

REF ORDER DETAIL

How to Order

FK	21	X	102	K	502	E	G	G
PDC Family	Size	Dielectric	Capacitance	Tolerance	Rated voltage	Packaging	Thickness	Control Code
Table1	Table2	Table3	*Below Ref.	Table4	Table5	Table6	Table7	Table8

Table 1 PDC family

Code	Description	Code	Description
FH	Safety X2 & Y3 series	FN	General Purpose product ≤50Vdc
FK	Safety X1 & Y2 series	FP	Anti-bend Series
FL	Low Dissipation Series	FS	Capacitance ≥ 1.0μF Series Product
FM	100V≤ Rated Voltage ≤630V series	FT	Trigger application and rated voltage 350~630Vdc
FV	Ultra-High voltage application with 1~6KVdc		

Table 2 EIA size

General Purpose				FK/FH series	
Code	Description	Code	Description	Code	Description
03	0201 (0603)	42	1808 (4520)	06	1206 (3216)
15	0402(1005)	43	1812 (4532)	08	1808 (4520)
18	0603 (1608)	46	1825 (4563)	12	1812 (4532)
21	0805 (2012)	52	2211 (5728)	21	2211 (5728)
31	1206 (3216)	55	2220 (5750)	20	2220 (5750)
32	1210 (3225)	56	2225 (5763)		

Table 3 Dielectric Material Characteristics

Code	Description	Code	Description
N	C0G(NPO)	X	X7R
B	X5R	F	Y5V

Table 4 Tolerance

Code	Description	Code	Description	Code	Description	Code	Description
A	±0.05 pF	F	±1 %	J	±5 %	N	-5% ~ +10%
B	±0.10 pF	G	±2 %	K	±10 %	P	±0.02 pF
C	±0.25 pF	H	±3 %	L	0% ~ +10%	Q	±0.03 pF
D	±0.50 pF	I	-10% ~ 0%	M	±20 %	Z	-20% ~ 80%

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Table 5 Rated voltage

General Purpose						FK/FH series			
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
6R3	6.3VDC	101	100VDC	102	1000VDC	402	4000VDC	302	2.5KV IMPULSE
100	10VDC	201	200VDC	152	1500VDC	502	5000VDC	502	5KV IMPULSE
160	16VDC	251	250VDC	202	2000VDC	602	6000VDC	602	6KV IMPULSE
250	25VDC	501	500VDC	252	2500VDC				
500	50VDC	631	630VDC	302	3000VDC				

Table 6 Packaging Type

Code	Description	Code	Description
E	Tape and 7" Reel, Embossed Tape	P	Tape and 7" Reel, Paper Tape
B	Bulk	T	Tray package
L	Tape and 13" Reel, Embossed Tape	G	Tape and 13" Reel, Paper Tape

Table 7 Thickness Description

Code	Description	Code	Description	Code	Description
A	0.60 ± 0.10 mm	I	1.25 ± 0.20 mm	Q	0.50 + 0.02/-0.05 mm
B	0.8 + 0.15/-0.10 mm	J	1.15 ± 0.15 mm	R	3.10 ± 0.30 mm
C	1.25 ± 0.10 mm	K	0.50 ± 0.20 mm	S	0.80 ± 0.07 mm
D	1.40 ± 0.15 mm	L	0.30 ± 0.03 mm	T	0.85 ± 0.10 mm
E	1.60 ± 0.20 mm	M	0.95 ± 0.10 mm	U	0.50 ± 0.10 mm
F	2.00 ± 0.20 mm	N	0.50 ± 0.05 mm	V	0.20 ± 0.02 mm
G	2.50 ± 0.30 mm	O	3.50 ± 0.20 mm	X	0.80 ± 0.10 mm
H	2.80 ± 0.30 mm	P	1.60 +0.3/-0.10 mm	Z	0.25 ± 0.03 mm

Table 8 Special Control Code

Code	Description	Code	Description
G	RoHS Compliant		

FV Extra High Voltage Capacitor Series ($\geq 1KV$)

Features

- Special interior design offers high voltage rating in a given case size.
- High reliability and stability.
- RoHS compliant

Applications

- DC to DC converter.
- High voltage coupling/DC blocking.
- Back-lighting inverters.
- LAN/WLAN interface.
- Modem.
- Power supplies.

How to Order

FV	31	X	102	K	202	E	C	G
PDC Family	Size	Dielectric	Capacitance	Tolerance	Rated voltage	Packaging	Thickness	Control Code
Table1	Table2	Table3	*Below Ref.	Table4	Table5	Table6	Table7	Table8

* Two significant digits followed by no. of zeros. And R is in place of decimal point.
 eg.: R47=0.47pF, 0R5=0.5pF, 101=10x10¹=100pF, 104=10x10⁴=100nF.
 Reference document with ref order detail.

General Electrical Data

Dielectric	COG(NPO)	X7R
Size	1206, 1210, 1808, 1812, 1825, 2220, 2225	1206, 1210, 1808, 1812, 1825, 2220, 2225
Rated voltage (WVDC)	1KV, 1.5KV, 2KV, 3KV, 4KV, 5KV, 6KV	1KV, 1.5KV, 2KV, 3KV, 4KV
Capacitance range*	1.5pF ~ 12nF	100pF ~ 150nF
Capacitance tolerance	Cap \leq 5pF: B (\pm 0.1pF), C (\pm 0.25pF) 5pF<Cap<10pF: C (\pm 0.25pF), D (\pm 0.5pF) Cap \geq 10pF: F (\pm 1%), G (\pm 2%), J (\pm 5%), K (\pm 10%)	J (\pm 5%), K (\pm 10%), M (\pm 20%)
Tan δ *	Cap<30pF: Q \geq 400+20C Cap \geq 30pF: Q \geq 1000	\leq 2.5%
Insulation resistance at 500Vdc for 60 seconds	\geq 100G Ω or R·C \geq 1000 whichever is smaller	\geq 10G Ω or R·C \geq 500 Ω ·F whichever is smaller
Operating temperature	-55 to +125°C	
Temperature coefficient	\pm 30ppm / °C	\pm 15%
Termination	Ag (or Cu)/Ni/Sn (lead-free termination)	

* Measured at the condition of 30~70% related humidity.

COG: Apply 1.0 \pm 0.2Vrms, 1.0MHz \pm 10% for Cap \leq 1000pF and 1.0 \pm 0.2Vrms, 1.0kHz \pm 10% for Cap>1000pF, 25°C at ambient temperature

X7R: Apply 1.0 \pm 0.2Vrms, 1.0kHz \pm 10%, at 25°C ambient temperature.

Capacitance Range

C0G(NPO)																					
Dimension		1206		1210			1808			1812			1825			2220			2225		
Cap(pF)	Code	1KV	2KV	1KV	2KV	3KV	1KV	2KV	3KV	1KV	2KV	3KV	1KV	2KV	3KV	1KV	2KV	3KV	1KV	2KV	3KV
1.5	1R5	X	X																		
1.8	1R8	X	X																		
2.2	2R2	X	X				C	C	C												
2.7	2R7	X	X				C	C	C												
3.3	3R3	X	X				C	C	C												
3.9	3R9	X	X				C	C	C												
4.7	4R7	X	X				C	C	C												
5.6	5R6	X	X				C	C	C												
6.8	6R8	X	X				C	C	C												
8.2	8R2	X	X				C	C	C												
10	100	X	X	M	M	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
12	120	X	X	M	M	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
15	150	X	X	M	M	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
18	180	X	X	M	M	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
22	220	X	X	M	M	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
27	270	X	X	M	M	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
33	330	X	M	M	M	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
39	390	X	M	M	M	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
47	470	M	C	M	M	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
56	560	M	C	M	C	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
68	680	M	C	M	C	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
82	820	C	C	M	C	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
100	101	C	C	C	C	F	C	C	C	C	C	C	F	F	F	F	F	F	F	F	F
120	121	C	E	C	C	F	C	C	F	C	C	C	F	F	F	F	F	F	F	F	F
150	151	C	E	C	E	F	C	F	F	C	C	C	F	F	F	F	F	F	F	F	F
180	181	E	E	C	E	F	C	F	F	C	C	F	F	F	F	F	F	F	F	F	F
220	221	E	E	E	E	F	C	F	F	C	C	F	F	F	F	F	F	F	F	F	F
270	271	E	E	E	E	G	F	F	F	C	F	F	F	F	F	F	F	F	F	F	F
330	331	E	E	E	E		F	F	F	C	F	F	F	F	F	F	F	G	F	F	F
390	391	E	E	E	E		F	F	F	C	F	F	F	F	F	F	F	G	F	F	F
470	471	E	E	E	E		F	F	F	F	F	F	F	F	F	F	F	G	F	F	F
560	561	E		E	E		F	F	F	F	F	G	F	F	F	F	F	G	F	F	F
680	681	E		E	E		F	F		F	F	G	F	F	G	F	F	G	F	F	F
820	821	E		E	E		F	F		F	F	G	F	F	G	F	F	G	F	G	G
1000	102	E		E	F		F	F		F	F	G	F	F	G	F	F	G	F	G	G
1200	122			E	F		F	F		F	F		F	F	G	G	G	G	F	G	G
1500	152			F	G		F	F		F	F		F	G	G	G	G	G	F	G	G
1800	182			G			F	F		F	G		F	G	G	G	G	G	F	G	G
2200	222			G			F			F	G		F	G	G	G	G	G	F	G	G
2700	272						F			F	G		F	G	G	G	G	G	F	G	G
3300	332									F			F	G		G	G		F	G	G
3900	392									G			G	G		G	G		F	G	
4700	472												G	G		G	G		F	G	
5600	562												G	G		G	G		G	G	
6800	682												G	G		G	G		G	G	
8200	822												G			G			G	G	
10000	103												G						G	G	
12000	123																		G		

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FV Extra High Voltage Capacitor Series ($\geq 1KV$)

Capacitance Range

Dimension		X7R																		
Dimension		1206		1210		1808			1812			1825			2220			2225		
Cap(pF)	Code	1KV	2KV	1KV	2KV	1KV	2KV	3KV	1KV	2KV	3KV	1KV	2KV	3KV	1KV	2KV	3KV	1KV	2KV	3KV
100	101	C	C																	
120	121	C	C																	
150	151	C	C			C	C	C												
180	181	C	C			C	C	C												
220	221	C	C	C	E	C	C	C												
270	271	C	C	C	E	C	C	C	C	C	E									
330	331	C	C	C	E	C	C	F	C	C	E									
390	391	C	C	C	E	C	C	F	C	C	E									
470	471	C	C	C	E	C	C	F	C	C	E									
560	561	C	C	C	E	C	C	F	C	C	E									
680	681	C	C	C	E	C	C	F	C	C	F									
820	821	C	C	C	E	C	C	F	C	C	F									
1000	102	C	C	C	E	C	C	F	C	C	F	F	F	F	F	F	F	F	F	F
1200	122	C	E	C	F	C	F	F	C	C	F	F	F	F	F	F	F	F	F	F
1500	152	C	E	C	F	C	F	F	C	C	F	F	F	F	F	F	F	F	F	F
1800	182	C	E	C	F	C	F	F	C	E	G	F	F	F	F	F	F	F	F	F
2200	222	C	E	C	F	C	F	F	C	E	G	F	F	F	F	F	F	F	F	F
2700	272	C		C	F	C	F		C	E	G	F	F	F	F	F	F	F	F	F
3300	332	C		C	F	C	F		C	F	G	F	F	F	F	F	F	F	F	F
3900	392	C		E	F	C	F		C	F	G	F	F	F	F	F	F	F	F	F
4700	472	C		E	F	C	F		C	F	G	F	F	F	F	F	F	F	F	F
5600	562	C		E	F	C	F		C	F	G	F	F	F	F	F	F	F	F	F
6800	682	C		E		E			C	G		F	F	G	F	F	G	F	F	G
8200	822	C		E		E			C	G		F	F	G	F	G	G	F	F	G
10000	103	C		E		E			E	G		F	F	G	F	G	G	F	F	G
12000	123	E		E		F			F			F	G	G	F	G	G	F	G	G
15000	153	E		E		F			F			F	G		F	G		F	G	G
18000	183	E		E		F			G			F	G		F	G		F		
22000	223	E		E		F			G			F	G		F	G		F		
27000	273			E		F			G			F	G		F	G		F		
33000	333			E					G			F			F			F		
39000	393								G			F			F			F		
47000	473								G			F			F			F		
56000	563								G			F			F			F		
68000	683											F			G			F		
82000	823											G			G			F		
100000	104											G			G			G		
120000	124														G			G		
150000	154																	G		

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