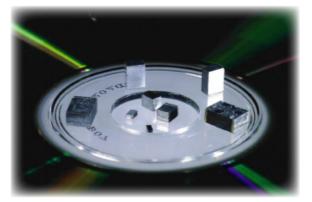
## Type FCP Surface Mount Film Capacitors Stable Stacked Metallized Film (PPS) Chips for Reflow Soldering



Type FCP stacked metallized polyphenelene sulfide (PPS) film capacitors offer high capacitance per unit volume, stable capacitance and DF over a wide temperature range, and excellent high frequency performance. Type FCP capacitors conform to standard EIA 0603, 0805, 1206, 1210, 1913 & 2416 surface mount case sizes and are packaged on tape and reel.

The Type FCP's combination of high capacitance density and excellent high frequency response makes it a great choice for wireless and instrumentation applications.

#### Highlights

- Stacked metallized polyphenylene sulfide (PPS) film.
- High operating temperature to +125 °C
- High capacitance per unit volume
- Excellent high frequency performance
- Typical  $\Delta C$  from -55 °C to 105 °C  $\leq \pm 1.5\%$
- Stable cap and DF over wide temperature range

Capacitance Range	100 pF to 0.22 $\mu$ F (1kHz at $\leq$ 5 Vrms)
Capacitance Tolerance	±5% (J) Standard, ±2% (G) Optional
Rated Voltage	16 Vdc and 50 Vdc
Dissipation Factor (Tan δ)	0.6% Max. (1 kHz at ≤5 Vrms)
Operating Temperature Range	–55 °C to +125 °C (See Voltage derating chart for 0.12 - 0.22 $\mu F$ above 105 °C)
Dielectric Strength	150% of rated Vdc for 60 s
Insulation Resistance	3000 MΩ Min. at 20 °C, after 60 s (16 Vdc rated, test 10 Vdc; 50 Vdc rated, test 50 Vdc)
Construction	Stacked metallized polyphenylene sulfide (PPS) film. Terminations are lead free with a Sn-Ag-Cu solder finish.
Life Test	Capacitors subjected to 1000 hours of maximum rated tempera- ture and 125% of the rated voltage will not have any significant visual damage, thecapacitance will be within $\pm 2\%$ of the initial measured value, DF will be a maximum of 0.66%, and IR will be a minimum of 1000 Megohms.
Resistance to Soldering Heat	Capacitors subjected to a maximum of 260 °C reflow soldering process will not have any significant visual damage, the dielectric strength will be as specified, the capacitance will be within $\pm 3\%$ of the initial measured value, DF will be a maximum of .66%, and IR will be a minimum of 1000 Megohms.
Moisture Resistance	Capacitors subjected to 1000 h at 40 °C and 90% to 95% RH and rated voltage will not have any significant visual damage, will withstand 1.3 times the rated voltage for one minute, the capacitance will be within $\pm 2\%$ of the initial measured value, DF will be a maximum of 0.9%, and IR will be a minimum of 1000 Megohms.
	RoHS Compliant

### **Specifications**

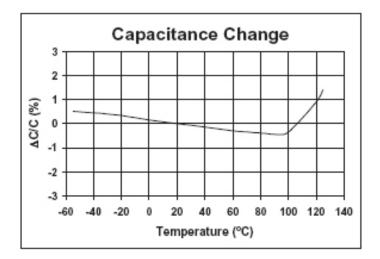
# Stable Stacked Metallized Film (PPS) Chips for Reflow Soldering Ratings

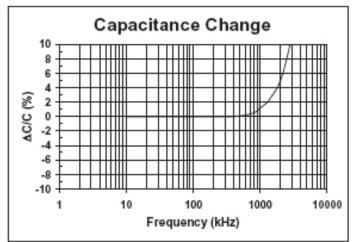
	50 Vdc		16 Vdc		Capacitance	
Case	Catalog	Case	Catalog			( <b>-</b> )
Code	Part Number	Code	Part Number	(pF)	(nF)	(μF)
1	FCP0805H101J-J1		FCP0603C101J-K1	100	.10	.00010
- 0805	FCP0805H121J-J1		FCP0603C121J-K1	120	.12	.00012
	FCP0805H151J-J1		FCP0603C151J-K1	150	.15	.00015
	FCP0805H181J-J1	1	FCP0603C181J-K1	180	.18	.00018
	FCP0805H221J-J1		FCP0603C221J-K1	220	.22	.00022
	FCP0805H271J-J1		FCP0603C271J-K1	270	.27	.00027
	FCP0805H331J-J1	1	FCP0603C331J-K1	330	.33	.00033
	FCP0805H391J-J1		FCP0603C391J-K1	390	.39	.00039
	FCP0805H471J-J1		FCP0603C471J-K1	470	.47	.00047
	FCP0805H561J-J1	0603	FCP0603C561J-K1	560	.56	.00056
	FCP0805H681J-J1		FCP0603C681J-K1	680	.68	.00068
	FCP0805H821J-J1		FCP0603C821J-K1	820	.82	.00082
	FCP0805H102J-J1	1	FCP0603C102J-K1	1000	1.00	.0010
	FCP0805H122J-J1		FCP0603C122J-K1	1200	1.20	.0012
	FCP0805H152J-J1		FCP0603C152J-K1	1500	1.50	.0015
	FCP0805H182J-J1	1	FCP0603C182J-K1	1800	1.80	.0018
	FCP0805H222J-J1		FCP0603C222J-K1	2200	2.20	.0022
	FCP0805H272J-J1		FCP0603C272J-K1	2700	2.70	.0027
1206	FCP1206H332J-H1		FCP0805C332J-J1	3300	3.30	.0033
	FCP1206H392J-H1		FCP0805C392J-J1	3900	3.90	.0039
	FCP1206H472J-H1		FCP0805C472J-J1	4700	4.70	.0047
	FCP1206H562J-H1	805	FCP0805C562J-J1	5600	5.60	.0056
	FCP1206H682J-H1		FCP0805C682J-J1	6800	6.80	.0068
	FCP1206H822J-H2		FCP0805C822J-J2	8200	8.20	.0082
	FCP1206H103J-H2		FCP0805C103J-J2	10000	10	.010
1210	FCP1210H123J-G1	1	FCP1206C123J-H1	12000	12	.012
	FCP1210H153J-G1		FCP1206C153J-H1	15000	15	.015
	FCP1210H183J-G2		FCP1206C183J-H1	18000	18	.018
	FCP1210H223J-G2		FCP1206C223J-H1	22000	22	.022
	FCP1210H273J-G2	1206	FCP1206C273J-H2	27000	27	.027
	FCP1210H333J-G3		FCP1206C333J-H2	33000	33	.033
	FCP1210H393J-G3	1 [	FCP1206C393J-H3	39000	39	.039
1	FCP1913H473J-E1		FCP1206C473J-H3	47000	47	.047
1913	FCP1913H563J-E1		FCP1210C563J-G2	56000	56	.056
	FCP1913H683J-E1		FCP1210C683J-G2	68000	68	.068
7	FCP1913H823J-E2	1210	FCP1210C823J-G3	82000	82	.082
	FCP1913H104J-E2		FCP1210C104J-G3	100000	100	.100
1	FCP2416H124J-D1			120000	120	.12
	FCP2416H154J-D1			150000	150	.15
2416	FCP2416H184J-D3			180000	180	.18
	FCP2416H224J-D4			220000	220	.22

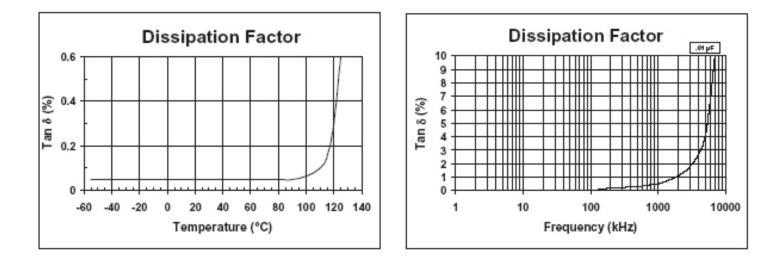
### **Stable Stacked Metallized Film (PPS) Chips for Reflow Soldering**

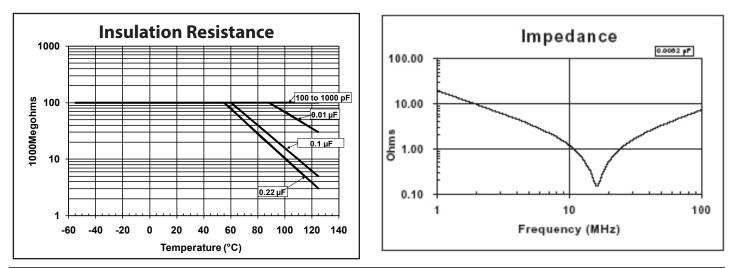
### Typical Temperature Characteristics

## **Typical Frequency Characteristics**



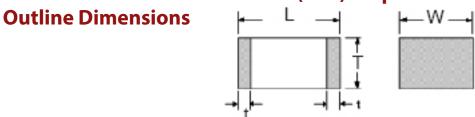




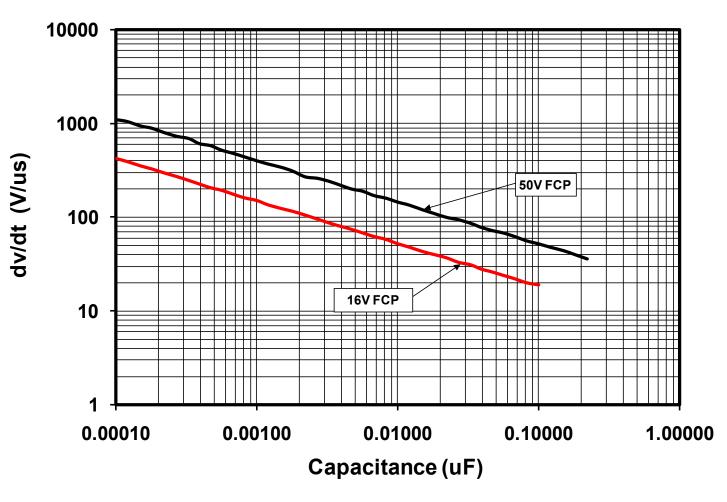


Cornell Dubilier • 1605 E. Rodney French Blvd. • New Bedford, MA 02744 • Phone: (508)996-8564 • Fax: (508)996-3830 • www.cde.com

# **Stable Stacked Metallized Film (PPS) Chips for Reflow Soldering**

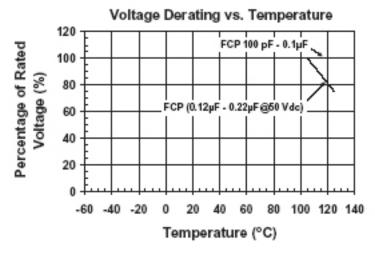


Case Code	Outline Dimensions (in.)			Case Code	Outline Dimensions (mm)				Packaging	
	L ±0.008	W	T±0.008	t	(metric)	L ±0.2	W	T±0.2	t	Code
0603	0.063	0.032±0.006	0.028±0.006	0.014±0.008	1608	1.6	0.80±0.15	0.70±0.15	0.35±0.2	K1
0805	0.070	0.079 0.049±0.008	0.035	0.018±0.010	2012	2.0	1.25±0.2	0.9	0.45±0.25	J1
0803	0.079		0.043					1.1		J2
			0.035	0.026±0.012	3216	3.2	1.6±0.2	0.9	0.65±0.3	H1
1206	0.126	0.063±0.008	0.043					1.1		H2
			0.059					1.5		H3
			0.043	0.026±0.012	3225	3.2	2.5±0.2	1.1	0.65±0.3	G1
1210	0.126	0.098±0.008	0.059					1.5		G2
			0.083					2.1		G3
1913	0.189	0.130±0.012	0.059	0.031±0.012	4833	4.8	3.3±0.3	1.5	0.80±0.3	E1
1913			0.083					2.1		E2
	0.236	0.236 0.161±0.012	0.075	0.031±0.012	6041	6.0	4.1±0.3	1.9	0.80±0.3	D1
2416			0.098					2.5		D3
			0.110					2.8		D4



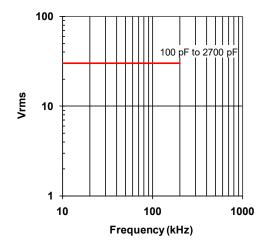
Cornell Dubilier • 1605 E. Rodney French Blvd. • New Bedford, MA 02744 • Phone: (508)996-8564 • Fax: (508)996-3830 • www.cde.com

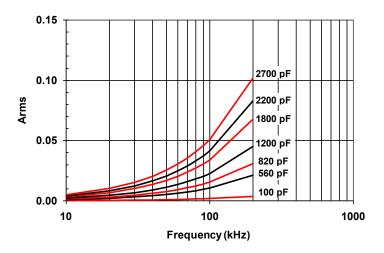
## Type FCP Surface Mount Film Capacitors Stable Stacked Metallized Film (PPS) Chips for Reflow Soldering



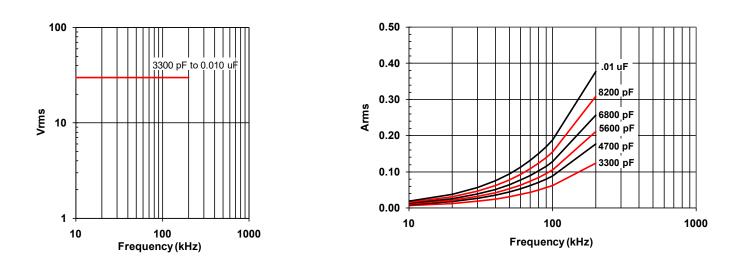
If the temperature on the surface of the capacitor is above 105°C, then the maximum voltage for FCP 50 Vdc ratings from .12 µF to .22µF must be derated linearly from full rated voltage at 105°C to 75% of the rated voltage at 125°C.

### FCP 0805 50 Vdc Rating Vrms and Arms vs. Frequency



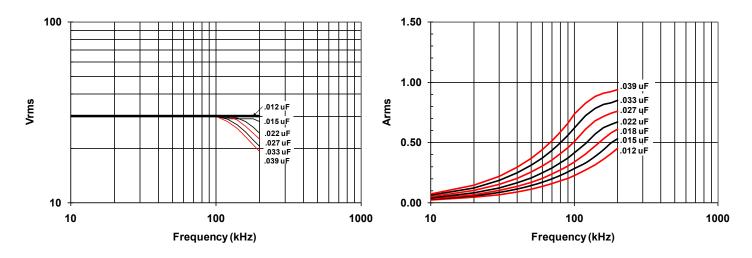


### FCP 1206 50 Vdc Rating Vrms and Arms vs. Frequency

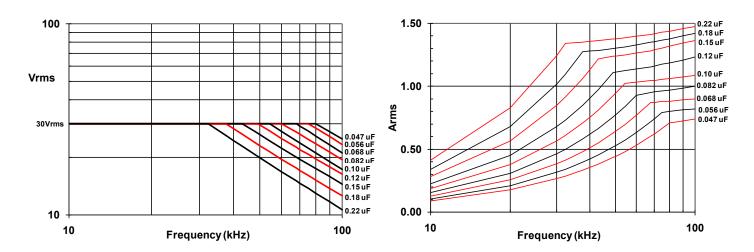


## Stable Stacked Metallized Film (PPS) Chips for Reflow Soldering

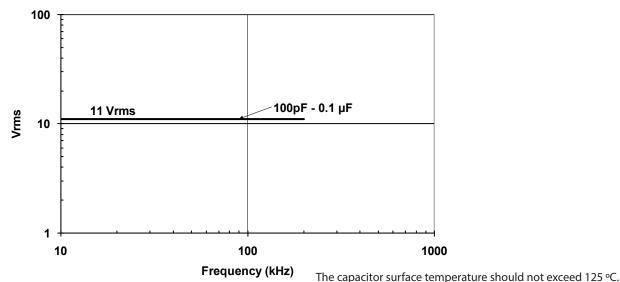
#### FCP 1210 50 Vdc Rating Vrms and Arms vs. Frequency



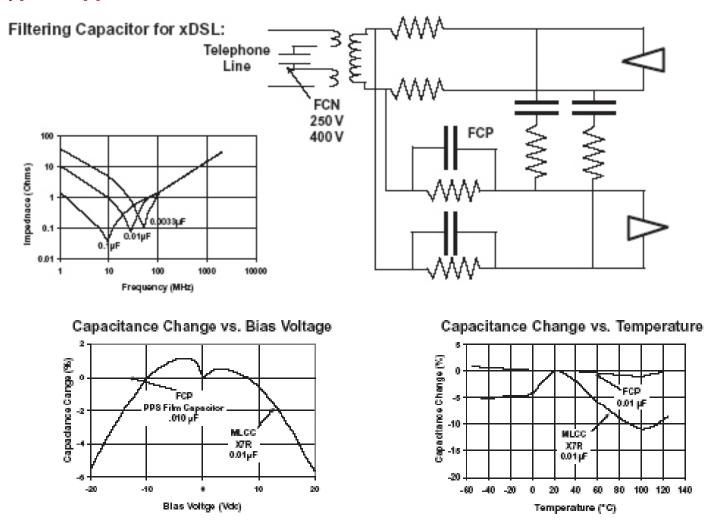
#### FCP 1913 & 2416 50 Vdc Rating Vrms and Arms vs. Frequency





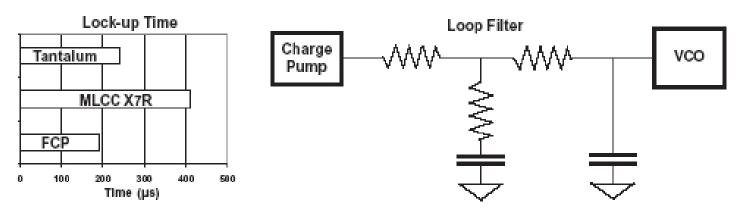


## Stable Stacked Metallized Film (PPS) Chips for Reflow Soldering Typical Applications



The capacitance of SMT film chips is much more stable with applied voltage and with changes in temperature than multilayer ceramic capacitors. Add in the low ESR characteristics of film chips and the final result is improved performance in filter circuit applications.

PLL Circuit: Cellular phone, Blue Tooth, Data Communication Cards



In PLL circuit applications, FCP SMT film capacitor advantages are tight tolerance on the capacitance value, stable capacitance with temperature, faster lock-up times, and no noise due to piezoelectric effects.

**Notice and Disclaimer:** All product drawings, descriptions, specifications, statements, information and data (collectively, the "Information") in this datasheet or other publication are subject to change. The customer is responsible for checking, confirming and verifying the extent to which the Information contained in this datasheet or other publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without any guarantee, warranty, representation or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on the knowledge that the Cornell Dubilier company providing such statements ("Cornell Dubilier") has of operating conditions that such Cornell Dubilier company regards as typical for such applications, but are not intended to constitute any guarantee, warranty or representation regarding any such matter – and Cornell Dubilier specifically and expressly disclaims any guarantee, warranty or representation concerning the suitability for a specific customer application, use, storage, transportation, or operating environment. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by Cornell Dubilier with reference to the use of any Cornell Dubilier products is given gratis (unless otherwise specified by Cornell Dubilier), and Cornell Dubilier assumes no obligation or liability for the advice given or results obtained. Although Cornell Dubilier strives to apply the most stringent guality and safety standards regarding the design and manufacturing of its products, in light of the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies or other appropriate protective measures) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage. Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated in such warnings, cautions and notes, or that other safety measures may not be required.

## **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Film Capacitors category:

Click to view products by Cornell Dubilier manufacturer:

Other Similar products are found below :

 F450KG153J250ALH0J
 750-1018
 FKP1-1000160010P15
 FKP1-1500160010P15
 82EC1100DQ50K
 MMWAF150KME

 PFR5101J100J11L16.5TA18
 PME261JB5220KR19T0
 A521HH333M035C
 QXJ2E474KTPT
 QXL2B333KTPT
 QXM2G104K
 DMT2P22

 EEC2G505HQA406
 B32520C6332K000
 B32522C6104K000
 B32523Q3155J
 B32676E6755K
 C3B2AD44400B20K
 217-0716-001
 KP1830 

 247/061-G
 SCD105K122A3-22
 2N3155
 F601BL225K063CL60A
 FKP1-2202KV5P15
 FKS3-680040010P10
 445450-1
 B32523Q0475K000

 46KR415050M1K
 4BSNBX4100ZBFJ
 4DCNAQ4450ZA0J
 MKP383510063JKP2T0
 MKT 1813-368-015
 MKT182022263473
 4055292001

 WMC08P22
 WMF1S15
 WMF4S68
 EEC2E106HQA405
 EEC2G805HQA415
 82DC3100DQ50J
 82DC4100AA60K
 82EC2150DQ50K

 WMF4D68
 WMF1D68
 PHE841ED6150MR17T0
 B25620B118K883
 B25620B158K883
 66MD2100CK7AK
 97F8038