

FK&FH series

Safety Certified capacitor series (X1/Y2 & X2/Y3)

◆ Features

- » Safety standard approval by
EN132400: 1994+A2+A3+A4, IEC60384-14, Third edition, 2005,
EN60384-14: 2005 and UL60950, UL 60384-14



◆ Applications

- » Modem
- » Facsimile
- » Telephone
- » Other electronic equipment for lighting or surge protection and isolation.

◆ Part Number

FK	2211	N	101	J	502	
Series	Size	Dielectric	Capacitance	Tolerance	Safety Class	Special code
FK: X1/Y2	Inch:	N: NPO	Two significant Digits followed by no. of zeros and P is in place	B=±0.1pF	202 = 2K VDC	Blank = Standard
FH: X2/Y3	1206	(COG)	of decimal point	C=±0.25pF	252=2.5K VDC	Z = Anti-Arcing+Anti-Bending
	1808	X: X7R	Eg.:	D=±0.5pF	302: X2/Y3	Q = Anti-Arcing
	1812		OP47 = 0.47pF	F=±1%	(Impulse 2.5KV)	E = Anti-Bending
	2211		OP5 = 0.5pF	G=±2%	502: X1/Y2	H = High reliability
	2220		1P0 = 1.0pF	J=±5%	(Impulse 5.0KV)	
			100 = 10x10 ⁰	K=±10%	602: X1/Y2	
			= 10pF	M=±20%	(Impulse 6.0KV)	

◆ General Electrical Data

Dielectric	NPO (COG)		X7R		X7R
Size	1808, 1812, 2211		1808, 1812, 2211, 2220		1206
Rated voltage (WVDC)	250Vac		250Vac		2.5KV, 2.0KV
Capacitance range*	X1/Y2 Class(Impulse 6KV)	4pF ~ 100pF	X1/Y2 Class	100pF ~ 4700pF	1000pF
	X1/Y2 Class(Impulse 5KV)	3pF ~ 720pF	X2/Y3 Class	150pF ~ 5600pF	
	X2/Y3 Class	3pF ~ 1000pF			
Capacitance tolerance*	Cap≤5pF: B(±0.1pF), C(±0.25pF)	K (±10%), M (±20%)			
	5pF<Cap<10pF: C (±0.25pF), D (±0.5pF)				
	Cap≥10pF: F (±1%), G (±2%), J(±5%), K (±10%)				
Tan δ (Tangent of loss angle)	Cap<30pF : D.F≤1/(400+20C)		≤2.5%		
	Cap≥30pF : D.F≤0.10%				
Insulation resistance at 500Vdc for 60 seconds	≥100GΩ or R x C≥1000 whichever is smaller		≥10GΩ or R x C≥500Ω-F whichever is smaller		
Operating temperature	-55 to +125°C				
Capacitance characteristic	±30ppm / °C		±15%		
Termination	(Cu or Ag) / Ni / Sn (lead-free termination)				

NPO: Apply 1.0±0.2Vrms, 1.0MHz±10%, at 25°C ambient temperature.

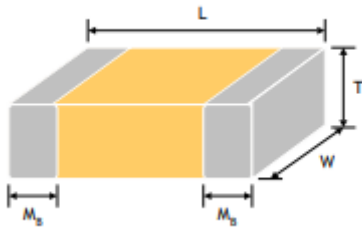
X7R: Apply 1.0±0.2Vrms, 1.0KHz±10%, at 25°C ambient temperature.

◆ Capacitance Range

Class	X1/Y2 (FK series)								X2/Y3 (FH series)				
	250Vac												
Rated Voltage													
Dielectric	NPO(C0G)				X7R				NPO(C0G)		X7R		
Certificated	TUV/UL	TUV	TUV	TUV	TUV	TUV/UL	TUV/UL	UL	TUV/UL	TUV	TUV/UL	TUV/UL	UL
Size	1808	1812	2211	2211	1808	1812	2211	2220	1808	1812	1808	1812	1206
Impulse	5KV			6KV	5KV				2.5KV				---
3.0pF (3P0)	D								D				
3.3pF (3P3)	D												
4.0pF (4P0)	D		F	F					D				
4.7pF (4P7)	D		F	F									
5.0pF (5P0)	D		F	F					D				
5.6pF (5P6)	D		F	F									
6.8pF (6P8)	D		F	F									
8.2pF (8P2)	D		F	F									
10pF (100)	D	C	F	F					D	C			
12pF (120)	D	C	F	F					D	C			
15pF (150)	D	C	F	F					D	C			
18pF (180)	D	C	F	F					D				
22pF (220)	D	C	F	F					D	C			
27pF (270)	D	C	F	F					D	C			
33pF (330)	D	C	F	F					D	C			
39pF (390)	E	C	F	F					E	C			
47pF (470)	E	C	F	F					E	C			
56pF (560)	E	C	F	F					E	C			
68pF (680)	E	C	F	G					E	C			
82pF (820)	E	C	F	G					E	C			
100pF (101)	E	C	F	H	E		E		F	C			
120pF (121)	E	C	G		E*		E*		F	C			
130pF (131)	E	C					E*						
150pF (151)	E	C	G		E*	E*	E*		F	C	E		
160pF (161)	E	C	G		E*			F*			E		
180pF (181)	E	C	G		E*	E*	E*	F*	F	C	E		
220pF (221)	E	F	G		E*	E*	E*	F*	F	C	E		
270pF (271)	E	F	G		E*	E*	E*	F*	F	D	E	E	
330pF (331)		F	G		F*	E*	E*	F*	F	D	E	E	
390pF (391)		F	G		F*	E*	E*	F*	F	D	E	E	
470pF (471)		F	G		F*	E*	F*	F*	F	E	E	E	
560pF (561)			G		F*	E*	F*	F*	F	F	E	E	
680pF (681)			G		F*	F*	F*	F*	F	F	E	E	
720pF (721)								F*	F			E	
820pF (821)					F*	F*	F*	F*	F	G	E	E	
1,000pF (102)					F*	G*	G*	F*	F	G	F	E	C
1,200pF (122)							G*	G*			F	E	
1,500pF (152)							G*	G*			F	F	
1,800pF (182)							G*	G*			F	F	
2,200pF (222)							G*	G*			F	G	
2,700pF (272)							G*	F/G*				G	
3,300pF (332)							H*	G*				G	
3,900pF (392)								G*				G	
4,700pF (472)								F/G*				G	
5,600pF (562)												G	

" * " Surface coating only.

◆ Dimensions



Size Inch	L (mm)	W (mm)	T (mm)	Plastic tape	Thickness Description	M _B min (mm)
1206	3.30±0.40	1.60±0.20	1.25±0.10	3K	C	0.5±0.25
1808	4.50+0.6/-0.3	2.00±0.30	1.25±0.10	2K	C	0.5±0.25
			1.40±0.15	2K	D	
			1.60±0.20	2K	E	
			2.00±0.20	1K	F	
1812	4.50+0.6/-0.3	3.20±0.40	1.25±0.10	1K	C	0.5±0.25
			1.40±0.15	1K	D	
			1.60±0.20	1K	E	
			2.00±0.20	1K	F	
			2.50±0.30	0.5K	G	
			2.80±0.30	0.5K	H	
2211	5.70±0.50	2.80±0.40	1.60±0.20	1K	E	0.6±0.30
			2.00±0.20	1K	F	
			2.50±0.30	0.5K	G	
			2.80±0.30	0.5K	H	
2220	5.70±0.50	5.00±0.50	2.00±0.20	1K	F	0.6±0.30
			2.50±0.30	0.5K	G	
			2.80±0.30	0.5K	H	