

## Metallized Polypropylene Film Capacitor

**ECWFD** series

**UPGRADE**



Non-inductive construction using metallized Polypropylene film with flame retardant epoxy resin coating.

### Features

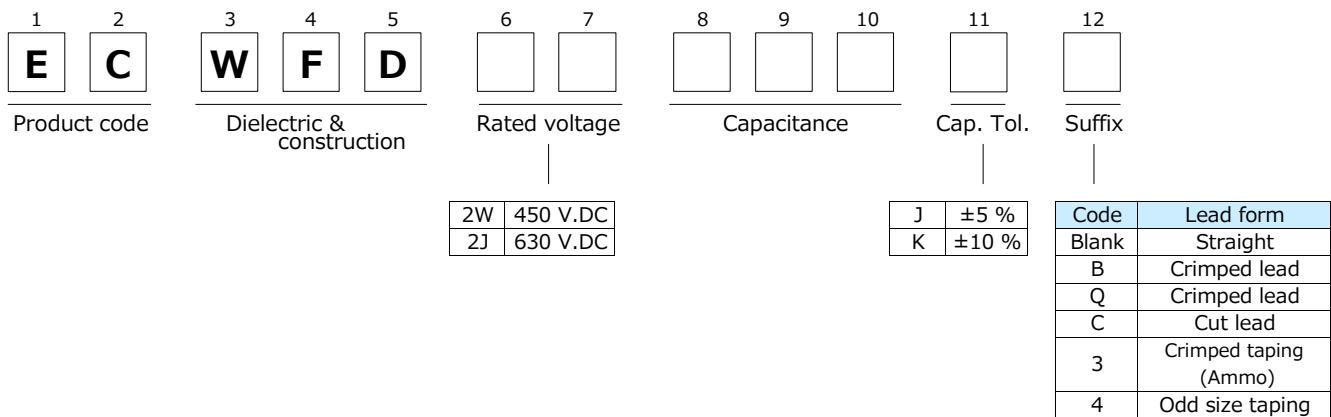
- Small size
- Excellent frequency characteristics
- Low loss
- Flame-retardant epoxy resin coating
- Low hum sound noise
- RoHS compliant

### Recommended applications

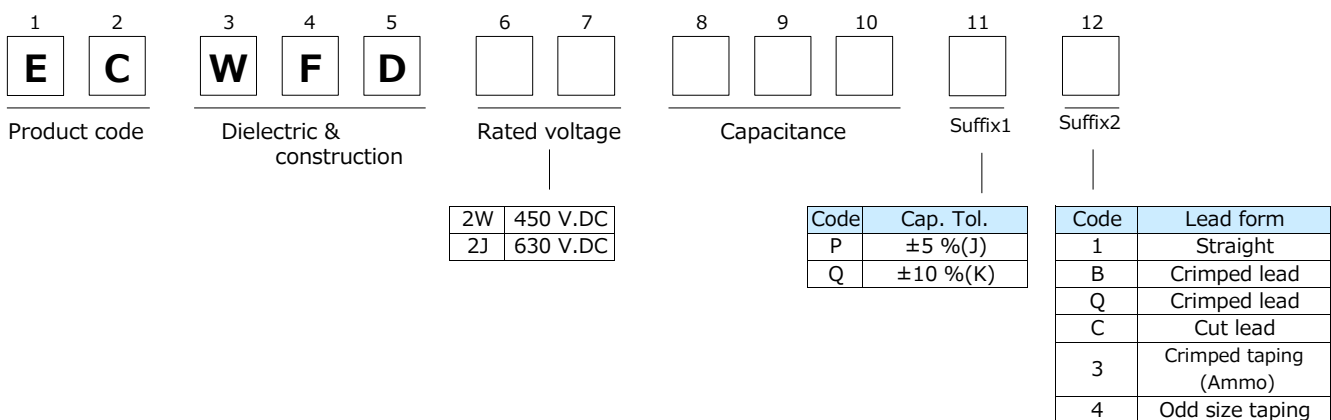
- Active filter circuit
- High frequency circuit

### Explanation of part number

- Standard product



- Short lead space product 450 V.DC (0.47  $\mu$ F, 0.68  $\mu$ F, 1.0  $\mu$ F), 630 V.DC (1.0  $\mu$ F)

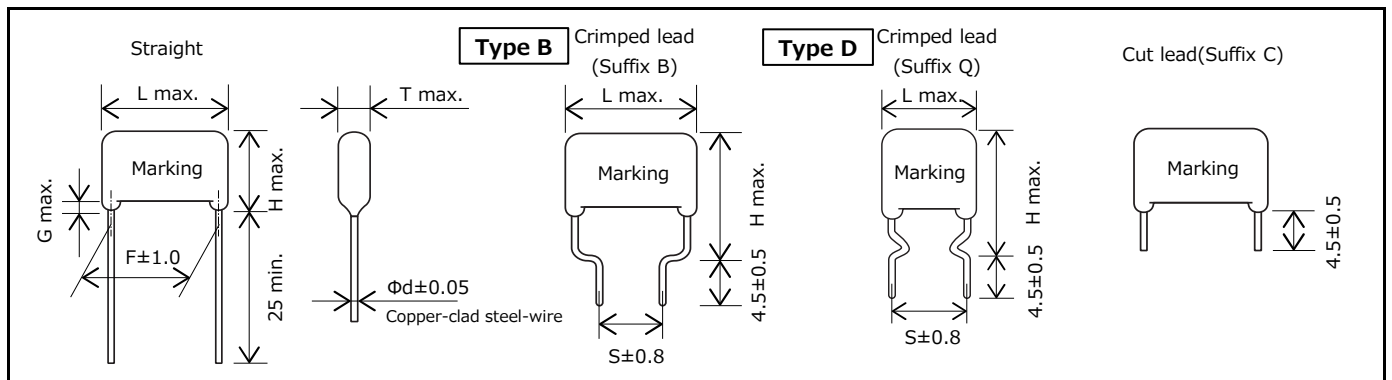


## Specifications

Category temp. range (Including temperature-rise on unit surface)	450 V.DC	-40 °C to +110 °C
	630 V.DC	-40 °C to +105 °C
Rated voltage	450 V.DC	Peak to peak voltage applied on the capacitor should be less than 240 Vp-p, and zero to peak voltage should be less than 450 Vo-p. (Derating of rated voltage by 0.62 %/°C at more than 85 °C)
	630 V.DC	Peak to peak voltage applied on the capacitor should be less than 400 Vp-p, and zero to peak voltage should be less than 630 Vo-p. (Derating of rated voltage by 1.0%/°C at more than 85 °C)
Capacitance range	450 V.DC	0.1 μF to 4.7 μF
Capacitance tolerance	630 V.DC	0.01 μF to 4.7 μF
Dissipation factor (tan δ)	±5% (J), ±10 % (K)	
Withstand voltage	tan δ ≤ 0.1 % (20 °C, 1 kHz)	
Insulation resistance (IR)	Between terminals : Rated voltage (V.DC)×150 % 60 s	
	450 V.DC	C ≤ 0.33 μF : IR ≥ 30,000 MΩ C > 0.33 μF : IR ≥ 10,000 MΩ·μF (20 °C, 100 V.DC, 60 s)
	630 V.DC	C ≤ 0.33 μF : IR ≥ 9,000 MΩ C > 0.33 μF : IR ≥ 3,000 MΩ·μF (20 °C, 500 V.DC, 60 s)

\*: In case of applying voltage in alternating current (50 Hz or 60 Hz sine wave) to a capacitor with DC rated voltage, please refer to the page of "Permissible voltage (R.M.S) in alternating current corresponding to DC rated voltage".

## Dimensions

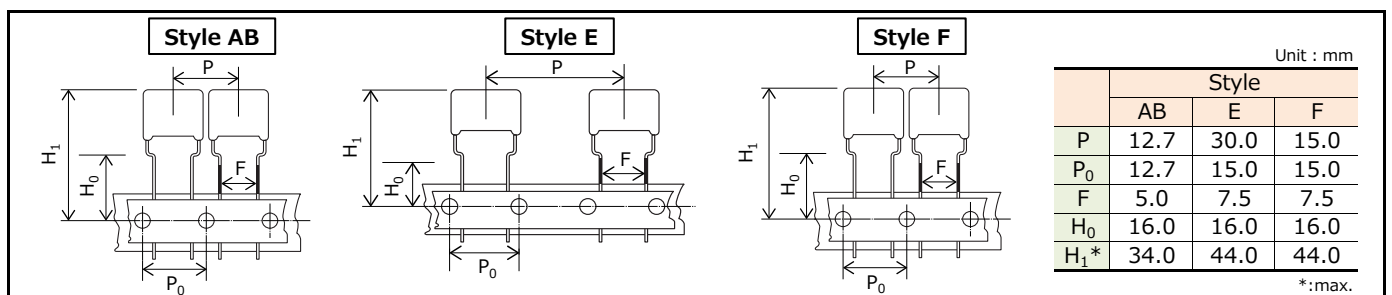


## Packaging specifications for bulk package

- Packing quantity : 100 pcs./bag

## Taping specifications for automatic insertion

- Taping style



\*: H<sub>1</sub> dimension is based on insertion machine "Panaset RH series" made by Panasonic. Consult with Panasonic technical staff when using other insertion machines.

- Packaging specifications

Series	Rated volt. (V.DC)	Capacitance range (μF)	Taping style							Packing	suffix	
			AD	AS	AB	B	C	D	E			F
ECWFD	450	0.10 to 0.39			○						Crimped taping	3
		0.47, 0.68, 1.0			○							P3/Q3
		0.10 to 0.39								○		4
	630	0.47 to 2.2							○		Odd size taping	P4/Q4
		0.047 to 0.22								○		4
		0.27 to 0.82							○			4
		1							○		P4/Q4	

See the column "Rating · Dimensions · Quantity" for packaging quantity

- Lead spacing

Style	Lead spacing
AB	5.0
E	7.5
F	7.5

Unit : mm

## Rating · Dimensions · Quantity

- Rated voltage : 450 V.DC, Capacitance tolerance :  $\pm 5\%$ (J),  $\pm 10\%$ (K)

Part No.	Cap. ( $\mu$ F)	Dimensions (mm)										Min. order Q'ty			
		L max.	T max.	H max.			F	S		G max.	$\Phi$ d	Taping		Bulk	
				Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)		Crimped lead (Suffix B)	Crimped lead (Suffix Q)			Standard 5.0 mm	Odd size 7.5 mm	Straight	Crimped lead
ECWFD2W104□( )	0.10	12.6	4.5	-	13.9	13.9	-	7.5	10.0	-	0.6	1500	1400	-	
ECWFD2W124□( )	0.12	12.6	4.6		14.0	14.0		7.5	10.0		0.6				
ECWFD2W154□( )	0.15	12.6	4.6		14.1	14.1		7.5	10.0		0.6				
ECWFD2W184□( )	0.18	12.6	4.8		14.3	14.3		7.5	10.0		0.6				
ECWFD2W224□( )	0.22	12.6	5.0		14.6	14.6		7.5	10.0		0.6	1400	1300		
ECWFD2W274□( )	0.27	12.6	5.3		15.0	15.0		7.5	10.0		0.6	1300	1200		
ECWFD2W334□( )	0.33	12.6	5.6		15.4	15.4		7.5	10.0		0.6	1200	1100		
ECWFD2W394□( )	0.39	12.6	6.0		15.7	15.7		7.5	10.0		0.6	1100	1000		
<b>ECWFD2W474P( )</b>	0.47	12.6	6.5	11.2	16.2	16.2	10.0	7.5	10.0	1.5	0.6	1000	900	1000	
<b>ECWFD2W474Q( )</b>		17.5	5.8	9.0	14.0	16.0	15.0	7.5	15.0	1.5	0.8	-	500		
ECWFD2W474□( )	0.47	17.5	5.8	9.0	14.0	16.0	15.0	7.5	15.0	1.5	0.8	-	500		
ECWFD2W564□( )	0.56	17.5	6.2	9.4	14.4	16.4	15.0	7.5	15.0	1.5	0.8	-	500		
<b>ECWFD2W684P( )</b>	0.68	12.6	7.7	12.4	17.4	17.4	10.0	7.5	10.0	1.5	0.6	800	700		
<b>ECWFD2W684Q( )</b>		17.5	6.7	9.9	14.9	16.9	15.0	7.5	15.0	1.5	0.8	-	400		
ECWFD2W684□( )	0.68	17.5	6.7	9.9	14.9	16.9	15.0	7.5	15.0	1.5	0.8	-	400		
ECWFD2W824□( )	0.82	17.5	7.2	10.4	15.4	17.4	15.0	7.5	15.0	1.5	0.8	-	400		
<b>ECWFD2W105P( )</b>	1.0	12.6	9.2	13.9	18.9	18.9	10.0	7.5	10.0	1.5	0.6	700	600		
<b>ECWFD2W105Q( )</b>		17.5	7.8	11.0	16.0	18.0	15.0	7.5	15.0	1.5	0.8	-	400		
ECWFD2W105□( )	1.0	17.5	7.8	11.0	16.0	18.0	15.0	7.5	15.0	1.5	0.8	-	400		
ECWFD2W125□( )	1.2	17.5	8.5	11.6	16.6	18.6	15.0	7.5	15.0	1.5	0.8	-	300		
ECWFD2W155□( )	1.5	17.5	9.3	12.5	17.5	19.5	15.0	7.5	15.0	1.5	0.8	-	300		
ECWFD2W185□( )	1.8	17.5	10.1	13.3	18.3	20.3	15.0	7.5	15.0	1.5	0.8	-	200		
ECWFD2W225□( )	2.2	17.5	11.1	14.3	19.3	21.3	15.0	7.5	15.0	1.5	0.8	-	200		
ECWFD2W275□( )	2.7	25.3	9.0	13.7	18.7	20.7	22.5	15.0	22.5	1.5	0.8	-	800		
ECWFD2W335□( )	3.3	25.3	9.8	14.6	19.6	21.6	22.5	15.0	22.5	1.5	0.8	-	800		
ECWFD2W395□( )	3.9	25.3	10.7	15.4	20.4	22.4	22.5	15.0	22.5	1.5	0.8	-	800		
ECWFD2W475□( )	4.7	25.3	11.7	16.4	21.4	23.4	22.5	15.0	22.5	1.5	0.8	-	600	600	

- \* □ : Capacitance tolerance code
- \* ( ) : Suffix for lead crimped

Note) Part number marked with bold is short lead space product.

## Rating · Dimensions · Quantity

- Rated voltage : 630 V.DC, Capacitance tolerance :  $\pm 5\%$ (J),  $\pm 10\%$ (K)

Part No.	Cap. ( $\mu$ F)	Dimensions (mm)										Min. order Q'ty		
		L max.	T max.	H max.			F	S		G max.	$\Phi$ d	Taping	Bulk	
				Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)		Crimped lead (Suffix B)	Crimped lead (Suffix Q)			Odd size 7.5 mm	Straight	Crimped lead
<b>NEW</b> ECWFD2J103□( )	0.01	12.6	4.9	-	8.0	8.0	-	7.5	10.0	-	0.6	-	-	1000
<b>NEW</b> ECWFD2J123□( )	0.012	12.6	5.2	-	8.2	8.2	-	7.5	10.0	-	0.6	-	-	
<b>NEW</b> ECWFD2J153□( )	0.015	12.6	5.6	-	8.6	8.6	-	7.5	10.0	-	0.6	-	-	
<b>NEW</b> ECWFD2J183□( )	0.018	12.6	5.9	-	9.0	9.0	-	7.5	10.0	-	0.6	-	-	
<b>NEW</b> ECWFD2J223□( )	0.022	12.6	6.4	-	9.4	9.4	-	7.5	10.0	-	0.6	-	-	
<b>NEW</b> ECWFD2J273□( )	0.027	12.6	6.9	-	9.9	9.9	-	7.5	10.0	-	0.6	-	-	
<b>NEW</b> ECWFD2J333□( )	0.033	12.6	7.5	-	10.5	10.5	-	7.5	10.0	-	0.6	-	-	
<b>NEW</b> ECWFD2J393□( )	0.039	12.6	8.0	-	11.0	11.0	-	7.5	10.0	-	0.6	-	-	
ECWFD2J473□( )	0.047	12.6	4.4	-	12.8	12.8	-	7.5	10.0	-	0.6	1300	-	1000
ECWFD2J563□( )	0.056	12.6	4.7	-	13.1	13.1	-	7.5	10.0	-	0.6	1200	-	
ECWFD2J683□( )	0.068	12.6	5.0	-	13.4	13.4	-	7.5	10.0	-	0.6	1000	-	
ECWFD2J823□( )	0.082	12.6	5.4	-	13.7	13.7	-	7.5	10.0	-	0.6	900	-	
ECWFD2J104□( )	0.10	12.6	5.8	-	14.2	14.2	-	7.5	10.0	-	0.6	700	-	
ECWFD2J124□( )	0.12	12.6	6.2	-	14.6	14.6	-	7.5	10.0	-	0.6	500	-	
ECWFD2J154□( )	0.15	12.6	6.8	-	15.2	15.2	-	7.5	10.0	-	0.6	400	-	
ECWFD2J184□( )	0.18	12.6	7.4	-	15.7	15.7	-	7.5	10.0	-	0.6	300	-	
ECWFD2J224□( )	0.22	12.6	8.1	-	16.4	16.4	-	7.5	10.0	-	0.6	200	-	
ECWFD2J274□( )	0.27	17.8	6.0	11.0	16.0	18.0	15.0	7.5	15.0	1.5	0.8	1000	-	
ECWFD2J334□( )	0.33	17.8	6.6	11.5	16.5	18.5	15.0	7.5	15.0	1.5	0.8	800	-	
ECWFD2J394□( )	0.39	17.8	7.1	12.0	17.0	19.0	15.0	7.5	15.0	1.5	0.8	600	800	
ECWFD2J474□( )	0.47	17.8	7.8	12.7	17.7	19.7	15.0	7.5	15.0	1.5	0.8	500	700	
ECWFD2J564□( )	0.56	17.8	8.4	13.3	18.3	20.3	15.0	7.5	15.0	1.5	0.8	400	600	
ECWFD2J684□( )	0.68	17.8	9.3	14.2	19.2	21.2	15.0	7.5	15.0	1.5	0.8	300	500	
ECWFD2J824□( )	0.82	17.8	10.2	15.1	20.1	22.1	15.0	7.5	15.0	1.5	0.8	200	300	
<b>ECWFD2J105P( )</b>	1.0	17.8	11.2	16.1	21.1	23.1	15.0	7.5	15.0	1.5	0.8	1000	800	
<b>ECWFD2J105Q( )</b>														
ECWFD2J105□( )	1.0	25.3	8.4	13.5	18.5	20.5	22.5	15.0	22.5	1.5	0.8	800	900	
ECWFD2J125□( )	1.2	25.3	9.2	14.3	19.3	21.3	22.5	15.0	22.5	1.5	0.8	600	800	
ECWFD2J155□( )	1.5	25.3	10.3	15.5	20.5	22.5	22.5	15.0	22.5	1.5	0.8	500	700	
ECWFD2J185□( )	1.8	25.3	11.2	16.5	21.5	23.5	22.5	15.0	22.5	1.5	0.8	400	600	
ECWFD2J225□( )	2.2	25.3	12.4	17.7	22.7	24.7	22.5	15.0	22.5	1.5	0.8	300	500	
ECWFD2J275□( )	2.7	25.3	13.8	19.2	24.2	26.2	22.5	15.0	22.5	1.5	0.8	200	300	
ECWFD2J335□( )	3.3	25.3	15.3	20.7	25.7	27.7	22.5	15.0	22.5	1.5	0.8	1000	800	
ECWFD2J395□( )	3.9	25.3	16.6	22.1	27.1	29.1	22.5	15.0	22.5	1.5	0.8	800	900	
ECWFD2J475□( )	4.7	25.3	18.3	23.9	28.9	30.9	22.5	15.0	22.5	1.5	0.8	600	700	

\* □ : Capacitance tolerance code  
 \* ( ) : Suffix for lead crimped

Note) Part number marked with bold is short lead space product.