Chip Film Capacitors

CFCH

Surface Mount Stacked Metallized Polyester Film Capacitors

- Stacked metallized polyester film construction
- Very small sizes in EIA 0805, 1206, 1210, 1913 sizes
- Excellent moisture resistance
- Reflow soldering applicable
- Tape/reel package
- Wide temperature range and high stability
- Stable temperature, frequency and bias characteristics
- Please consult factory for other dielectrics

Specifications:

Item		Characteristics/Specifications
Operating Temperature Range at Rated Voltage		-55~+125°C
Rated Voltage		16, 50 VDC
Rated Capacitance Range (20°C 1KHz)		100PF ~ .1µF
Capacitance Tolerance		±5 (J)
Maximum Dissipation Factor (20°C 1KHz)		1.0%
Minimum Insulation Resistance (20°C) after 1 minute		3,000M Ω at rated dc voltage except 16Vdc. 16Vdc rating should be measured at 10Vdc
Withstanding Voltage (between terminals) applied through min. 2K Ω resistor		1.5 times of rated voltage for 1 minute or 1.75 times for 1-5 seconds
Life Test at 105°C 1,000 hours with 125% of rated voltage	Capacitance Change	Within -6~ +1% of initial measured value
	Dissipation Factor	Maximum 1.1%
	Insulation Resistance	More than 1,000MΩ between terminals
Humidity Load Test 1 at 40°C & 90-95% RH 1,000 hours with Rated voltage	Capacitance Change	Within -5~ +8% of initial measured value
	Dissipation Factor	Maximum 1.5%
	Insulation Resistance	Minimum 100M Ω between terminals
	Withstanding Voltage	Withstand 130% of rated voltage for 1 min.
Humidity Load Test 2 at 60°C & 90-95% RH 500 hours with Rated voltage	Capacitance Change	Within ±10% of initial measured value
	Dissipation Factor	Maximum 2.0%
	Insulation Resistance	Minimum 10M Ω
	Withstanding Voltage	Withstand 130% of rated voltage for 1 min.
Temperature Stability	Δ C/C at -55°C	Within ±3% of initial value at 20°C
	Δ C/C at +105°C	Within ±4% of initial value at 20°C
Resistance to Soldering Heat Reflow with peak at 240 ±3°C and preheating at 155°C for 90 sec.	Capacitance Change	Within ±5% of initial measured value
	Dissipation Factor	Maximum 1.1%
	Insulation Resistance	Minimum 1000M Ω
	Withstanding Voltage	1.5 times of rated voltage for 1 minute or 1.75 times for 1-5 seconds
Solderability Terminal shall be immersed into 10%wt rosin-methanol flux, and then immersed into molten solder at 235±5°C. The solder coverage shall be more than 90% of electrode.		

Dimensions in mm:

Fig. 1

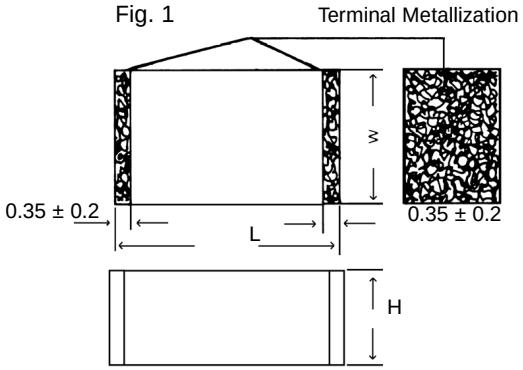


Chart 1: Case Size Code = EIA Size + Height Code

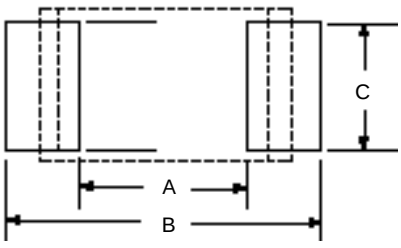
EIA Size	Case Code	Dimensions (mm)			
		L ± 0.2	W	H ± 0.2	A
0805	A1	2.0	1.2	0.8	0.35 ±0.2
	A2			1.0	
1206	B1	3.2	1.6 ±0.2	0.8	0.35 ±0.2
	B2			1.0	
	B3			1.4	
1210	C1	3.2	2.5 ±0.2	1.0	0.35 ±0.2
	C2			1.4	
	C3			2.4	
1913	D1	4.8	3.3 ±0.3	1.4	0.35 ±0.2
	D2			2.0	
	D3			2.8	

CFCH - Standard Products Table

Voltage	16 VDC			50 VDC			
EIA Size	0805	1206	1210	0805	1206	1210	1913
100pF				A1			
120pF				A1			
150pF				A1			
180pF				A1			
220pF				A1			
270pF				A1			
330pF				A1			
470pF				A1			
560pF				A1			
680pF				A1			
820pF				A1			
.001µF				A1			
.0012µF				A1			
.0015µF				A1			
.0018µF				A1			
.0022µF				A1			
.0027µF				A1			
.0033µF	A1				B1		
.0039µF	A1				B1		
.0047µF	A1				B1		
.0056µF	A1				B1		
.0068µF	A1				B1		
.0082µF	A2				B2		
.01µF	A2				B2		
.012µF		B1				C1	
.015µF		B1				C1	
.018µF		B1				C2	
.022µF		B1				C2	
.027µF		B2				C2	
.033µF		B2				C3	
.039µF		B3				C3	
.047µF		B3					D1
.056µF			C2				D1
.068µF			C2				D1
.082µF			C3				D2
.1µF			C3				D2

Handling Cautions and Recommendations:

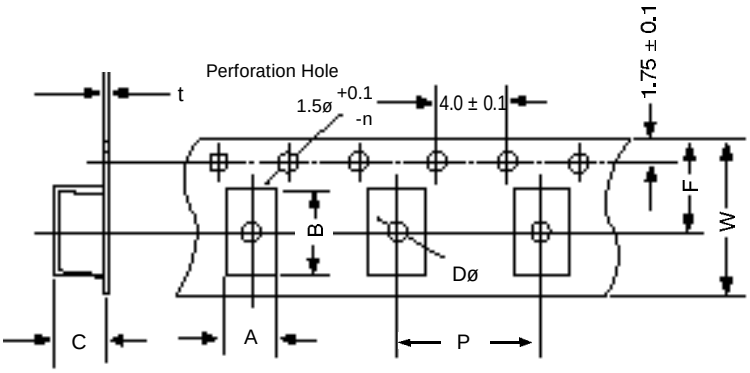
1. Recommended Land Pattern (mm)



Example for Land Dimensions (mm)

Code	Land Dimensions					
	Flow Soldering			Reflow Soldering		
	A	B	C	A	B	C
A1	1.0	2.7	1.1	1.0	2.7	1.1
A2	1.0	2.7	1.1	1.0	2.7	1.1
B1	2.2	3.8	1.4	2.2	3.8	1.4
B2	2.2	3.8	1.4	2.2	3.8	1.4
B3	2.2	3.8	1.4	2.2	3.8	1.4
C1	2.2	3.8	2.3	2.2	3.8	2.3
C2	2.2	3.8	2.3	2.2	3.8	2.3
C3	2.2	3.8	2.3	2.2	3.8	2.3
D1	2.6	6.6	3.0	2.6	6.6	3.0
D2	2.6	6.6	3.0	2.6	6.6	3.0

CFCH
Chip Type Embossed Taping - Embossed Taping

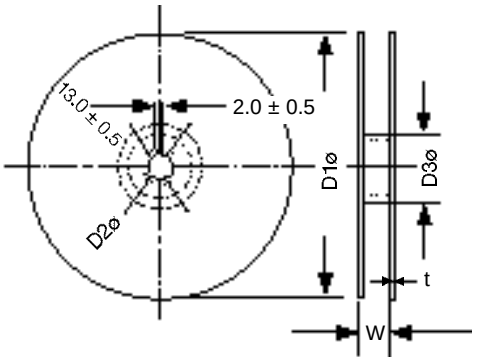


Standard Packaging Quantities

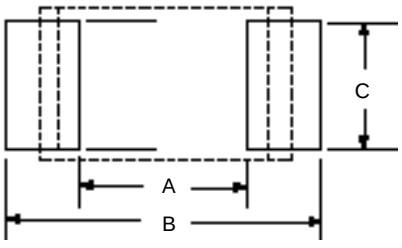
Size Code	Reel	Quantities
A1, A2, B1, B2	ø178	3000pcs/reel
B3, C1, C2, C3	ø178	2000pcs/reel
D1, D2	ø330	3000pcs/reel

Size Code	Dimensions (mm)												
	A_0±0.1	B_0±0.1	W±0.3	F±0.05	E±0.1	P±0.1	P_0±0.05	P_0±0.1	ø$D_1{}^{+0.2}_{-0}$	ø$D_1{}^{+0.2}_{-0}$	T±0.05	T_S±0.2	K±0.1
A1	1.55	2.3	8.0	3.50	1.75	4.0	2.00	4.0	ø1.5	ø1.0	0.25	1.3	1.2
A2	1.55	2.3										1.5	1.4
B1, B2	1.9	3.5										1.5	1.4
B3	1.9	3.5										1.9	1.8
C1, C2	2.8	3.5										1.9	1.8
C3	2.8	3.5										2.5	2.4
D1	3.8	5.1	12.0	5.50	1.75	8.0	2.00	4.0	ø1.5	ø1.5	0.30	2.0	1.9
D2	3.8	5.1										2.6	2.5

Reel Dimensions

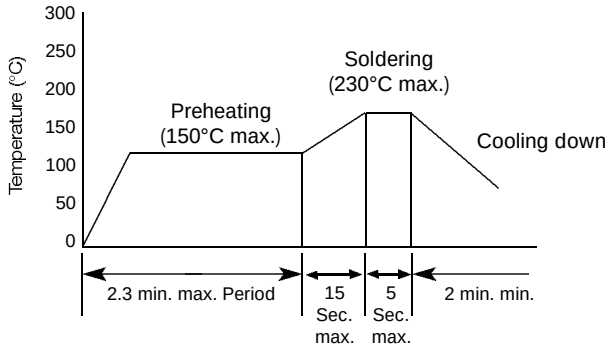


Leader Part and Tape End (mm)



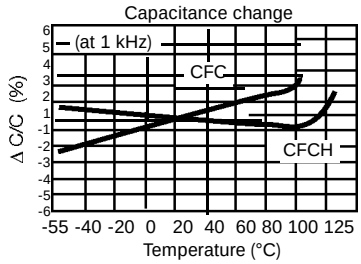
CFC/CFCH

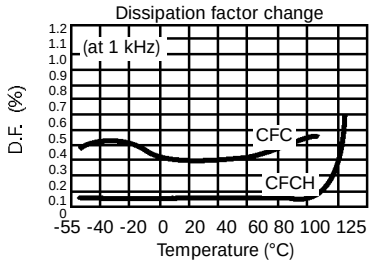
1. Flux without halogen content is recommended. Please consult factory for use of the flux with more than 0.1% halogen content which may damage the capacitor.
2. Recommended Soldering Conditions. (Only reflow is applicable and solder dripping not applicable).

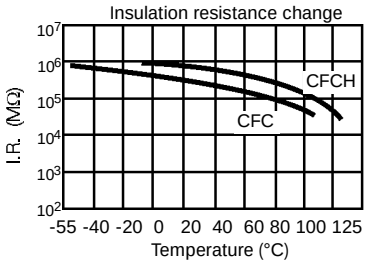


3. Cleaning Conditions
   (1) Isopropyl alcohol is recommended under following conditions:
   Dipping at room temperature: max. 5 minutes
   Vapor less than 50°C: max. 5 minutes
   Ultrasonic less than 50°C: max. 5 minutes
   The freon family and trychloroethane can be applicable. In case of other cleaning agents or solvents, please consult our factory.
4. Storage under cool and low humidity without any harmful gas is recommended.
5. High frequency application.
   The sum of DC voltage and peak value at AC voltage shall not exceed the rated voltage. Also, the capacitor shall be used in a condition that the self temperature rise shall not exceed 10°C at ambient temperature 40°C, and the sum of ambient temperature and self temperature rise shall not exceed 105°C.

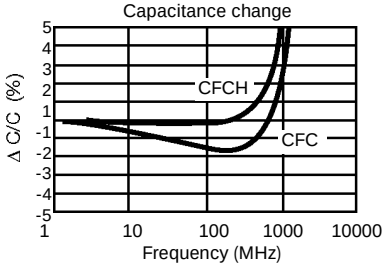
Temperature Characteristics (Typical curve)

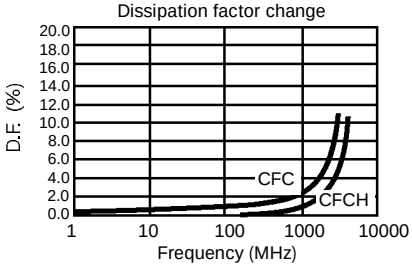


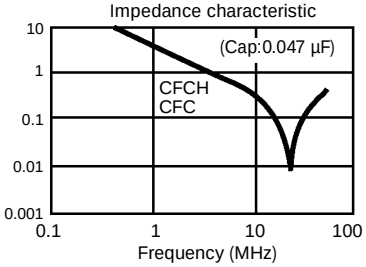




Frequency Characteristics (Typical curve)







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Part Numbering System