

# 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 <sup>0</sup>	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)													
3.3pF (3P3)													
4.0pF (4P0)													
4.7pF (4P7)													
5.0pF (5P0)													
5.6pF (5P6)													
6.8pF (6P8)													
8.2pF (8P2)													
10pF (100)													
12pF (120)													
15pF (150)													
18pF (180)													
22pF (220)													
27pF (270)													
33pF (330)													
39pF (390)													
47pF (470)													
56pF (560)													
68pF (680)													
82pF (820)													
100pF (101)													
120pF (121)													
130pF (131)													
150pF (151)													
160pF (161)													
180pF (181)													
220pF (221)													
270pF (271)													
330pF (331)													
390pF (391)													
470pF (471)													
560pF (561)													
680pF (681)													
720pF (721)													
820pF (821)													
1,000pF (102)													
1,200pF (122)													
1,500pF (152)													
1,800pF (182)													
2,200pF (222)													
2,700pF (272)													
3,300pF (332)													
3,900pF (392)													
4,700pF (472)													
5,600pF (562)													