerance
47	±5%			4 700	±10%
68	±5%			100 000	±10%
100	±5%			X7R 16 V	
150	±5%			Capacitance (pF)	Tolerance
220	±5%			6 800	±10%
				10 000	±10%
				15 000	±10%
				22 000	±10%

Note: 95 pieces per value. Ordering code 432204409911 for Phycomp brand product, CC0402000000000000 for Yageo brand product



MLCC Engineering Design Kits

Sample kits for 0603 / 0805

0603 sample kits					
NP0 50 V		NP0 25 V		X7R 50 V	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
0.47	±0.25 pF	1 000	±5%	100	±10%
0.68	±0.25 pF	1 500	±5%	150	±10%
1	±0.25 pF	Y5V 50 V		220	±10%
1.5	±0.25 pF	Capacitance (pF)	Tolerance	330	±10%
2.2	±0.25 pF	10 000	±20%	470	±10%
3.3	±0.25 pF	22 000	±20%	680	±10%
4.7	±0.25 pF	47 000	±20%	1 000	±10%
6.8	±0.50 pF	100 000	±20%	1 500	±10%
10	±5%	Y5V 16 V		2 200	±10%
15	±5%	Capacitance (pF)	Tolerance	3 300	±10%
22	±5%	220 000	±20%	4 700	±10%
33	±5%	470 000	±20%	6 800	±10%
47	±5%			10 000	±10%
68	±5%			X7R 25 V	
100	±5%			Capacitance (pF)	Tolerance
150	±5%			15 000	±10%
220	±5%			22 000	±10%
330	±5%			X7R 16 V	
470	±5%			Capacitance (pF)	Tolerance
680	±5%			33 000	±10%
				47 000	±10%
				68 000	±10%
				100 000	±10%

Note: 48 pieces per value. Ordering code 432204407121 for Phycomp brand product, CC0603000000000000 for Yageo brand product

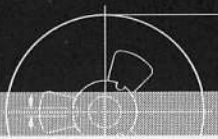
0805 sample kits					
NP0 50 V		NP0 25 V		X7R 50 V	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
0.47	±0.25 pF	3 300	±5%	220	±10%
0.68	±0.25 pF	4 700	±5%	330	±10%
1	±0.25 pF	Y5V 50 V		470	±10%
1.5	±0.25 pF	Capacitance (pF)	Tolerance	680	±10%
2.2	±0.25 pF	10 000	±20%	1 000	±10%
3.3	±0.25 pF	22 000	±20%	1 500	±10%
4.7	±0.25 pF	47 000	±20%	2 200	±10%
6.8	±0.50 pF	100 000	±20%	3 300	±10%
10	±5%	220 000	±20%	4 700	±10%
15	±5%	Y5V 16 V		6 800	±10%
22	±5%	Capacitance (pF)	Tolerance	10 000	±10%
33	±5%	470 000	±20%	15 000	±10%
47	±5%	1 000 000	±20%	22 000	±10%
68	±5%			33 000	±10%
100	±5%			47 000	±10%
150	±5%			68 000	±10%
220	±5%			100 000	±10%
330	±5%			X7R 16 V	
470	±5%			Capacitance (pF)	Tolerance
680	±5%			150 000	±10%
1 000	±5%			220 000	±10%
1 500	±5%			330 000	±10%
2 200	±5%			470 000	±10%

Note: 48 pieces per value. Ordering code 432204407131 for Phycomp brand product, CC0805000000000000 for Yageo brand product



1206 sample kits					
NP0 50 V		NP0 25 V		X7R 50 V	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
1	±0.25 pF	10 000	±5%	220	±10%
1.5	±0.25 pF	Y5V 50 V		330	±10%
2.2	±0.25 pF	Capacitance (pF)	Tolerance	470	±10%
3.3	±0.25 pF	100 000	±20%	680	±10%
4.7	±0.25 pF	220 000	±20%	1 000	±10%
6.8	±0.50 pF	470 000	±20%	1 500	±10%
10	±5%	1 000 000	±20%	2 200	±10%
15	±5%			3 300	±10%
22	±5%			4 700	±10%
33	±5%			6 800	±10%
47	±5%			10 000	±10%
68	±5%			15 000	±10%
100	±5%			22 000	±10%
150	±5%			33 000	±10%
220	±5%			47 000	±10%
330	±5%			68 000	±10%
470	±5%			100 000	±10%
680	±5%			150 000	±10%
1 000	±5%			220 000	±10%
1 500	±5%			X7R 16 V	
2 200	±5%			Capacitance (pF)	Tolerance
3 300	±5%			330 000	±10%
4 700	±5%			470 000	±10%
6 800	±5%			680 000	±10%
				1 000 000	±10%

Note: 48 pieces per value. Ordering code 432204407141 for Phycomp brand product, CC120600000000000 for Yageo brand product



MLCC Engineering Design Kits

Sample kits for high capacitance series

High capacitance sample kits								
X5R 0402			X7R 0603			Y5V 0402		
Capacitance	Rated voltage	Tolerance	Capacitance	Rated voltage	Tolerance	Capacitance	Rated voltage	Tolerance
1 μ F	6.3 V	$\pm 10\%$	1 μ F	16 V	$\pm 10\%$	1 μ F	6.3 V	-20% to +80%
1 μ F	10 V	$\pm 10\%$	X7R 0805			1 μ F	10 V	-20% to +80%
2.2 μ F	6.3 V	$\pm 20\%$	Capacitance	Rated voltage	Tolerance	Y5V 0603		
X5R 0603			1 μ F	25 V	$\pm 10\%$	Capacitance	Rated voltage	Tolerance
Capacitance	Rated voltage	Tolerance	2.2 μ F	16 V	$\pm 10\%$	1 μ F	10 V	-20% to +80%
1 μ F	16 V	$\pm 10\%$	2.2 μ F	25 V	$\pm 10\%$	1 μ F	16 V	-20% to +80%
1 μ F	25 V	$\pm 10\%$	X7R 1206			2.2 μ F	10 V	-20% to +80%
2.2 μ F	6.3 V	$\pm 10\%$	Capacitance	Rated voltage	Tolerance	2.2 μ F	16 V	-20% to +80%
2.2 μ F	10 V	$\pm 10\%$	1 μ F	25 V	$\pm 10\%$	4.7 μ F	6.3 V	-20% to +80%
2.2 μ F	16 V	$\pm 10\%$	2.2 μ F	25 V	$\pm 10\%$	Y5V 0805		
4.7 μ F	6.3 V	$\pm 10\%$	4.7 μ F	25 V	$\pm 10\%$	Capacitance	Rated voltage	Tolerance
4.7 μ F	10 V	$\pm 10\%$	10 μ F	16 V	$\pm 10\%$	1 μ F	16 V	-20% to +80%
10 μ F	6.3 V	$\pm 20\%$				1 μ F	25 V	-20% to +80%
X5R 0805						1 μ F	50 V	-20% to +80%
Capacitance	Rated voltage	Tolerance				2.2 μ F	16 V	-20% to +80%
2.2 μ F	25 V	$\pm 10\%$				4.7 μ F	10 V	-20% to +80%
4.7 μ F	6.3 V	$\pm 10\%$				10 μ F	10 V	-20% to +80%
4.7 μ F	10 V	$\pm 10\%$				Y5V 1206		
4.7 μ F	16 V	$\pm 10\%$				Capacitance	Rated voltage	Tolerance
10 μ F	6.3 V	$\pm 10\%$				4.7 μ F	16 V	-20% to +80%
10 μ F	10 V	$\pm 10\%$				10 μ F	10 V	-20% to +80%
10 μ F	16 V	$\pm 10\%$				10 μ F	16 V	-20% to +80%
22 μ F	6.3 V	$\pm 20\%$				22 μ F	16 V	-20% to +80%
X5R 1206								
Capacitance	Rated voltage	Tolerance						
4.7 μ F	16 V	$\pm 10\%$						
4.7 μ F	25 V	$\pm 10\%$						
10 μ F	16 V	$\pm 10\%$						
10 μ F	25 V	$\pm 10\%$						
22 μ F	6.3 V	$\pm 20\%$						

Note: 50 pieces per value. Ordering code 432204510001 for Phycomp brand product, CC88880000000000 for Yageo brand product

High capacitance sample kits for smart phone								
X5R 0201			X5R 0603			X5R 0805		
Capacitance	Rated voltage	Tolerance	Capacitance	Rated voltage	Tolerance	Capacitance	Rated voltage	Tolerance
100 nF	6.3 V	±10%	1 μF	16 V	±10%	2.2 μF	16 V	±10%
100 nF	10 V	±10%	1 μF	25 V	±10%	2.2 μF	25 V	±10%
220 nF	6.3 V	±20%	2.2 μF	10 V	±10%	4.7 μF	6.3 V	±10%
470 nF	6.3 V	±20%	2.2 μF	16 V	±10%	4.7 μF	10 V	±10%
1 μF	6.3 V	±20%	4.7 μF	6.3 V	±10%	4.7 μF	16 V	±10%
X5R 0402			4.7 μF	10 V	±10%	4.7 μF	25 V	±10%
Capacitance	Rated voltage	Tolerance	10 μF	6.3 V	±20%	10 μF	6.3 V	±10%
1 μF	6.3 V	±10%	22 μF	6.3 V	±20%	10 μF	10 V	±10%
1 μF	10 V	±10%				10 μF	16 V	±10%
1 μF	16 V	±10%				22 μF	6.3 V	±20%
2.2 μF	6.3 V	±20%				47 μF	6.3 V	±20%
4.7 μF	6.3 V	±20%				X5R 1206		
10 μF	6.3 V	±20%				Capacitance	Rated voltage	Tolerance
						10 μF	16 V	±10%
						10 μF	25 V	±10%
						22 μF	6.3 V	±10%
						47 μF	6.3 V	±20%

Note: 50 pieces per value. Ordering code SP88880000000000 for Yageo brand product

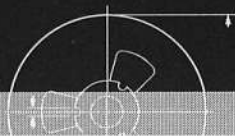


MLCC Engineering Design Kits

High voltage sample kits for general applications

High voltage sample kits for general applications					
NP0 1206			X7R 1206		
Capacitance	Rated voltage	Tolerance	Capacitance	Rated voltage	Tolerance
10 pF	1 kV	±5%	10 nF	1 kV	±10%
100 pF	1 kV	±5%	1 nF	2 kV	±10%
1 nF	1 kV	±5%	1 nF	1 kV	±10%
10 pF	2 kV	±5%	X7R 1210		
100 pF	2 kV	±5%	Capacitance	Rated voltage	Tolerance
NP0 1210			1 nF	1 kV	±10%
Capacitance	Rated voltage	Tolerance	10 nF	1 kV	±10%
10 pF	1 kV	±5%	1 nF	2 kV	±10%
100 pF	1 kV	±5%	X7R 1808		
1 nF	1 kV	±5%	Capacitance	Rated voltage	Tolerance
10 pF	2 kV	±5%	10 nF	1 kV	±10%
100 pF	2 kV	±5%	1 nF	3 kV	±10%
NP0 1808			1 nF	1 kV	±10%
Capacitance	Rated voltage	Tolerance	1 nF	2 kV	±10%
10 pF	1 kV	±5%	X7R 1812		
100 pF	1 kV	±5%	Capacitance	Rated voltage	Tolerance
1 nF	1 kV	±5%	10 nF	2 kV	±10%
10 pF	3 kV	±5%	1 nF	1 kV	±10%
100 pF	3 kV	±5%	10 nF	1 kV	±10%
10 pF	2 kV	±5%			
100 pF	2 kV	±5%			
NP0 1812					
Capacitance	Rated voltage	Tolerance			
10 pF	2 kV	±5%			
100 pF	2 kV	±5%			
1 nF	2 kV	±5%			
10 pF	1 kV	±5%			
100 pF	1 kV	±5%			
1 nF	1 kV	±5%			
10 pF	3 kV	±5%			
100 pF	3 kV	±5%			

Note: 50 pieces per value. Ordering code 432204510013 for Phycomp brand product, HV777770000000000 for Yageo brand product



MLCC Engineering Design Kits

High voltage sample kits for safety certification MLCCs

High voltage sample kits for safety certification MLCCs					
NP0 1808 TUV / UL			X7R 1808 TUV / UL		
Capacitance	Safety certification	Tolerance	Capacitance	Safety certification	Tolerance
10 pF	X1 / Y2	±5%	150 pF	X1 / Y2	±10%
22 pF	X1 / Y2	±5%	220 pF	X1 / Y2	±10%
47 pF	X1 / Y2	±5%	330 pF	X1 / Y2	±10%
100 pF	X1 / Y2	±5%	470 pF	X1 / Y2	±10%
150 pF	X1 / Y2	±5%	680 pF	X1 / Y2	±10%
220 pF	X1 / Y2	±5%	1 nF	X1 / Y2	±10%
330 pF	X1 / Y2	±5%	X7R 1812 TUV / UL		
NP0 1812 TUV / UL			Capacitance	Safety certification	Tolerance
Capacitance	Safety certification	Tolerance	220 pF	X1 / Y2	±10%
10 pF	X1 / Y2	±5%	330 pF	X1 / Y2	±10%
22 pF	X1 / Y2	±5%	470 pF	X1 / Y2	±10%
47 pF	X1 / Y2	±5%	680 pF	X1 / Y2	±10%
100 pF	X1 / Y2	±5%	1 nF	X1 / Y2	±10%
150 pF	X1 / Y2	±5%	1.5 nF	X1 / Y2	±10%
220 pF	X1 / Y2	±5%	X7R 1808 TUV / UL		
NP0 1808 TUV / UL			Capacitance	Safety certification	Tolerance
Capacitance	Safety certification	Tolerance	470 pF	X2 / Y3	±10%
10 pF	X2 / Y3	±5%	680 pF	X2 / Y3	±10%
22 pF	X2 / Y3	±5%	1 nF	X2 / Y3	±10%
47 pF	X2 / Y3	±5%	1.5 nF	X2 / Y3	±10%
100 pF	X2 / Y3	±5%			
150 pF	X2 / Y3	±5%			
220 pF	X2 / Y3	±5%			

Note: 50 pieces per value. Ordering code 432204510014 for Phycomp brand product, SC999900000000000 for Yageo brand product



MLCC Engineering Design Kits

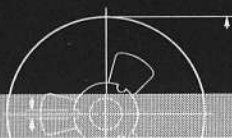
Sample kits for high frequency series

0402 high frequency sample kits		
NP0		
Capacitance	Rated voltage	Tolerance
0.22 pF	50 V	±0.1 pF
0.47 pF	50 V	±0.1 pF
0.68 pF	50 V	±0.1 pF
0.82 pF	50 V	±0.1 pF
1 pF	50 V	±0.25 pF
1.2 pF	50 V	±0.25 pF
1.5 pF	50 V	±0.25 pF
1.8 pF	50 V	±0.25 pF
2.2 pF	50 V	±0.25 pF
2.7 pF	50 V	±0.25 pF
3.3 pF	50 V	±0.25 pF
3.9 pF	50 V	±0.25 pF
4.7 pF	50 V	±0.25 pF
5.6 pF	50 V	±0.5 pF
6.8 pF	50 V	±0.5 pF
8.2 pF	50 V	±0.5 pF

Note: 50 pieces per value. Ordering code 432204409912 for Phycomp brand product, CH040200000000000 for Yageo brand product

0603 high frequency sample kits		
NP0		
Capacitance	Rated voltage	Tolerance
0.22 pF	50 V	±0.1 pF
0.47 pF	50 V	±0.1 pF
0.68 pF	50 V	±0.1 pF
0.82 pF	50 V	±0.1 pF
1 pF	50 V	±0.25 pF
1.2 pF	50 V	±0.25 pF
1.5 pF	50 V	±0.25 pF
1.8 pF	50 V	±0.25 pF
2.2 pF	50 V	±0.25 pF
2.7 pF	50 V	±0.25 pF
3.3 pF	50 V	±0.25 pF
3.9 pF	50 V	±0.25 pF
4.7 pF	50 V	±0.25 pF
5.6 pF	50 V	±0.5 pF
6.8 pF	50 V	±0.5 pF
8.2 pF	50 V	±0.5 pF

Note: 50 pieces per value. Ordering code 432204407122 for Phycomp brand product, CH060300000000000 for Yageo brand product



MLCC Engineering Design Kits

Sample kits for all sizes, all types, E1 series only

All sizes, all types, E1 series only								
General purpose & High capacitance								
0402	NP0 50 V		X7R 50 V		X7R 16 V		Y5V 16 V	
	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
	1	±0.25 pF	100	±10%	10 000	±10%	100 000	±20%
	10	±5%	1 000	±10%				
0603	NP0 50 V		X7R 50 V		X7R 16 V		Y5V 10 V	
	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
	1	±0.25 pF	100	±10%	100 000	±10%	1 000 000	-20% to +80%
	10	±5%	1 000	±10%				
0805	NP0 50 V		X7R 50 V		X7R 10 V		Y5V 10 V	
	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
	1	±0.25 pF	1 000	±10%	1 000 000	±10%	4 700 000	-20% to +80%
	10	±5%	10 000	±10%				
1206	NP0 50 V		X7R 50 V		X7R 16 V		Y5V 10 V	
	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
	1	±0.25 pF	1 000	±10%	1 000 000	±10%	10 000 000	-20% to +80%
	10	±5%	10 000	±10%				

Microwave		
Size	NP0 50 V	
	Capacitance (pF)	Tolerance
0603	1	±0.25 pF
0805	3.3	±0.25 pF
1206	3.9	±0.25 pF

Array (4 x 0603)						
Size	NP0 50 V		X7R 25 V		X7R 16 V	
	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
0612	100	±5%	10 000	±10%	100 000	±10%
	1 000	±5%				

High voltage				
Size	NP0 3 kV		X7R 1 kV	
	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
1808	10	±5%		
1812	100	±5%	10 000	±10%

Note: 48 pieces per value (95 pieces for 0402 and 25 pieces for 1812). Ordering code 432204500581 for Phycomp brand product, CC99990000000000 for Yageo brand product

