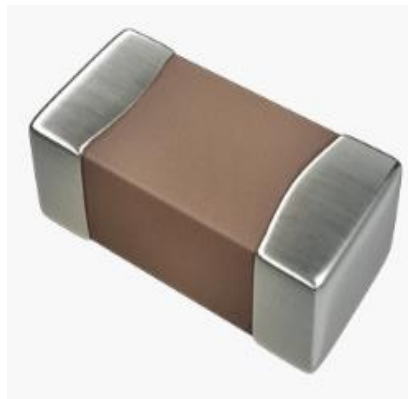


ABCO Multilayer Ceramic Capacitor

CMC3216-00 for Ceramic Capacitor Series



5448-4, Sangdaewon-dong, Jungwon-gu,
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▣ Types of Capacitor and Dielectric Material

1. C0G

The capacitor of this kind dielectric material is considered as Class I capacitor, including general capacitor and high frequency C0G capacitor. The electrical properties of C0G capacitor are the most stable one and have little change with temperature, voltage and time. They are suited for applications where low-losses and high-stability are required, such as filters, oscillators, and timing circuits.

2. X7R、X5R

The capacitor of this kind dielectric material has high dielectric constant. The capacitor made of this kind material is considered as Class II capacitor whose capacitance is higher than that of class I. These capacitors are classified as having a semi-stable temperature characteristic and used over a wide temperature range, such in these kinds of circuits, DC-blocking, decoupling, bypassing, frequency discriminating etc.

3. Y5V

The capacitor made of this kind of material is the highest dielectric constant of all ceramic capacitors. They are used over a moderate temperature range in application where high capacitance is required because of its unstable temperature coefficient, but where moderate losses and capacitance changes can be tolerated. Its capacitance and dissipation factors are sensible to measuring conditions, such as temperature and voltage, etc

CMC Series



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Ordering Code

CMC 3216 D P - 100 J COG 202 - 00
 ① ② ③ ④ - ⑤ ⑥ ⑦ ⑧ - ⑨

① Type	
CMC	

② Dimensions(mm)	
3216 : 3.20(L) × 1.60(W)	

③ Thickness(mm)	
D	0.85(T)
E	1.00(T)
F	1.25(T)
H	1.60(T)

④ Packing	
P	Paper Tape
E	Plastic Tape

⑤ Capacitance	
0R5	0.5pF
1R0	1pF
100	10pF
101	100pF
102	1000pF
103	0.01μF
104	0.1μF
105	1.0μF
106	10μF

⑥ Tolerance	
B	±0.1pF
C	±0.25pF
D	±0.5pF
F	±1%
G	±2%
J	±5%
K	±10%
M	±20%
Z	-20/80%

⑦ Dielectrics		
Material	Temperature Range	Capacitance change
C0G	-55°C~+125°C	0±30ppm/°C
X7R	-55°C~+125°C	±15%
X5R	-55°C~+85°C	±15%
Y5V	-30°C~+85°C	+22/-82%

⑧ Rated voltage	
6R3	6.3V _{DC}
100	10V _{DC}
160	16V _{DC}
250	25V _{DC}
500	50V _{DC}
101	100V _{DC}
201	200V _{DC}
251	250V _{DC}
501	500V _{DC}
102	1000V _{DC}
202	2000V _{DC}

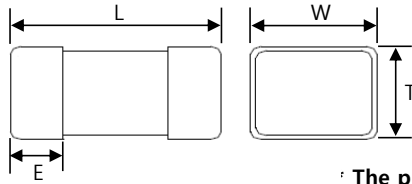
⑨ Internal Code	
00	

CMC3216-00 Series



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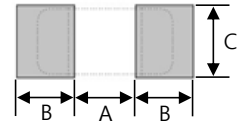
Dimensions



The product size of 1uF and above

Series	L(mm)	W(mm)	E(mm)	T(mm)			
CMC3216-00	3.20±0.20	1.60±0.20	0.3~0.8	0.85±0.10	1.00±0.10	1.25±0.20	1.60±0.20
CMC3216-00*	3.20±0.20*	1.60±0.20*	0.3~0.8	0.85±0.10	1.00±0.10	1.25±0.20	1.60±0.30*

Recommended PC Board Pattern



A(mm)	B(mm)	C(mm)
1.8~2.5	1.0~1.5	1.2~2.0

Electrical Characteristics

1) COG(Thickness : D) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216DP - 0R5B ¹⁾ COG202 ²⁾ - 00	0.5pF	D=0.85±0.10	B=±0.1pF C=±0.25pF	-55°C~+125°C, 0±30ppm/°C	160=16V _{DC} 250=25V _{DC} 500=50V _{DC} 101=100V _{DC} 251=250V _{DC} 501=500V _{DC} 631=630V _{DC} 102=1000V _{DC} 202=2000V _{DC}
CMC3216DP - 1R0B ¹⁾ COG202 ²⁾ - 00	1.0pF				
CMC3216DP - 2R0B ¹⁾ COG202 ²⁾ - 00	2.0pF				
CMC3216DP - 3R0B ¹⁾ COG202 ²⁾ - 00	3.0pF				
CMC3216DP - 4R0B ¹⁾ COG202 ²⁾ - 00	4.0pF				
CMC3216DP - 5R0D ¹⁾ COG202 ²⁾ - 00	5.0pF				
CMC3216DP - 6R0D ¹⁾ COG202 ²⁾ - 00	6.0pF				
CMC3216DP - 7R0D ¹⁾ COG202 ²⁾ - 00	7.0pF				
CMC3216DP - 8R0D ¹⁾ COG202 ²⁾ - 00	8.0pF				
CMC3216DP - 9R0D ¹⁾ COG202 ²⁾ - 00	9.0pF				
CMC3216DP - 100J ¹⁾ COG202 ²⁾ - 00	10pF		D=±0.5pF		
CMC3216DP - 120J ¹⁾ COG202 ²⁾ - 00	12pF				
CMC3216DP - 150J ¹⁾ COG202 ²⁾ - 00	15pF				
CMC3216DP - 180J ¹⁾ COG202 ²⁾ - 00	18pF				
CMC3216DP - 200J ¹⁾ COG202 ²⁾ - 00	20pF				
CMC3216DP - 220J ¹⁾ COG202 ²⁾ - 00	22pF				
CMC3216DP - 270J ¹⁾ COG202 ²⁾ - 00	27pF				
CMC3216DP - 300J ¹⁾ COG202 ²⁾ - 00	30pF				
CMC3216DP - 330J ¹⁾ COG202 ²⁾ - 00	33pF				
CMC3216DP - 390J ¹⁾ COG202 ²⁾ - 00	39pF				
CMC3216DP - 470J ¹⁾ COG202 ²⁾ - 00	47pF		F=±1% G=±2% J=±5% K=±10%		
CMC3216DP - 560J ¹⁾ COG202 ²⁾ - 00	56pF				
CMC3216DP - 680J ¹⁾ COG202 ²⁾ - 00	68pF				
CMC3216DP - 820J ¹⁾ COG202 ²⁾ - 00	82pF				
CMC3216DP - 101J ¹⁾ COG202 ²⁾ - 00	100pF				
CMC3216DP - 121J ¹⁾ COG202 ²⁾ - 00	120pF				
CMC3216DP - 151J ¹⁾ COG102 ²⁾ - 00	150pF				
CMC3216DP - 181J ¹⁾ COG102 ²⁾ - 00	180pF				
CMC3216DP - 201J ¹⁾ COG102 ²⁾ - 00	200pF				

CMC3216-00 Series



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■ Electrical Characteristics

1) COG(Thickness : D) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216DP - 221J ¹⁾ C0G102 ²⁾ - 00	220pF	D=0.85±0.10	F=±1% G=±2% J=±5% K=±10%	-55°C~+125°C, 0±30ppm/°C	160=16V _{DC} 250=25V _{DC} 500=50V _{DC} 101=100V _{DC} 251=250V _{DC} 501=500V _{DC} 631=630V _{DC} 102=1000V _{DC}
CMC3216DP - 271J ¹⁾ C0G102 ²⁾ - 00	270pF				
CMC3216DP - 331J ¹⁾ C0G102 ²⁾ - 00	330pF				
CMC3216DP - 391J ¹⁾ C0G102 ²⁾ - 00	390pF				
CMC3216DP - 471J ¹⁾ C0G102 ²⁾ - 00	470pF				
CMC3216DP - 561J ¹⁾ C0G631 ²⁾ - 00	560pF				
CMC3216DP - 681J ¹⁾ C0G631 ²⁾ - 00	680pF				160=16V _{DC} 250=25V _{DC} 500=50V _{DC} 101=100V _{DC} 251=250V _{DC} 501=500V _{DC} 631=630V _{DC}
CMC3216DP - 821J ¹⁾ C0G631 ²⁾ - 00	820pF				
CMC3216DP - 102J ¹⁾ C0G631 ²⁾ - 00	1000pF				
CMC3216DP - 152J ¹⁾ C0G631 ²⁾ - 00	1500pF				
CMC3216DP - 182J ¹⁾ C0G101 ²⁾ - 00	1800pF				
CMC3216DP - 222J ¹⁾ C0G101 ²⁾ - 00	2200pF				
CMC3216DP - 272J ¹⁾ C0G101 ²⁾ - 00	2700pF				160=16V _{DC} 250=25V _{DC} 500=50V _{DC} 101=100V _{DC}
CMC3216DP - 332J ¹⁾ C0G101 ²⁾ - 00	3300pF				
CMC3216DP - 472J ¹⁾ C0G101 ²⁾ - 00	4700pF				
CMC3216DP - 562J ¹⁾ C0G101 ²⁾ - 00	5600pF				
CMC3216DP - 682J ¹⁾ C0G250 ²⁾ - 00	6800pF				
CMC3216DP - 682J ¹⁾ C0G250 ²⁾ - 00	6800pF				

2) COG(Thickness : E) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216EP - 220J ¹⁾ C0G202 ²⁾ - 00	22pF	E=1.00±0.10	F=±1% G=±2% J=±5% K=±10%	-55°C~+125°C, 0±30ppm/°C	202=2000V _{DC}
CMC3216EP - 270J ¹⁾ C0G202 ²⁾ - 00	27pF				
CMC3216EP - 300J ¹⁾ C0G202 ²⁾ - 00	30pF				
CMC3216EP - 330J ¹⁾ C0G202 ²⁾ - 00	33pF				
CMC3216EP - 390J ¹⁾ C0G202 ²⁾ - 00	39pF				
CMC3216EP - 470J ¹⁾ C0G202 ²⁾ - 00	47pF				
CMC3216EP - 560J ¹⁾ C0G202 ²⁾ - 00	56pF				102=1000V _{DC} 202=2000V _{DC}
CMC3216EP - 680J ¹⁾ C0G202 ²⁾ - 00	68pF				
CMC3216EP - 820J ¹⁾ C0G202 ²⁾ - 00	82pF				
CMC3216EP - 101J ¹⁾ C0G102 ²⁾ - 00	100pF				
CMC3216EP - 121J ¹⁾ C0G102 ²⁾ - 00	120pF				
CMC3216EP - 151J ¹⁾ C0G102 ²⁾ - 00	150pF				
CMC3216EP - 181J ¹⁾ C0G102 ²⁾ - 00	180pF				102=1000V _{DC}
CMC3216EP - 201J ¹⁾ C0G102 ²⁾ - 00	200pF				
CMC3216EP - 221J ¹⁾ C0G102 ²⁾ - 00	220pF				
CMC3216EP - 271J ¹⁾ C0G102 ²⁾ - 00	270pF				
CMC3216EP - 331J ¹⁾ C0G102 ²⁾ - 00	330pF				
CMC3216EP - 391J ¹⁾ C0G102 ²⁾ - 00	390pF				
CMC3216EP - 471J ¹⁾ C0G102 ²⁾ - 00	470pF				

CMC3216-00 Series



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■ Electrical Characteristics

3) COG(Thickness : F) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216FP - 220J ¹⁾ C0G202 ²⁾ - 00	22pF	F=1.25±0.20	F=±1% G=±2% J=±5% K=±10%	-55°C~+125°C, 0±30ppm/°C	202=2000V _{DC}
CMC3216FP - 270J ¹⁾ C0G202 ²⁾ - 00	27pF				
CMC3216FP - 300J ¹⁾ C0G202 ²⁾ - 00	30pF				
CMC3216FP - 330J ¹⁾ C0G202 ²⁾ - 00	33pF				
CMC3216FP - 390J ¹⁾ C0G202 ²⁾ - 00	39pF				
CMC3216FP - 470J ¹⁾ C0G202 ²⁾ - 00	47pF				
CMC3216FP - 560J ¹⁾ C0G202 ²⁾ - 00	56pF				
CMC3216FP - 680J ¹⁾ C0G202 ²⁾ - 00	68pF				
CMC3216FP - 820J ¹⁾ C0G202 ²⁾ - 00	82pF				
CMC3216FP - 101J ¹⁾ C0G202 ²⁾ - 00	100pF				
CMC3216FP - 121J ¹⁾ C0G202 ²⁾ - 00	120pF				
CMC3216FP - 103J ¹⁾ C0G250 ²⁾ - 00	0.010μF				160=16V _{DC} , 250=25V _{DC}

4) X7R(Thickness : D) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216DP - 221J ¹⁾ X7R101 ²⁾ - 00	220pF	D=0.85±0.10	J=±5% K=±10% M=±20%	-55°C~+125°C, ±15%	6R3=6.3V _{DC} 100=10V _{DC} 160=16V _{DC} 250=25V _{DC} 500=50V _{DC} 101=100V _{DC}
CMC3216DP - 271J ¹⁾ X7R101 ²⁾ - 00	270pF				
CMC3216DP - 331J ¹⁾ X7R101 ²⁾ - 00	330pF				
CMC3216DP - 391J ¹⁾ X7R101 ²⁾ - 00	390pF				
CMC3216DP - 471J ¹⁾ X7R101 ²⁾ - 00	470pF				
CMC3216DP - 561J ¹⁾ X7R101 ²⁾ - 00	560pF				
CMC3216DP - 681J ¹⁾ X7R101 ²⁾ - 00	680pF				
CMC3216DP - 821J ¹⁾ X7R101 ²⁾ - 00	820pF				
CMC3216DP - 102J ¹⁾ X7R101 ²⁾ - 00	1000pF				
CMC3216DP - 152J ¹⁾ X7R101 ²⁾ - 00	1500pF				
CMC3216DP - 182J ¹⁾ X7R101 ²⁾ - 00	1800pF				
CMC3216DP - 222J ¹⁾ X7R101 ²⁾ - 00	2200pF				
CMC3216DP - 272J ¹⁾ X7R101 ²⁾ - 00	2700pF				
CMC3216DP - 332J ¹⁾ X7R101 ²⁾ - 00	3300pF				
CMC3216DP - 472J ¹⁾ X7R101 ²⁾ - 00	4700pF				
CMC3216DP - 562J ¹⁾ X7R101 ²⁾ - 00	5600pF				
CMC3216DP - 682J ¹⁾ X7R101 ²⁾ - 00	6800pF				
CMC3216DP - 103J ¹⁾ X7R101 ²⁾ - 00	0.010μF				
CMC3216DP - 153J ¹⁾ X7R101 ²⁾ - 00	0.015μF				
CMC3216DP - 183J ¹⁾ X7R101 ²⁾ - 00	0.018μF				
CMC3216DP - 223J ¹⁾ X7R101 ²⁾ - 00	0.022μF				
CMC3216DP - 273J ¹⁾ X7R101 ²⁾ - 00	0.027μF				

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4) X7R(Thickness : D) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216DP - 333J ¹⁾ X7R101 ²⁾ - 00	0.033μF	D=0.85±0.10	J=±5% K=±10% M=±20%	-55°C~+125°C, ±15%	6R3=6.3V _{DC} 100=10V _{DC} 160=16V _{DC} 250=25V _{DC} 500=50V _{DC} 101=100V _{DC}
CMC3216DP - 393J ¹⁾ X7R101 ²⁾ - 00	0.039μF				
CMC3216DP - 473J ¹⁾ X7R101 ²⁾ - 00	0.047μF				
CMC3216DP - 563J ¹⁾ X7R101 ²⁾ - 00	0.056μF				
CMC3216DP - 683J ¹⁾ X7R101 ²⁾ - 00	0.068μF				
CMC3216DP - 104J ¹⁾ X7R101 ²⁾ - 00	0.10μF				
CMC3216DP - 154J ¹⁾ X7R101 ²⁾ - 00	0.15μF				
CMC3216DP - 184J ¹⁾ X7R101 ²⁾ - 00	0.18μF				
CMC3216DP - 224J ¹⁾ X7R101 ²⁾ - 00	0.22μF				
CMC3216DP - 274J ¹⁾ X7R101 ²⁾ - 00	0.27μF				
CMC3216DP - 334J ¹⁾ X7R101 ²⁾ - 00	0.33μF				

5) X7R(Thickness : E) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216EP - 205J ¹⁾ X7R250 ²⁾ - 00	2.00μF	E=1.00±0.10	J=±5%, K=±10% M=±20%	-55°C~+125°C, ±15%	100=10V _{DC} , 160=16V _{DC} 250=25V _{DC}

6) X7R(Thickness : F) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216FP - 101J ¹⁾ X7R202 ²⁾ - 00	100pF	F=1.25±0.20	J=±5% K=±10% M=±20%	-55°C~+125°C, ±15%	251=250V _{DC} 501=500V _{DC} 631=630V _{DC} 102=1000V _{DC} 202=2000V _{DC}
CMC3216FP - 121J ¹⁾ X7R202 ²⁾ - 00	120pF				
CMC3216FP - 151J ¹⁾ X7R202 ²⁾ - 00	150pF				
CMC3216FP - 181J ¹⁾ X7R202 ²⁾ - 00	180pF				
CMC3216FP - 201J ¹⁾ X7R202 ²⁾ - 00	200pF				
CMC3216FP - 221J ¹⁾ X7R202 ²⁾ - 00	220pF				
CMC3216FP - 271J ¹⁾ X7R202 ²⁾ - 00	270pF				
CMC3216FP - 331J ¹⁾ X7R202 ²⁾ - 00	330pF				
CMC3216FP - 391J ¹⁾ X7R202 ²⁾ - 00	390pF				
CMC3216FP - 471J ¹⁾ X7R202 ²⁾ - 00	470pF				
CMC3216FP - 561J ¹⁾ X7R202 ²⁾ - 00	560pF				
CMC3216FP - 681J ¹⁾ X7R202 ²⁾ - 00	680pF				
CMC3216FP - 821J ¹⁾ X7R202 ²⁾ - 00	820pF				
CMC3216FP - 102J ¹⁾ X7R202 ²⁾ - 00	1000pF				
CMC3216FP - 152J ¹⁾ X7R102 ²⁾ - 00	1500pF				251=250V _{DC} 501=500V _{DC} 631=630V _{DC} 102=1000V _{DC}
CMC3216FP - 182J ¹⁾ X7R102 ²⁾ - 00	1800pF				
CMC3216FP - 222J ¹⁾ X7R102 ²⁾ - 00	2200pF				
CMC3216FP - 272J ¹⁾ X7R102 ²⁾ - 00	2700pF				

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Electrical Characteristics

6) X7R(Thickness : F) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216FP - 332J ¹⁾ X7R102 ²⁾ - 00	3300pF	F=1.25±0.20	J=±5% K=±10% M=±20%	-55°C~+125°C, ±15%	251=250V _{DC} 501=500V _{DC} 631=630V _{DC} 102=1000V _{DC}
CMC3216FP - 472J ¹⁾ X7R102 ²⁾ - 00	4700pF				
CMC3216FP - 562J ¹⁾ X7R102 ²⁾ - 00	5600pF				
CMC3216FP - 682J ¹⁾ X7R102 ²⁾ - 00	6800pF				
CMC3216FP - 103J ¹⁾ X7R102 ²⁾ - 00	0.010μF				
CMC3216FP - 153J ¹⁾ X7R631 ²⁾ - 00	0.015μF				251=250V _{DC} 501=500V _{DC} 631=630V _{DC}
CMC3216FP - 183J ¹⁾ X7R631 ²⁾ - 00	0.018μF				
CMC3216FP - 223J ¹⁾ X7R631 ²⁾ - 00	0.022μF				
CMC3216FP - 273J ¹⁾ X7R501 ²⁾ - 00	0.027μF				251=250V _{DC} 501=500V _{DC}
CMC3216FP - 333J ¹⁾ X7R501 ²⁾ - 00	0.033μF				
CMC3216FP - 393J ¹⁾ X7R501 ²⁾ - 00	0.039μF				
CMC3216FP - 473J ¹⁾ X7R501 ²⁾ - 00	0.047μF				
CMC3216FP - 563J ¹⁾ X7R251 ²⁾ - 00	0.056μF				251=250V _{DC}
CMC3216FP - 683J ¹⁾ X7R251 ²⁾ - 00	0.068μF				
CMC3216FP - 104J ¹⁾ X7R251 ²⁾ - 00	0.10μF				
CMC3216FP - 474J ¹⁾ X7R101 ²⁾ - 00	0.47μF				
CMC3216FP - 684J ¹⁾ X7R101 ²⁾ - 00	0.68μF				6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} , 250=25V _{DC} 500=50V _{DC} , 101=100V _{DC}
CMC3216FP - 105J ¹⁾ X7R101 ²⁾ - 00	1.00μF				
CMC3216FP - 225J ¹⁾ X7R250 ²⁾ - 00	2.20μF				
					6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} , 250=25V _{DC}

7) X7R(Thickness : H) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216HP - 684J ¹⁾ X7R101 ²⁾ - 00	0.68μF	H=1.6±0.20	J=±5% K=±10% M=±20%	-55°C~+125°C, ±15%	500=50V _{DC} 101=100V _{DC}
CMC3216HP - 105J ¹⁾ X7R101 ²⁾ - 00	1.00μF				
CMC3216HP - 475J ¹⁾ X7R250 ²⁾ - 00	4.70μF				6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} , 250=25V _{DC} 6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC}
CMC3216HP - 106J ¹⁾ X7R160 ²⁾ - 00	10μF				
CMC3216HP - 226J ¹⁾ X7R100 ²⁾ - 00	22μF				
CMC3216HP - 476J ¹⁾ X7R6R3 ²⁾ - 00	47μF				6R3=6.3V _{DC}

8) X7R(Thickness : H*) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216H*P - 105J ¹⁾ X7R101 ²⁾ - 00	1.00μF	H*=1.6±0.30	J=±5% K=±10% M=±20%	-55°C~+125°C, ±15%	500=50V _{DC} 101=100V _{DC}
CMC3216H*P - 475J ¹⁾ X7R101 ²⁾ - 00	4.70μF				
CMC3216H*P - 106J ¹⁾ X7R250 ²⁾ - 00	10μF				6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} , 250=25V _{DC} 6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC}
CMC3216H*P - 226J ¹⁾ X7R160 ²⁾ - 00	22μF				
CMC3216H*P - 476J ¹⁾ X7R6R3 ²⁾ - 00	47μF				
					6R3=6.3V _{DC}

CMC3216-00 Series



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■ Electrical Characteristics

9) X5R(Thickness : D) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216DP - 221J ¹⁾ X5R500 ²⁾ - 00	220pF	D=0.85±0.10	J=±5% K=±10% M=±20%	-55°C~+85°C, ±15%	6R3=6.3V _{DC} 100=10V _{DC} 160=16V _{DC} 250=25V _{DC} 500=50V _{DC}
CMC3216DP - 271J ¹⁾ X5R500 ²⁾ - 00	270pF				
CMC3216DP - 331J ¹⁾ X5R500 ²⁾ - 00	330pF				
CMC3216DP - 391J ¹⁾ X5R500 ²⁾ - 00	390pF				
CMC3216DP - 471J ¹⁾ X5R500 ²⁾ - 00	470pF				
CMC3216DP - 561J ¹⁾ X5R500 ²⁾ - 00	560pF				
CMC3216DP - 681J ¹⁾ X5R500 ²⁾ - 00	680pF				
CMC3216DP - 821J ¹⁾ X5R500 ²⁾ - 00	820pF				
CMC3216DP - 102J ¹⁾ X5R500 ²⁾ - 00	1000pF				
CMC3216DP - 152J ¹⁾ X5R500 ²⁾ - 00	1500pF				
CMC3216DP - 182J ¹⁾ X5R500 ²⁾ - 00	1800pF				
CMC3216DP - 222J ¹⁾ X5R500 ²⁾ - 00	2200pF				
CMC3216DP - 272J ¹⁾ X5R500 ²⁾ - 00	2700pF				
CMC3216DP - 332J ¹⁾ X5R500 ²⁾ - 00	3300pF				
CMC3216DP - 472J ¹⁾ X5R500 ²⁾ - 00	4700pF				
CMC3216DP - 562J ¹⁾ X5R500 ²⁾ - 00	5600pF				
CMC3216DP - 682J ¹⁾ X5R500 ²⁾ - 00	6800pF				
CMC3216DP - 103J ¹⁾ X5R500 ²⁾ - 00	0.010μF				
CMC3216DP - 153J ¹⁾ X5R500 ²⁾ - 00	0.015μF				
CMC3216DP - 183J ¹⁾ X5R500 ²⁾ - 00	0.018μF				
CMC3216DP - 223J ¹⁾ X5R500 ²⁾ - 00	0.022μF				
CMC3216DP - 273J ¹⁾ X5R500 ²⁾ - 00	0.027μF				
CMC3216DP - 333J ¹⁾ X5R500 ²⁾ - 00	0.033μF				
CMC3216DP - 393J ¹⁾ X5R500 ²⁾ - 00	0.039μF				
CMC3216DP - 473J ¹⁾ X5R500 ²⁾ - 00	0.047μF				
CMC3216DP - 563J ¹⁾ X5R500 ²⁾ - 00	0.056μF				
CMC3216DP - 683J ¹⁾ X5R500 ²⁾ - 00	0.068μF				
CMC3216DP - 104J ¹⁾ X5R500 ²⁾ - 00	0.10μF				
CMC3216DP - 154J ¹⁾ X5R500 ²⁾ - 00	0.15μF				
CMC3216DP - 184J ¹⁾ X5R500 ²⁾ - 00	0.18μF				
CMC3216DP - 224J ¹⁾ X5R500 ²⁾ - 00	0.22μF				
CMC3216DP - 274J ¹⁾ X5R500 ²⁾ - 00	0.27μF				
CMC3216DP - 334J ¹⁾ X5R500 ²⁾ - 00	0.33μF				

10) X5R(Thickness : E) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216EP - 205J ¹⁾ X5R250 ²⁾ - 00	2.00μF	E=1.00±0.10	J=±5%, K=±10% M=±20%	-55°C~+85°C, ±15%	100=10V _{DC} , 160=16V _{DC} 250=25V _{DC}

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11) X5R(Thickness : F) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216FP - 474J ¹⁾ X5R500 ²⁾ - 00	0.47μF	F=1.25±0.20	J=±5% K=±10% M=±20%	-55°C~+85°C, ±15%	6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} , 250=25V _{DC} 500=50V _{DC}
CMC3216FP - 684J ¹⁾ X5R500 ²⁾ - 00	0.68μF				
CMC3216FP - 105J ¹⁾ X5R500 ²⁾ - 00	1.00μF				
CMC3216FP - 225J ¹⁾ X5R250 ²⁾ - 00	2.20μF				

12) X5R(Thickness : H) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216HP - 684J ¹⁾ X5R500 ²⁾ - 00	0.68μF	H=1.6±0.20	J=±5% K=±10% M=±20%	-55°C~+85°C, ±15%	500=50V _{DC} 6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} , 250=25V _{DC} 6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} 6R3=6.3V _{DC} , 100=10V _{DC} 6R3=6.3V _{DC}
CMC3216HP - 105J ¹⁾ X5R500 ²⁾ - 00	1.00μF				
CMC3216HP - 475J ¹⁾ X5R250 ²⁾ - 00	4.70μF				
CMC3216HP - 106J ¹⁾ X5R160 ²⁾ - 00	10μF				
CMC3216HP - 226J ¹⁾ X5R100 ²⁾ - 00	22μF				
CMC3216HP - 476J ¹⁾ X5R6R3 ²⁾ - 00	47μF				

12) X5R(Thickness : H*) type

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216H*P - 105J ¹⁾ X5R101 ²⁾ - 00	1.00μF	H*=1.6±0.30	J=±5% K=±10% M=±20%	-55°C~+85°C, ±15%	500=50V _{DC} 6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} , 250=25V _{DC} 6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} 6R3=6.3V _{DC} , 100=10V _{DC} 6R3=6.3V _{DC}
CMC3216H*P - 475J ¹⁾ X5R101 ²⁾ - 00	4.70μF				
CMC3216H*P - 106J ¹⁾ X5R250 ²⁾ - 00	10μF				
CMC3216H*P - 226J ¹⁾ X5R160 ²⁾ - 00	22μF				
CMC3216H*P - 476J ¹⁾ X5R6R3 ²⁾ - 00	47μF				

13) Y5V(Thickness : D) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216DP - 102J ¹⁾ Y5V500 ²⁾ - 00	1000pF	D=0.85±0.10	M=±20% Z=-20%/+80%	-30°C~+85°C, +22/-82%	6R3=6.3V _{DC} 100=10V _{DC} 160=16V _{DC} 250=25V _{DC} 500=50V _{DC}
CMC3216DP - 152J ¹⁾ Y5V500 ²⁾ - 00	1500pF				
CMC3216DP - 182J ¹⁾ Y5V500 ²⁾ - 00	1800pF				
CMC3216DP - 222J ¹⁾ Y5V500 ²⁾ - 00	2200pF				
CMC3216DP - 272J ¹⁾ Y5V500 ²⁾ - 00	2700pF				
CMC3216DP - 332J ¹⁾ Y5V500 ²⁾ - 00	3300pF				
CMC3216DP - 472J ¹⁾ Y5V500 ²⁾ - 00	4700pF				
CMC3216DP - 562J ¹⁾ Y5V500 ²⁾ - 00	5600pF				
CMC3216DP - 682J ¹⁾ Y5V500 ²⁾ - 00	6800pF				
CMC3216DP - 103J ¹⁾ Y5V500 ²⁾ - 00	0.010μF				
CMC3216DP - 153J ¹⁾ Y5V500 ²⁾ - 00	0.015μF				
CMC3216DP - 183J ¹⁾ Y5V500 ²⁾ - 00	0.018μF				

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13) Y5V(Thickness : D) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216DP - 223J ¹⁾ Y5V500 ²⁾ - 00	0.022μF	D=0.85±0.10	M=±20% Z=-20%/+80%	-30°C~+85°C, +22/-82%	6R3=6.3V _{DC} 100=10V _{DC} 160=16V _{DC} 250=25V _{DC} 500=50V _{DC}
CMC3216DP - 273J ¹⁾ Y5V500 ²⁾ - 00	0.027μF				
CMC3216DP - 333J ¹⁾ Y5V500 ²⁾ - 00	0.033μF				
CMC3216DP - 393J ¹⁾ Y5V500 ²⁾ - 00	0.039μF				
CMC3216DP - 473J ¹⁾ Y5V500 ²⁾ - 00	0.047μF				
CMC3216DP - 563J ¹⁾ Y5V500 ²⁾ - 00	0.056μF				
CMC3216DP - 683J ¹⁾ Y5V500 ²⁾ - 00	0.068μF				
CMC3216DP - 104J ¹⁾ Y5V500 ²⁾ - 00	0.10μF				
CMC3216DP - 154J ¹⁾ Y5V500 ²⁾ - 00	0.15μF				
CMC3216DP - 184J ¹⁾ Y5V500 ²⁾ - 00	0.18μF				
CMC3216DP - 224J ¹⁾ Y5V500 ²⁾ - 00	0.22μF				
CMC3216DP - 274J ¹⁾ Y5V500 ²⁾ - 00	0.27μF				
CMC3216DP - 334J ¹⁾ Y5V500 ²⁾ - 00	0.33μF				

14) Y5V(Thickness : E) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216EP - 205J ¹⁾ Y5V250 ²⁾ - 00	2.00μF	E=1.00±0.10	M=±20% Z=-20%/+80%	-30°C~+85°C, +22/-82%	100=10V _{DC} , 160=16V _{DC} 250=25V _{DC} , 500=50V _{DC}

15) Y5V(Thickness : F) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216FP - 474J ¹⁾ Y5V500 ²⁾ - 00	0.47μF	F=1.25±0.20	M=±20% Z=-20% / +80%	-30°C~+85°C, +22/-82%	6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} , 250=25V _{DC} 500=50V _{DC}
CMC3216FP - 684J ¹⁾ Y5V500 ²⁾ - 00	0.68μF				
CMC3216FP - 105J ¹⁾ Y5V500 ²⁾ - 00	1.00μF				
CMC3216FP - 225J ¹⁾ Y5V250 ²⁾ - 00	2.20μF				6R3=6.3V _{DC} , 100=10V _{DC} 160=16V _{DC} , 250=25V _{DC}
CMC3216FP - 475J ¹⁾ Y5V250 ²⁾ - 00	4.70μF				
CMC3216FP - 106J ¹⁾ Y5V160 ²⁾ - 00	10μF				

16) Y5V(Thickness : H) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216HP - 226J ¹⁾ Y5V100 ²⁾ - 00	22μF	H=1.6±0.20	M=±20% Z=-20% / +80%	-30°C~+85°C, +22/-82%	6R3=6.3V _{DC} , 100=10V _{DC}

17) Y5V(Thickness : H*) type.

Part No.	Capacitance	Thickness (mm)	Tol. ¹⁾	Temperature Range (°C)	Rated Voltage ²⁾ (V _{DC})
CMC3216H*P - 226J ¹⁾ Y5V100 ²⁾ - 00	22μF	H*=1.6±0.30	M=±20% Z=-20% / +80%	-30°C~+85°C, +22/-82%	6R3=6.3V _{DC} , 100=10V _{DC}

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1. Test Methods - Capacitance

Dielectrics	Specification	Testing Condition
COG	Within the specified tolerance A : $\pm 0.05\text{pF}$, B : $\pm 0.1\text{pF}$, C : $\pm 0.25\text{pF}$, D : $\pm 0.5\text{pF}$, J : $\pm 5\%$	$1.0\pm 0.2\text{Vrms}$, $1\text{MHz}\pm 10\%$ ($C > 1000\text{pF}$, $1.0\pm 0.2\text{Vrms}$, $1\text{KHz}\pm 10\%$)
X7R, X5R	Within the specified tolerance J : $\pm 5\%$, K : $\pm 10\%$, M : $\pm 20\%$	$1.0\pm 0.2\text{Vrms}$, $1\text{MHz}\pm 10\%$ ($C_p > 10\mu\text{F}$, $0.5\pm 0.1\text{Vrms}$, $120\pm 24\text{Hz}$)
Y5V	Within the specified tolerance M : $\pm 20\%$, Z : $-20\%/+80\%$	$1.0\pm 0.2\text{Vrms}$, $1\text{MHz}\pm 10\%$ ($C_p > 10\mu\text{F}$, $0.5\pm 0.1\text{Vrms}$, $120\pm 24\text{Hz}$)
Note : Test temperature $25^\circ\text{C}\pm 3^\circ\text{C}$, Test humidity $< 70\%\text{RH}$. Class II capacitor need de-aging treatment. (Condition: capacitor in 150°C heat treatment for 1 hour, measure placed after 48h.)		