

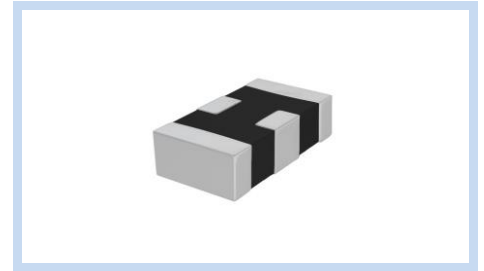
# Multilayer Ceramic Chip Capacitor EMI Filter and Decoupling Type

XY series

MERITEK

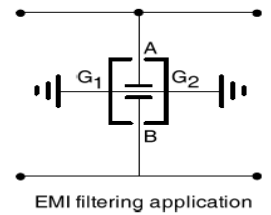
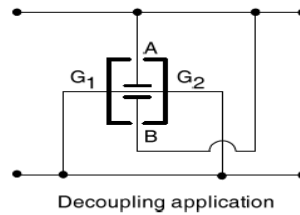
## FEATURE

- Superior Performance in Filtering and Decoupling
- Board Level Design Advantages in Filtering and Decoupling
- Two Y-Caps Tightly Matched line to Ground in One Device
- Superior Balance in Temperature and Voltage Variance of Two Y-Caps
- Ultra-Low ESL for Noise cancellation within the Device



## APPLICATIONS

- High speed data-line and Broadband filtering
- EMI filtering on DC motors, Power lines, Connectors in Airbag and RJ45
- Amplifier Decoupling and EMI suppression
- IC Decoupling, on-package, on-PCB
- Sensors and Audio



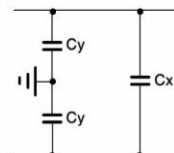
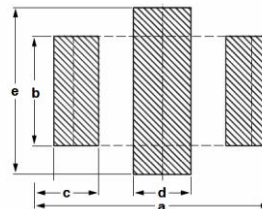
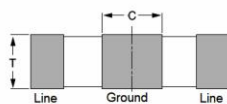
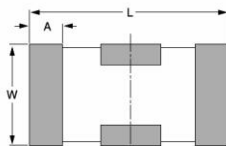
## ELECTRICAL CHARACTERISTICS

Properties	Characteristics						
Dielectric	NP0	X7R				X5R	
Size	0805	0603, 0805, 1206, 1210, 1410				0603	
Rated Voltage	50V	10V, 16V, 25V, 50/63V, 100V				6.3V, 10V	
Y- Capacitance Range	22pF, 4.7pF	1nF to 1uF				220nF to 470nF	
Tolerance	±20% (M)	±20% (M)				±20% (M)	
Dissipation Factor	50/63V	6.3V	10V	16V	≥25V	6.3V	10V
	≤10x10 <sup>-4</sup>	7%	7%	7%	5%	7%	7%
Insulation Resistance	Rins >10GΩ	Rins * C >500 sec or Rins >10GΩ whichever is less					
Operation Temperature	-55°C~125°C	-55°C~125°C				-55°C~85°C	
Temperature Coefficient	(0 ± 30)x10 <sup>-6</sup> / K	±15%				±15%	

Notes:

1. Measured at 20°C 1V and 1 KHz using a four-gauge method.
2. Termination: Ni/Sn

## DIMENSIONS



Size	L	W	T		A		C	a	b	c	d	e
			Min	Max	Min	Max						
0603	1.6±0.15	0.8±0.15	0.55	0.75	0.25	0.55	0.40±0.20	2.30	0.76	0.64	0.51	1.52
0805	2.0±0.15	2.0±0.15	0.75	0.95	0.25	0.55	0.70±0.20	3.05	1.27	0.89	0.56	2.03
1206	3.2±0.20	1.65±0.2	1.10	1.40	0.25	0.65	1.20±0.30	4.06	1.65	1.00	1.02	3.05
1210	3.2±0.20	2.5±0.2	1.10	1.70	0.25	0.65	1.20±0.30	4.57	2.55	1.00	1.14	4.06
1410	3.56±0.20	2.5±0.2	1.10	1.50	0.25	0.65	1.20±0.30	4.57	2.55	1.00	1.14	4.06

# Multilayer Ceramic Chip Capacitor EMI Filter and Decoupling Type

XY series

**MERITEK**

Unit: mm

## ELECTRICAL CHARACTERISTICS

Part Number	Size	Type	Y-Cap		X-Cap		Thickness (mm)
			Cap (nF)	Voltage(V)	Cap (nF)	Voltage (V)	
XY0805CG220M500	0805	NP0	0.022	50	0.011	100	0.85
XY0805CG470M500	0805	NP0	0.047	50	0.023	100	0.85
XY0603XF224M100	0603	X5R	220	10	110	20	0.6
XY0603XF334M100	0603	X5R	330	10	165	20	0.6
XY0603XF474M6R3	0603	X5R	470	6.3	235	12	0.6
XY0603XR102M101	0603	X7R	1.0	100	0.5	200	0.6
XY0603XR152M101	0603	X7R	1.5	100	0.75	200	0.6
XY0603XR222M101	0603	X7R	2.2	100	1.1	200	0.6
XY0603XR472M101	0603	X7R	4.7	100	2.4	200	0.6
XY0603XR562M500	0603	X7R	5.6	50	2.8	100	0.6
XY0603XR103M500	0603	X7R	10	50	5	100	0.6
XY0603XR223M250	0603	X7R	22	25	11	50	0.6
XY0603XR473M160	0603	X7R	47	16	24	25	0.6
XY0603XR563M160	0603	X7R	56	16	28	25	0.6
XY0603XR104M100	0603	X7R	100	10	50	16	0.6
XY0805XR472M101	0805	X7R	4.7	100	2.4	200	0.85
XY0805XR103M101	0805	X7R	10	100	5	200	0.85
XY0805XR153M500	0805	X7R	15	50	8	100	0.85
XY0805XR183M500	0805	X7R	18	50	9	100	0.85
XY0805XR223M250	0805	X7R	22	25	11	50	0.85
XY0805XR393M250	0805	X7R	39	25	20	50	0.85
XY0805XR473M160	0805	X7R	47	16	24	25	0.85
XY0805XR104M160	0805	X7R	100	16	50	25	0.85
XY0805XR184M100	0805	X7R	180	10	90	16	0.85
XY1206XR223M101	1206	X7R	22	100	11	200	1.2
XY1206XR473M500	1206	X7R	47	50	24	100	1.2
XY1206XR104M500	1206	X7R	100	50	50	100	1.2
XY1206XR184M250	1206	X7R	180	25	90	50	1.2
XY1206XR224M160	1206	X7R	220	16	110	25	1.2
XY1206XR394M160	1206	X7R	390	16	195	25	1.2
XY1206XR474M100	1206	X7R	470	10	235	20	1.2
XY1206XR824M100	1206	X7R	820	10	410	20	1.2
XY1210XR473M101	1210	X7R	47	100	24	200	1.2
XY1210XR104M500	1210	X7R	100	50	50	100	1.2
XY1210XR224M500	1210	X7R	220	50	110	100	1.6
XY1210XR474M250	1210	X7R	470	25	235	50	1.6
XY1210XR564M250	1210	X7R	560	25	280	50	1.6
XY1210XR824M160	1210	X7R	820	16	410	25	1.6
XY1210XR105M160	1210	X7R	1000	16	500	25	1.6
XY1410XR394M500	1410	X7R	390	50	195	100	1.3

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## CAPACITANCE RANGE

Capacitance		NPO	X7R					X5R	
(pF)	Code	0805	0603	0805	1206	1210	1410	0603	
10	100								
22	220	50V							
47	470								
1000	102								
1500	152		100V						
2200	222								
4700	472								
5600	562			100V					
10000	103		50V						
15000	153		25V	50V	100V				
18000	183								
22000	223				25V				
39000	393		16V		50V	100V			
47000	473								
56000	563			16V					
100000	104		10V						
180000	184			10V	25V	50V			
220000	224								
270000	274				16V			10V	
330000	334								
390000	394					25V	50V	6.3V	
470000	474								
560000	564				10V				
820000	824								
1000000	105					16V			

## PART NUMBERING SYSTEM

XY 0603 XR 103 M 500  
 (1) (2) (3) (4) (5) (6)

No	Item	Code	Description	Series Reference
(1)	Meritek Series	XY	Multilayer Ceramic Chip Capacitors	EMI Filter and Decoupling type
(2)	Size Code	0603	0603: 1.0x0.8mm	See Dimension Table Below
(3)	Dielectric	XR	XR: X7R	XF: X5R, CG: C0G(NP0)
(4)	Y- Capacitance	103	103: 10x10 <sup>3</sup> pF: 0.01uF	First Two Significant, Third: Multiplier
(5)	Tolerance	M	M: ±20%	-20%~+20%
(6)	Rated Voltage	500	500: 50 VDC	First Two Significant, Third: Multiplier

\*Specifications subject to change without notice.