

## Metallized Polypropylene Film Capacitors

Type: **ECWFE**

Non-inductive construction using metallized Polypropylene film with flame retardant plastic case.

### ■ Features

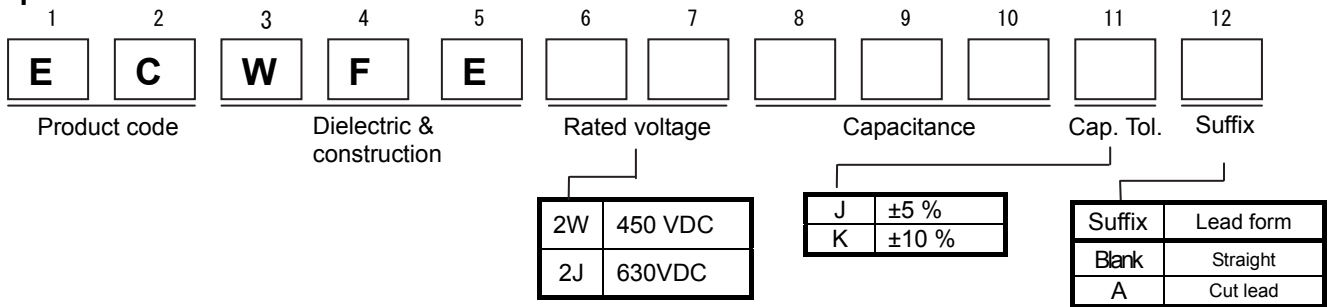
- Small size
- Excellent frequency characteristics
- Low loss
- Flame retardant epoxy resin coating
- Low Hum Sound Noise
- RoHS directive compliant



### ■ Recommended Applications

- Active filter circuits
- High frequency and high current circuits

### ■ Explanation of Part Numbers



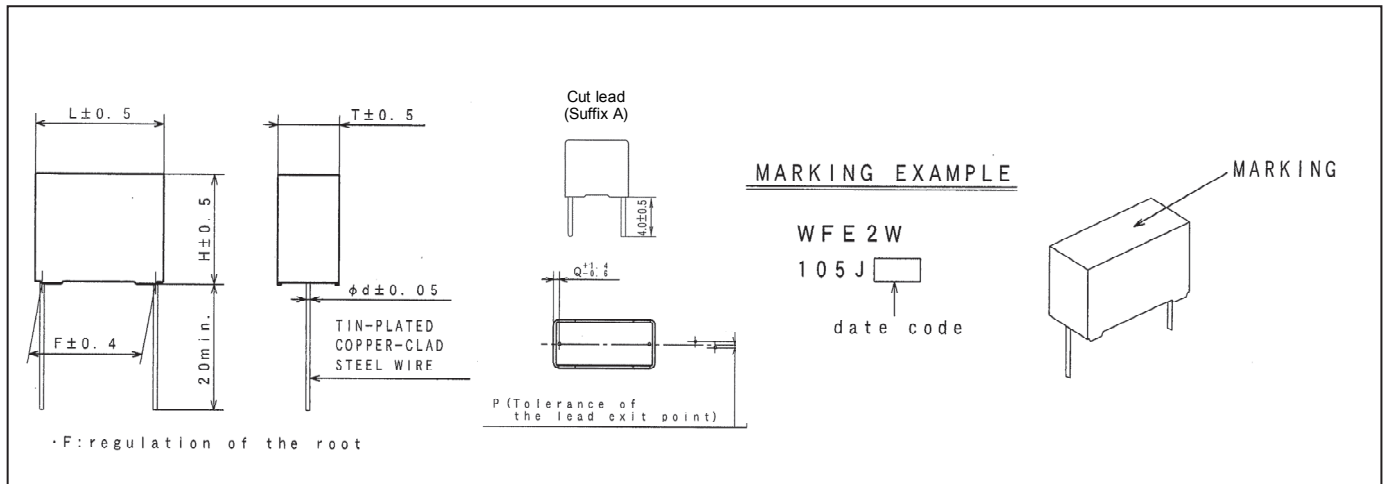
### ■ Specifications

Category temp. range (Including temperature-rise on unit surface)	-40 °C to +105 °C		
Rated voltage	450 VDC ( Derating of rated voltage by 1.25%/°C at more than 85°C) Peak to peak voltage applied on the capacitor should be less than 240Vp-p ,and zero to peak voltage should be less than 450V.		
	630 VDC ( Derating of rated voltage by 1.0%/°C at more than 85°C) Peak to peak voltage applied on the capacitor should be less than 400Vp-p ,and zero to peak voltage should be less than 630V.		
Capacitance range	0.1 uF to 4.7 uF		
	0.1 uF to 2.2 uF		
Capacitance tolerance	±5% (J), ±10 % (K)		
Withstand voltage	Between terminals : Rated voltage(VDC) × 150 % 60 s		
Dissipation factor (tan δ )	tan δ ≤ 0.1 % (20 °C, 1 kHz)		
Insulation resistance (IR)	450 VDC	C ≤ 0.33 uF : IR ≥ 30,000 M Ω C > 0.33 uF : IR ≥ 10,000 M Ω · uF (20 °C, 100 VDC, 60 s )	
	630 VDC	C ≤ 0.33 uF : IR ≥ 9,000 M Ω C > 0.33 uF : IR ≥ 3,000 M Ω · uF (20 °C, 500 VDC, 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 in mm (not to scale)

(Dimensions: mm)



## ■Rating, Dimension & Quantity / Ammo Box

Part No.	Capacitance (μF)	Dimensions (mm)							Min. Order Q't	
		L	T	H	F	φd	P	Q	Straight	Cut lead
ECWFE2W104□( )	0.1	13.0	5.0	10.5	10.0	0.6	0±0.8	1.5	2000	1300
ECWFE2W154□( )	0.15	13.0	5.0	10.5	10.0	0.6	0±0.8	1.5	2000	1300
ECWFE2W224□( )	0.22	13.0	6.0	12.0	10.0	0.6	0±0.8	1.5	1500	1000
ECWFE2W334□( )	0.33	13.0	6.0	12.0	10.0	0.6	0±0.8	1.5	1500	1000
ECWFE2W474P( )	0.47	13.0	7.0	12.5	10.0	0.6	0±0.8	1.5	1500	1200
★ ECWFE2W474Q( )										
ECWFE2W474□( )	0.47	17.5	6.0	11.5	15.0	0.8	0±0.8	1.3	1500	1000
ECWFE2W684□( )	0.68	17.5	7.0	12.5	15.0	0.8	0±0.8	1.3	1500	1000
ECWFE2W105□( )	1.0	17.5	7.0	12.5	15.0	0.8	0±0.8	1.3	1500	1000
ECWFE2W155□( )	1.5	17.5	10.0	15.5	15.0	0.8	0±0.8	1.3	1000	600
ECWFE2W225□( )	2.2	17.5	10.0	15.5	15.0	0.8	0±0.8	1.3	1000	600
ECWFE2W335□( )	3.3	26.0	10.0	17.0	22.5	0.8	0±0.8	1.8	500	300
ECWFE2W475□( )	4.7	26.0	12.0	19.0	22.5	0.8	0±0.8	1.8	300	200

Suffix for lead crimped  
 Capacitance tolerance code

Note) Part Number marked with ★ is Short Lead Space Product.

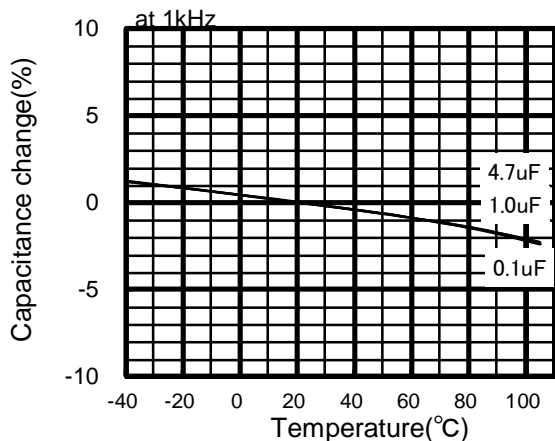
## ■ Rating, Dimension & Quantity / Ammo Box

Part No.	Capacitance ( $\mu$ F)	Dimensions (mm)							Min. Order Q't	
		L	T	H	F	$\phi$ d	P	Q	Straight	Cut lead
ECWFE2J104□( )	0.1	17.5	5.0	10.5	15.0	0.6	0 $\pm$ 0.8	1.25	1000	1000
ECWFE2J154□( )	0.15	17.5	6.0	11.5	15.0	0.6	0 $\pm$ 0.8	1.25	1000	1000
ECWFE2J224□( )	0.22	17.5	7.0	12.5	15.0	0.6	0 $\pm$ 0.8	1.25	1000	1000
ECWFE2J334□( )	0.33	17.5	8.5	14.5	15.0	0.6	0 $\pm$ 0.8	1.25	1000	800
ECWFE2J474□( )	0.47	17.5	10.0	15.5	15.0	0.6	0 $\pm$ 0.8	1.25	1000	600
ECWFE2J684□( )	0.68	17.5	11.0	17.5	15.0	0.6	0 $\pm$ 0.8	1.25	600	600
ECWFE2J105□( )	1.0	26.0	10.0	17.0	22.5	0.8	0 $\pm$ 0.8	1.75	500	300
ECWFE2J155□( )	1.5	26.0	12.0	19.0	22.5	0.8	0 $\pm$ 0.8	1.75	300	200
ECWFE2J225□( )	2.2	26.0	16.0	23.0	22.5	0.8	0 $\pm$ 0.8	1.75	200	200

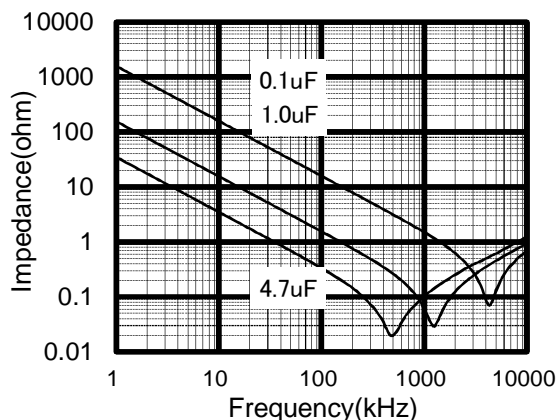
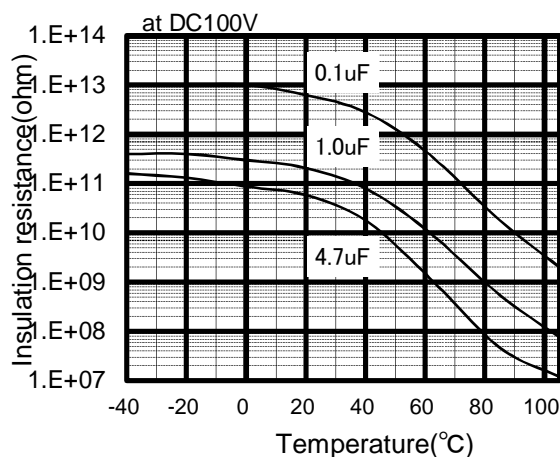
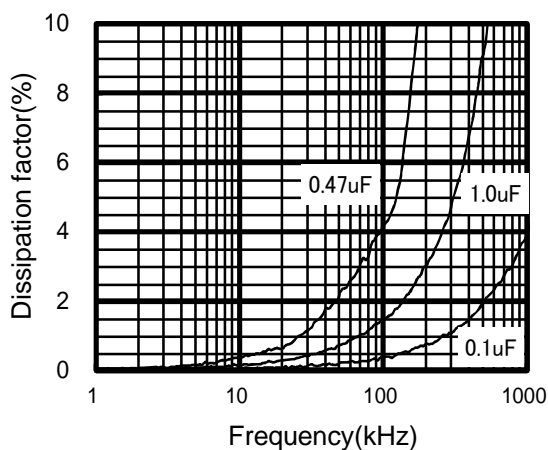
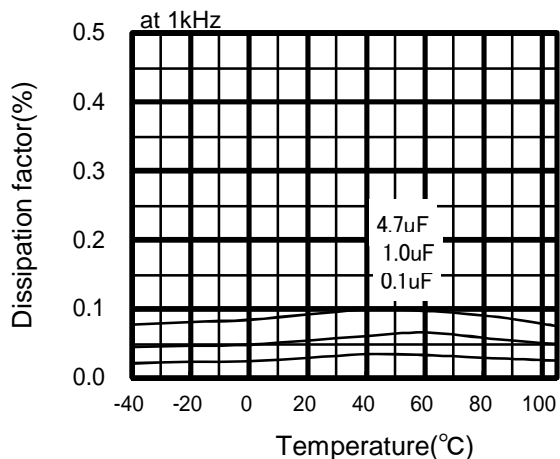
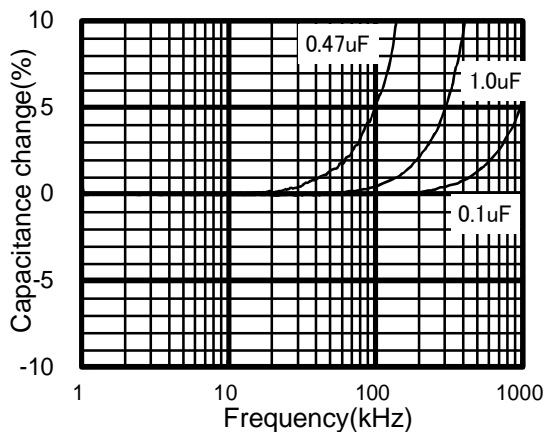
**ECWFE Type DC450V series (Metallized Polypropylene Film)**

**Electrical Characteristics <Typical Data >**

**Temperature Characteristics**



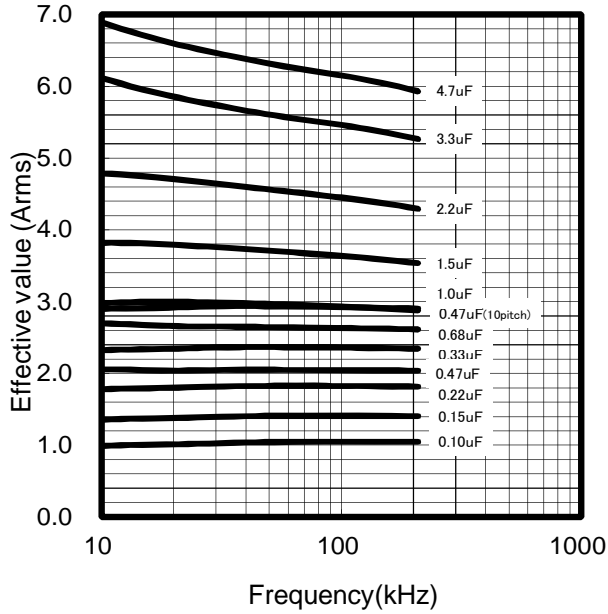
**Frequency Characteristics**



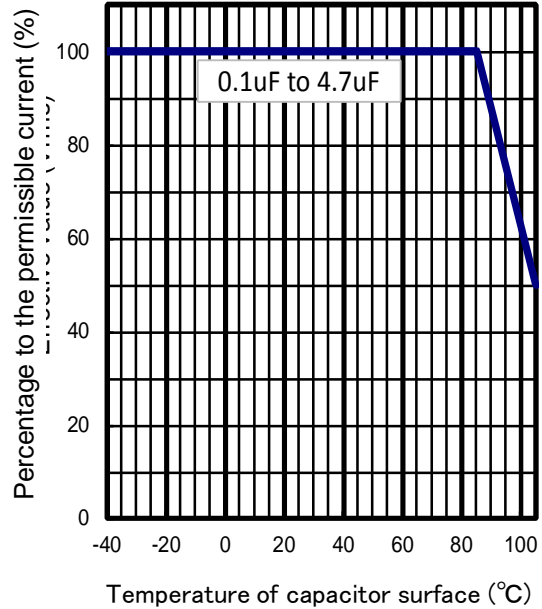
**ECWFE Type DC450V series (Metallized Polypropylene Film)**

**Applicable Specifications**

**Permissible Current**



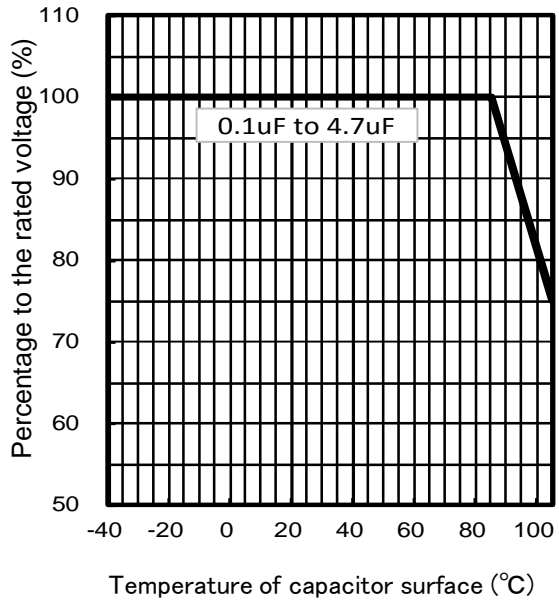
**Permissible Current Derating by Temperature**



**Pulse Handling Capability (dv/dt)  
(Max 10000cycles)**

Rated Voltage	Pitch (mm)	Capacitance (μF)	Code	dV/dt (V/μs)	Current (A0-P)
DC 450V	10.0	0.100	104	41.6	4.2
		0.150	154		6.2
		0.220	224		9.2
		0.330	334		13.7
		0.470	474		19.6
	15.0	0.470	474	24.3	11.4
		0.680	684		16.5
		1.000	105		24.3
		1.500	155		36.5
		2.200	225		53.4
	22.5	3.300	335	14.3	47.2
		4.700	475		67.3

**Voltage Derating by Temperature**

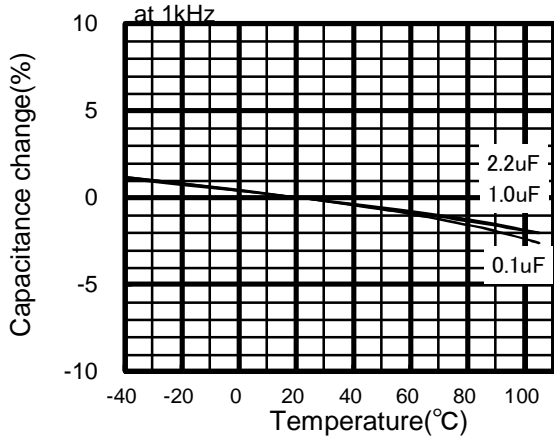


\*Please consult Panasonic if your condition exceeds the above  
 \*P When you use this product, peak voltage must not exceed DC rated voltage.  
 \*The current(0-P) value is calculated using nominal capacitance.

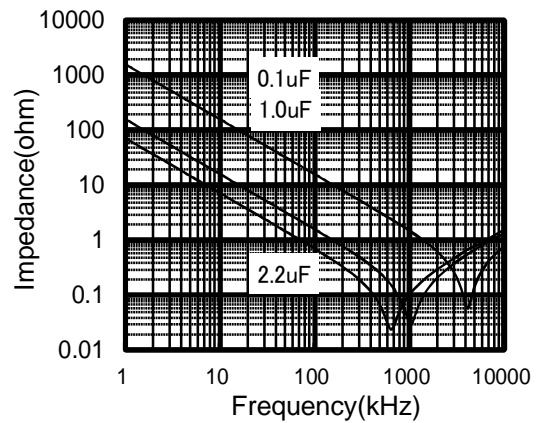
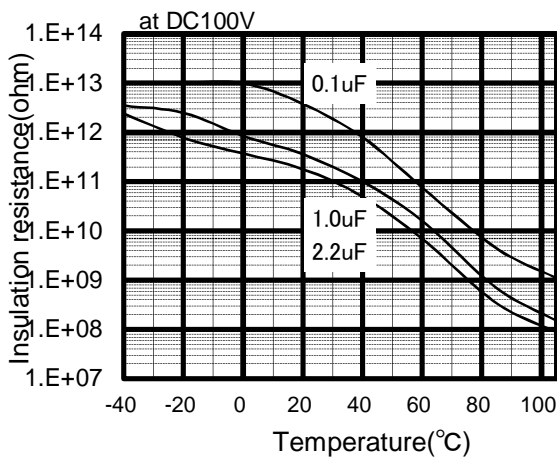
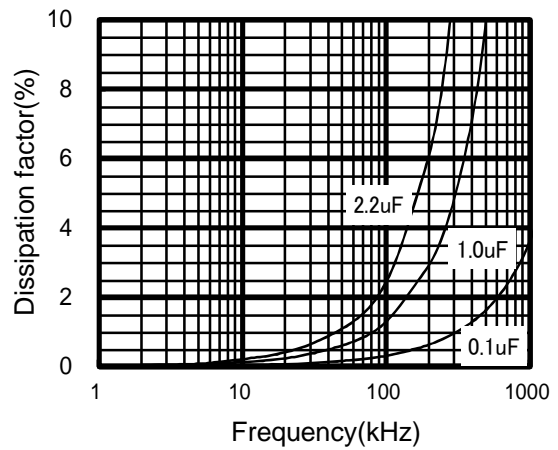
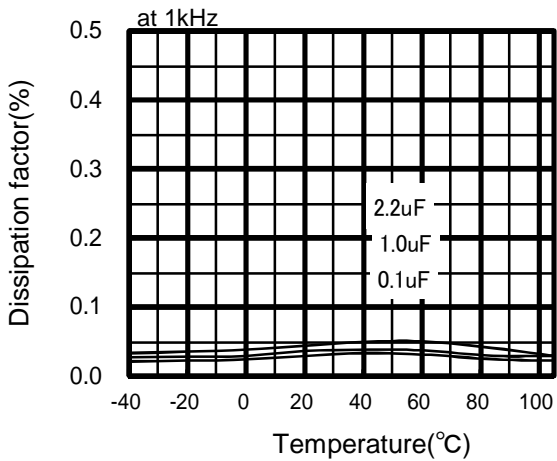
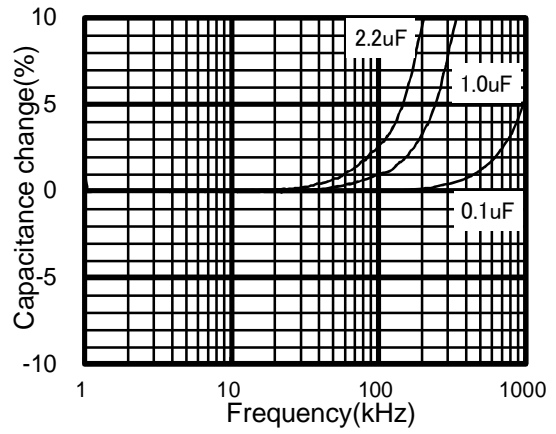
**ECWFE Type DC630V series (Metallized Polypropylene Film)**

**Electrical Characteristics <Typical Data >**

**Temperature Characteristics**



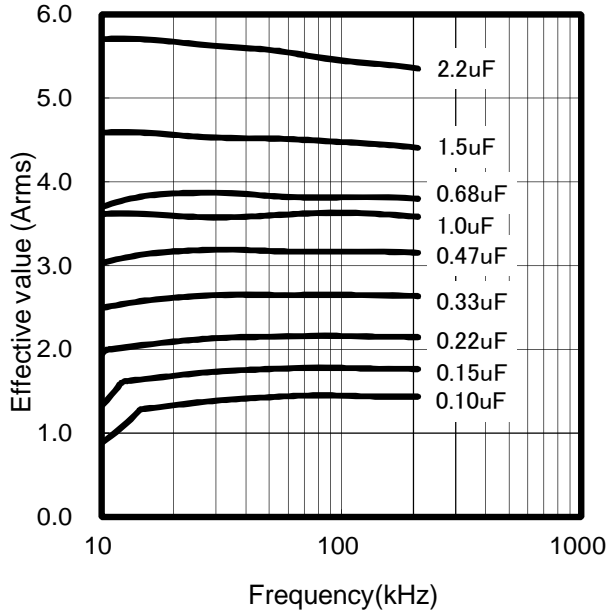
**Frequency Characteristics**



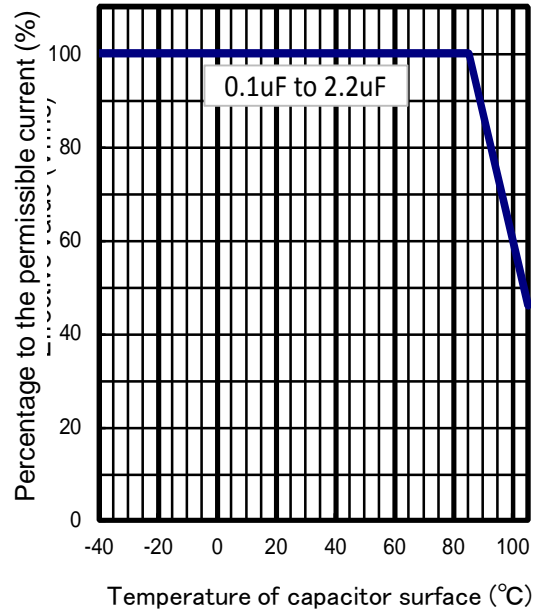
## ECWFE Type DC630V series (Metallized Polypropylene Film)

### Applicable Specifications

**Permissible Current**



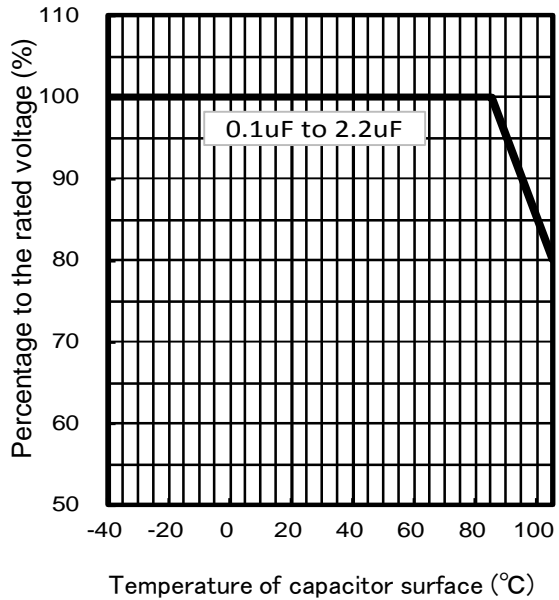
**Permissible Current Derating by Temperature**



**Pulse Handling Capability (dv/dt)  
(Max 10000cycles)**

Rated Voltage	Pitch (mm)	Capacitance (μF)	Code	dV/dt (V/μs)	Current (A0-P)
DC 630V	15	0.100	104	155	15.5
		0.150	154		23.3
		0.220	224		34.1
		0.330	334		51.2
		0.470	474		72.9
		0.680	684		105.4
	22.5	1.000	105	65	65.0
		1.500	155		97.5
		2.200	225		143.0

**Voltage Derating by Temperature**



\*Please consult Panasonic if your condition exceeds the above  
 \*P When you use this product, peak voltage must not exceed DC rated voltage.  
 \*The current(0-P) value is calculated using nominal capacitance.