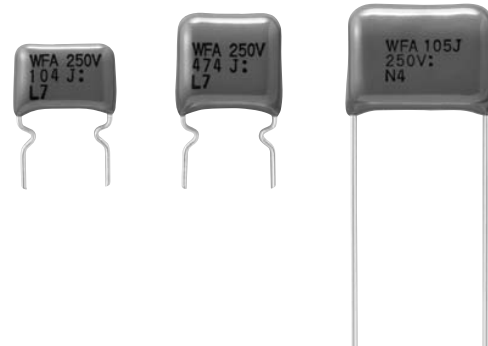


Metallized Polypropylene Film Capacitors

Type: **ECWF(A)**

Designed for high frequency and current applications.



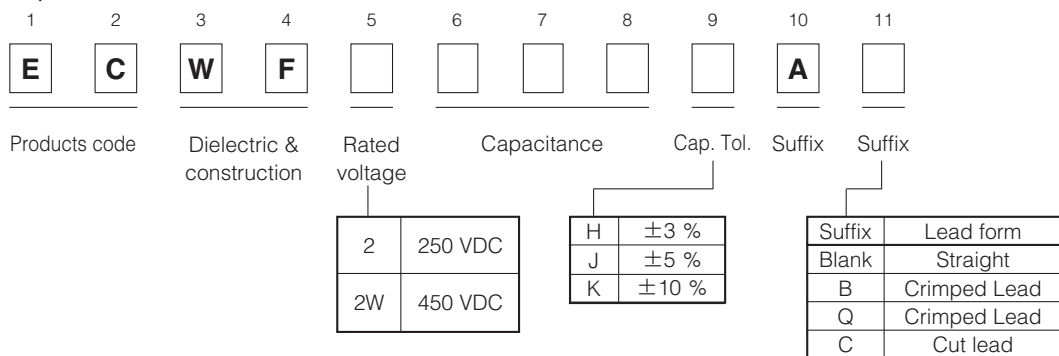
■ Features

- Small size
- Excellent frequency characteristics
- Low loss
- Low Hum Sound Noise
- RoHS directive compliant

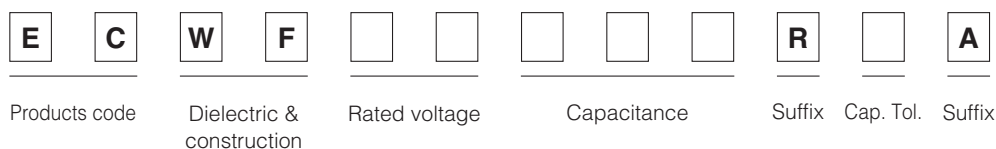
■ Recommended Applications

- 250VDC: High frequency and high current circuits
- 450VDC: Active filter circuits

■ Explanation of Part Numbers



● Explanation of Part Numbers for Odd Size Taping



■ Specifications

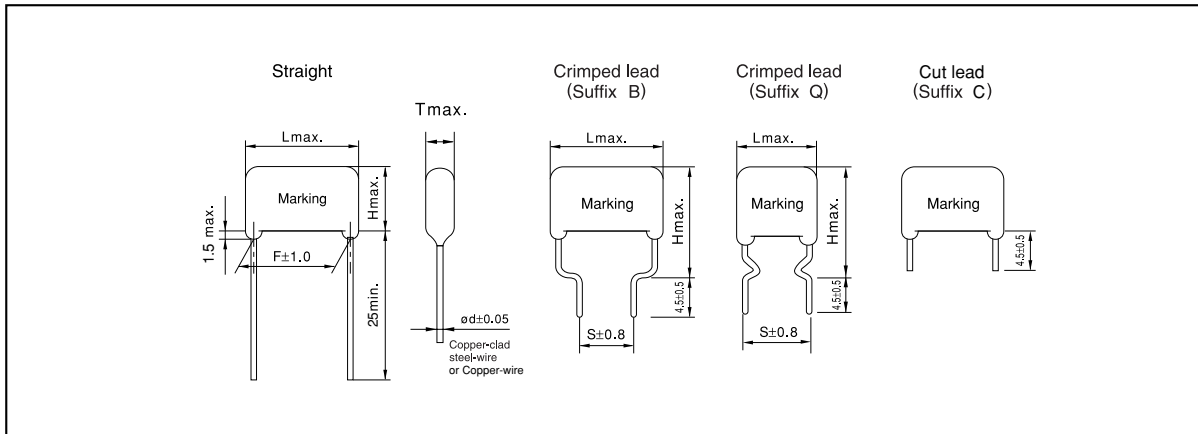
Category temp. range (Including temperature-rise on unit surface)	-40 °C to +105 °C	
Rated voltage	250 VDC	
	450 VDC Peak to peak voltage applied on the capacitor should be less than 240Vp-p, and zero to peak voltage should be less than 450V.	
Capacitance range	250 VDC	0.1 μF to 6.8 μF
	450 VDC	0.1 μF to 4.7 μF
Capacitance tolerance	250 VDC	±3 % (H), ±5 % (J)
	450 VDC	±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)	250 VDC	C ≤ 0.33 μF : IR ≥ 9,000 MΩ C > 0.33 μF : IR ≥ 3,000 MΩ · μF (20 °C, 100 VDC, 60 s)
	450 VDC	C ≤ 0.33 μF : IR ≥ 30,000 MΩ C > 0.33 μF : IR ≥ 10,000 MΩ · μF (20 °C, 100 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".

Design, Specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please inform us immediately for technical consultation without fail.

■ Dimensions in mm (not to scale)

(Dimensions : mm)

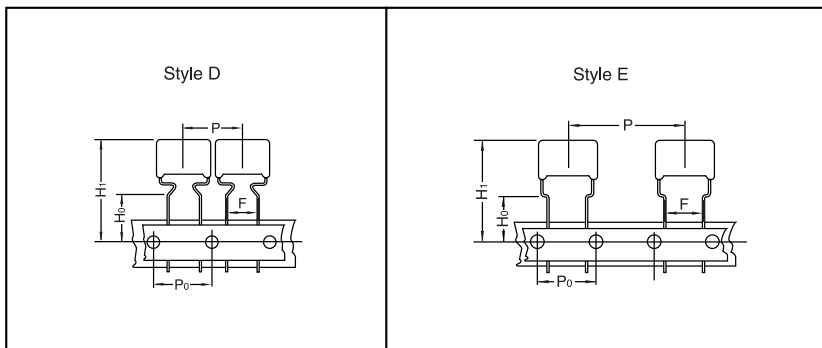


■ Packaging Specification for Bulk Package

Packing quantity: 100 pcs./bag

■ Taping Specifications for Automatic Insertion

● Taping style



*Refer to the page of taping specifications.

● Packaging Specifications

Type	Rated voltage.	Cap. range (μF)	Taping style					Packing	suffix
			AD	AS	B	C	D		
ECWF(A)	250 VDC	0.10 to 0.47					○	Ammo	R()A
		0.56 to 2.2					○		
	450 VDC	0.10 to 0.47					○		
		0.56 to 2.2					○		

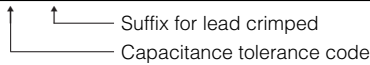
● Lead Spacing

Style	Lead Spacing
D	7.5 mm
E	7.5 mm

■ Rating, Dimensions & Quantity/Ammo Box

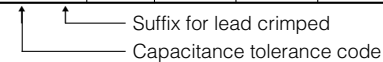
● Type ECWF(A) Rated voltage : 250 VDC

Part No.	Cap. (μ F)	Dimensions (mm)										Min. order Q'ty	
		L _{max}	T _{max}	H _{max}			F	S		G _{max}	ϕ d		Taping 7.5mm
				Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)		Crimped lead (Suffix B)	Crimped lead (Suffix Q)				
ECWF2104□A()	0.10	13.0	5.0	—	14.1	14.1	—	7.5	10.0	—	0.6	1300	
ECWF2124□A()	0.12	13.0	5.3	—	14.4	14.4	—	7.5	10.0	—	0.6	1200	
ECWF2154□A()	0.15	13.0	5.6	—	14.7	14.7	—	7.5	10.0	—	0.6	1100	
ECWF2184□A()	0.18	13.0	5.9	—	15.1	15.1	—	7.5	10.0	—	0.6	1000	
ECWF2224□A()	0.22	13.0	6.3	—	15.4	15.4	—	7.5	10.0	—	0.6	1000	
ECWF2274□A()	0.27	13.0	6.8	—	15.9	15.9	—	7.5	10.0	—	0.6	900	
ECWF2334□A()	0.33	13.0	7.3	—	16.4	16.4	—	7.5	10.0	—	0.6	900	
ECWF2394□A()	0.39	13.0	7.8	—	16.9	16.9	—	7.5	10.0	—	0.6	800	
ECWF2474□A()	0.47	13.0	8.4	—	17.6	17.6	—	7.5	10.0	—	0.6	700	
ECWF2564□A()	0.56	18.1	6.9	—	16.4	18.4	—	7.5	15.0	—	0.8	400	
ECWF2684□A()	0.68	18.1	7.4	—	17.0	19.0	—	7.5	15.0	—	0.8	400	
ECWF2824□A()	0.82	18.1	8.0	—	17.6	19.6	—	7.5	15.0	—	0.8	400	
ECWF2105□A()	1.0	18.1	8.5	13.3	18.3	20.3	15.0	7.5	15.0	1.5	0.8	300	
ECWF2125□A()	1.2	18.8	9.5	14.6	19.6	21.6	15.0	7.5	15.0	1.5	0.8	300	
ECWF2155□A()	1.5	18.8	10.5	15.6	20.6	22.6	15.0	7.5	15.0	1.5	0.8	200	
ECWF2185□A()	1.8	18.8	11.4	16.5	21.5	23.5	15.0	7.5	15.0	1.5	0.8	200	
ECWF2225□A()	2.2	18.8	12.6	17.6	22.6	24.6	15.0	7.5	15.0	1.5	0.8	300	
ECWF2275□A()	2.7	23.8	11.4	17.2	22.2	24.2	20.0	12.5	20.0	1.5	0.8	200	
ECWF2335□A()	3.3	23.8	12.5	18.3	23.3	25.3	20.0	12.5	20.0	1.5	0.8	200	
ECWF2395□A()	3.9	23.8	13.5	19.3	24.3	26.3	20.0	12.5	20.0	1.5	0.8	—	
ECWF2475□A()	4.7	23.8	14.8	20.6	25.6	27.6	20.0	12.5	20.0	1.5	0.8	—	
ECWF2565□A()	5.6	23.8	16.2	21.9	26.9	28.9	20.0	12.5	20.0	1.5	0.8	—	
ECWF2685□A()	6.8	23.8	17.8	23.5	28.5	30.5	20.0	12.5	20.0	1.5	0.8	—	



● Type ECWF(A) Rated voltage : 450 VDC

Part No.	Cap. (μ F)	Dimensions (mm)										Min. order Q'ty	
		L _{max}	T _{max}	H _{max}			F	S		G _{max}	ϕ d		Taping 7.5mm
				Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)		Crimped lead (Suffix B)	Crimped lead (Suffix Q)				
ECWF2W104□A()	0.10	13.0	5.1	—	14.3	14.3	—	7.5	10.0	1.5	0.6	1200	
ECWF2W124□A()	0.12	13.0	5.4	—	14.5	14.5	—	7.5	10.0	1.5	0.6	1000	
ECWF2W154□A()	0.15	13.0	5.7	—	14.9	14.9	—	7.5	10.0	1.5	0.6	1000	
ECWF2W184□A()	0.18	13.0	6.1	—	15.2	15.2	—	7.5	10.0	1.5	0.6	800	
ECWF2W224□A()	0.22	13.0	6.5	—	15.6	15.6	—	7.5	10.0	1.5	0.6	800	
ECWF2W274□A()	0.27	13.0	7.0	—	16.1	16.1	—	7.5	10.0	1.5	0.6	800	
ECWF2W334□A()	0.33	13.0	7.6	—	16.7	16.7	—	7.5	10.0	1.5	0.6	600	
ECWF2W394□A()	0.39	13.0	8.1	—	17.2	17.2	—	7.5	10.0	1.5	0.6	600	
ECWF2W474□A()	0.47	13.0	8.7	—	17.9	17.9	—	7.5	10.0	1.5	0.6	400	
ECWF2W564□A()	0.56	18.1	7.0	11.5	16.5	18.5	15.0	7.5	15.0	1.5	0.8	400	
ECWF2W684□A()	0.68	18.1	7.5	12.1	17.1	19.1	15.0	7.5	15.0	1.5	0.8	300	
ECWF2W824□A()	0.82	18.1	8.2	12.7	17.7	19.7	15.0	7.5	15.0	1.5	0.8	300	
ECWF2W105□A()	1.0	18.1	9.3	12.6	17.6	19.6	15.0	7.5	15.0	1.5	0.8	200	
ECWF2W125□A()	1.2	18.8	9.7	14.7	19.7	21.7	15.0	7.5	15.0	1.5	0.8	200	
ECWF2W155□A()	1.5	18.8	10.7	15.8	20.8	22.8	15.0	7.5	15.0	1.5	0.8	—	
ECWF2W185□A()	1.8	18.8	11.6	16.7	21.7	23.7	15.0	7.5	15.0	1.5	0.8	—	
ECWF2W225□A()	2.2	18.8	12.8	17.9	22.9	24.9	15.0	7.5	15.0	1.5	0.8	—	
ECWF2W275□A()	2.7	26.3	10.6	16.5	21.5	23.5	22.5	15.0	22.5	1.5	0.8	—	
ECWF2W335□A()	3.3	26.3	11.7	17.5	22.5	24.5	22.5	15.0	22.5	1.5	0.8	—	
ECWF2W395□A()	3.9	26.3	12.6	18.4	23.4	25.4	22.5	15.0	22.5	1.5	0.8	—	
ECWF2W475□A()	4.7	26.3	13.8	19.6	24.6	26.6	22.5	15.0	22.5	1.5	0.8	—	



Design, Specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please inform us immediately for technical consultation without fail.

■ Rating, Dimension & Quantity / Ammo Box (Thin thickness type.)

● Type ECWF(A) Rated voltage : 450VDC, ±10 % (K)

Part No.	Capacitance (μF)	Dimensions (mm)										Min. Order Q'ty	
		L ^{max}	T ^{max}	H ^{max}			F	S		G ^{max}	Φd	Taping 7.5mm	Bulk
				Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)		Crimped lead (Suffix B)	Crimped lead (Suffix Q)				
ECWF2W474X□□	0.47	13.0	7.6	-----	19.4	19.4	-----	7.5	10.0	1.5	0.6	700	500
ECWF2W564X□□	0.56	18.1	6.0	13.4	18.4	20.4	15.0	7.5	15.0	1.5	0.8	400	
ECWF2W684X□□	0.68	18.1	6.5	13.9	18.9	20.9	15.0	7.5	15.0	1.5	0.8		
ECWF2W824X□□	0.82	18.1	7.1	14.4	19.4	21.4	15.0	7.5	15.0	1.5	0.8		
ECWF2W105X□□	1.0	18.1	7.5	15.0	20.0	22.0	15.0	7.5	15.0	1.5	0.8		
ECWF2W125X□□	1.2	18.8	8.4	16.3	21.3	23.3	15.0	7.5	15.0	1.5	0.8	300	
ECWF2W155X□□	1.5	18.8	9.3	17.2	22.2	24.2	15.0	7.5	15.0	1.5	0.8		
ECWF2W185X□□	1.8	18.8	10.2	18.1	23.1	25.1	15.0	7.5	15.0	1.5	0.8		
ECWF2W225X□□	2.2	18.8	10.8	20.1	25.1	27.1	15.0	7.5	15.0	1.5	0.8	200	

1 1 : Straight lead type
 1 2 : Crimped lead type (Q)
 1 3 : Crimped lead type (B)

■ Rating, Dimension & Quantity / Ammo Box (Thin thickness type.)

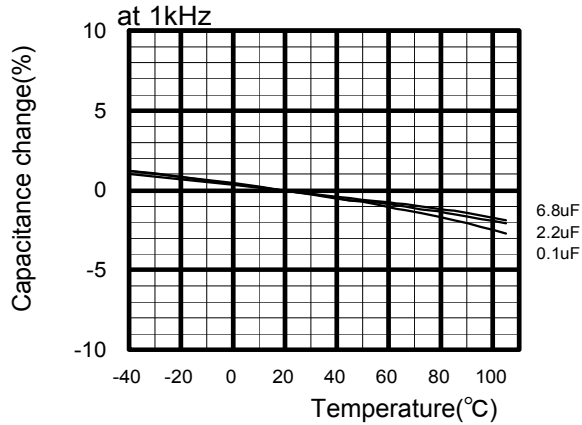
● Type ECWF(A) Rated voltage : 450VDC, ±10 % (K)

Part No.	Capacitance (μF)	Dimensions (mm)						Min. Order Q'ty		
		L ^{max}	T ^{max}	H ^{max}		F	G ^{max}	Φd	Taping 7.5mm	Bulk
				Straight						
ECWF2W105X26	1.0	18.1	8.0	13.3		15.0	1.5	0.8	300	500

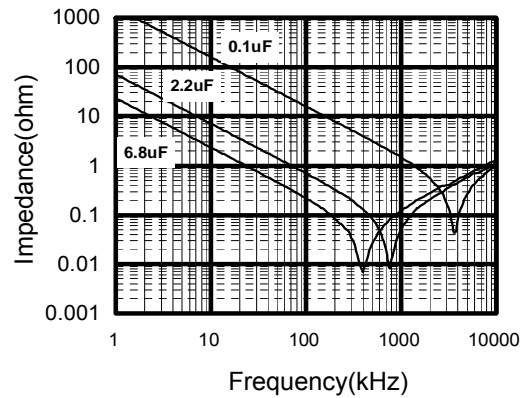
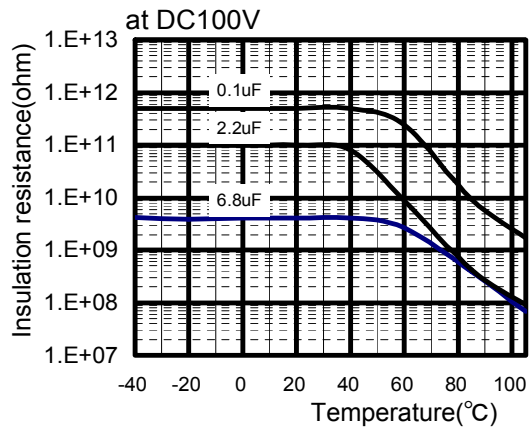
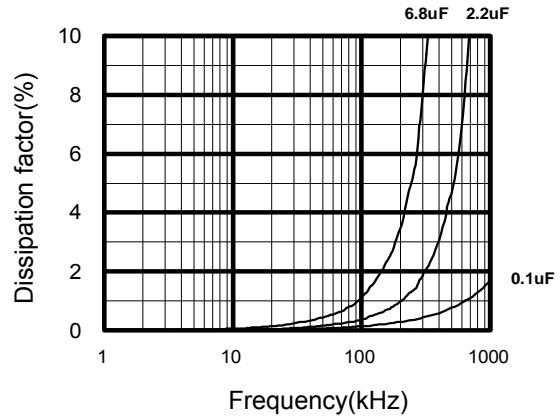
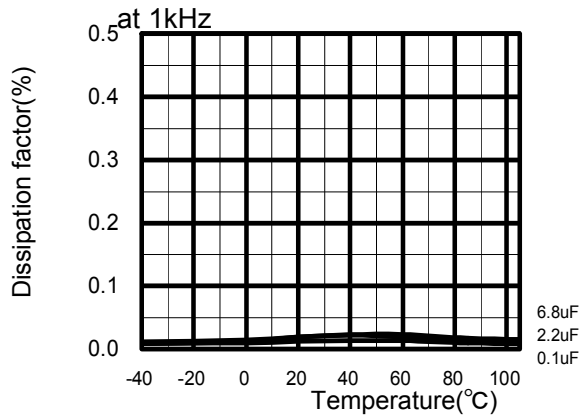
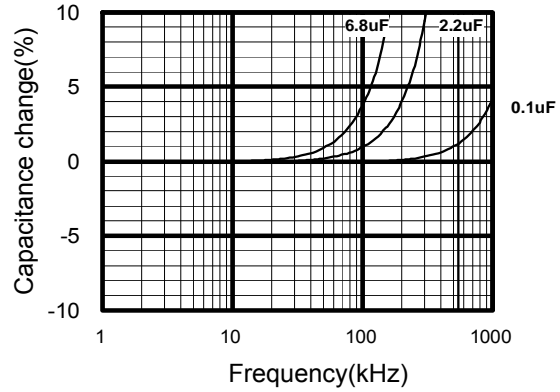
ECWF (A) Type DC250V series (Metallized Polypropylene Film)

Electrical Characteristics <Typical Data >

Temperature Characteristics



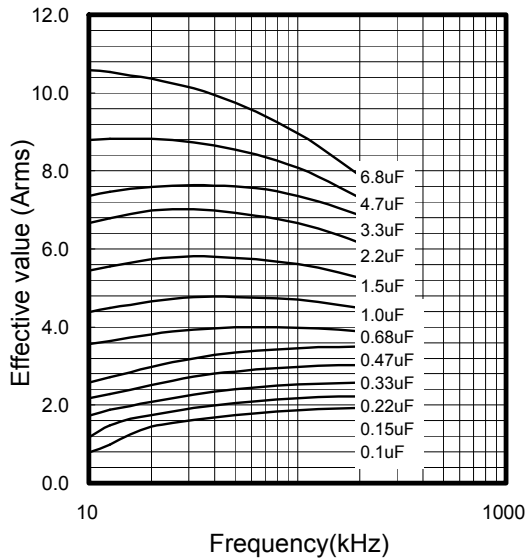
Frequency Characteristics



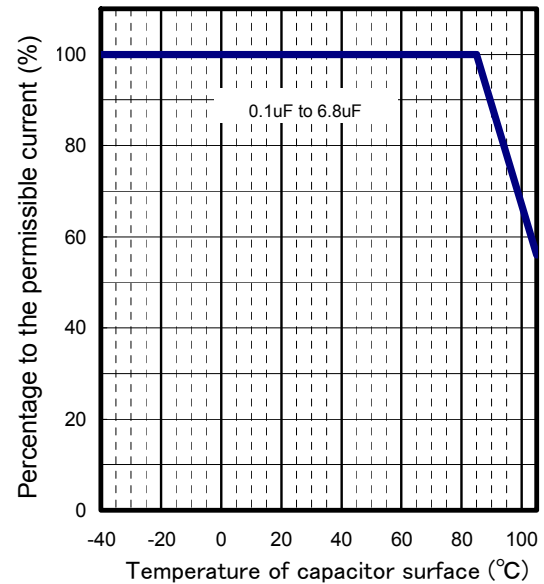
ECWF (A) Type DC250V series (Metallized Polypropylene Film)

Applicable Specifications

Permissible Current



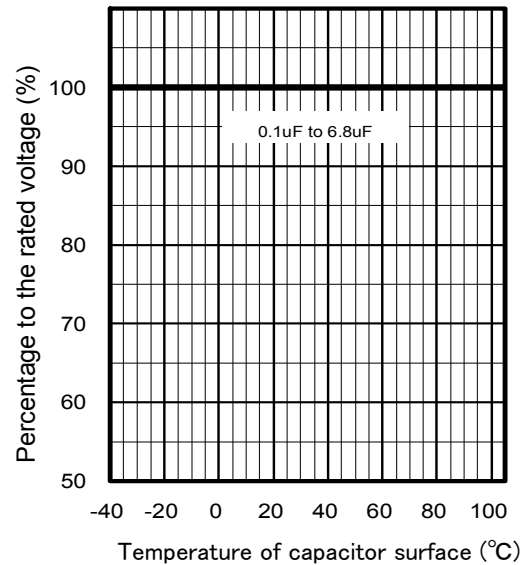
Permissible Current Derating by Temperature



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

Rated Voltage	Capacitance (μF)	Code	dV/dt (V/μs)	Current (A0-P)
DC 250V	0.10	104	135	13.5
	0.15	154		20.2
	0.22	224		29.7
	0.33	334		44.5
	0.47	474		63.4
	0.68	684		82.0
	1.00	105	82	123.0
	1.50	155		180.4
	2.20	225		188.1
	3.30	335	57	387.6
	6.80	685		

Voltage Derating by Temperature

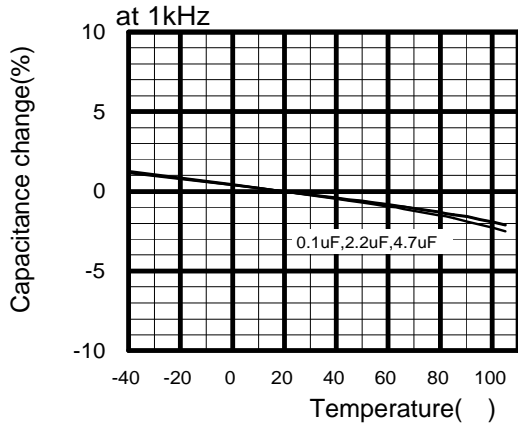


*Please consult Panasonic if your condition exceeds the above
 *P When you use this product, peak voltage must not exceed DC rated voltage.
 *The current(0-P) value is calculated using nominal capacitance.

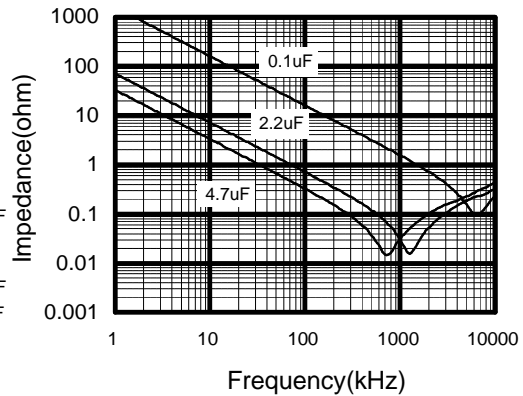
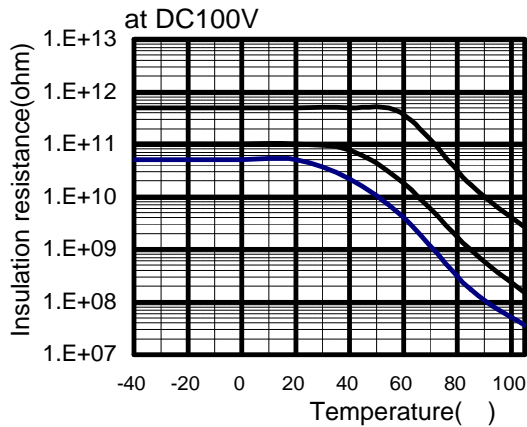
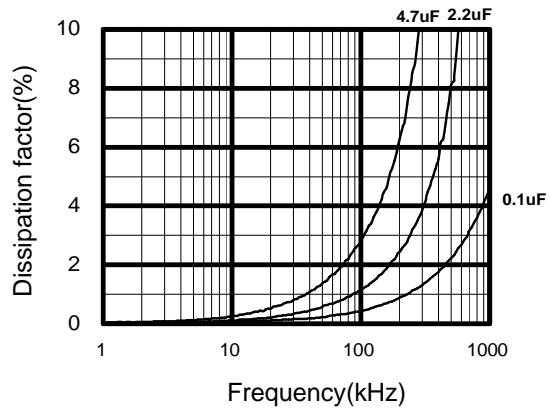
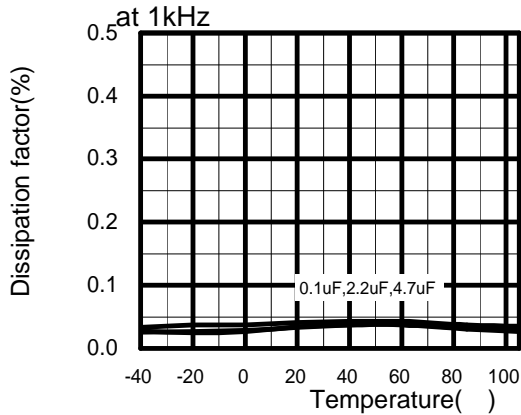
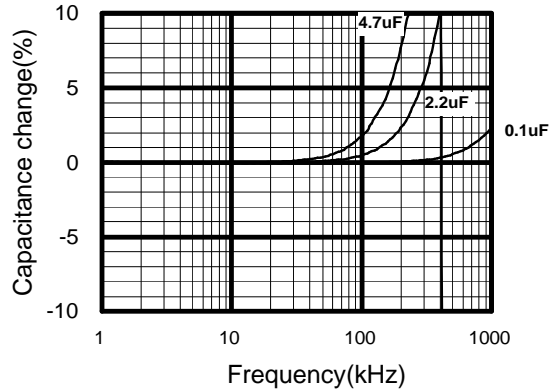
ECWF (A) Type DC450V series (Metallized Polypropylene Film)

Electrical Characteristics <Typical Data >

Temperature Characteristics



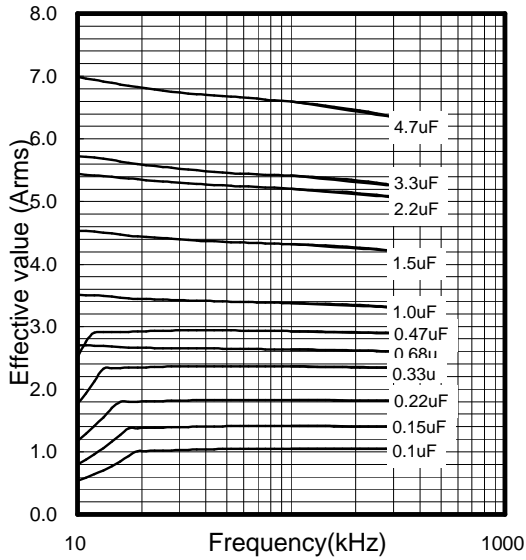
Frequency Characteristics



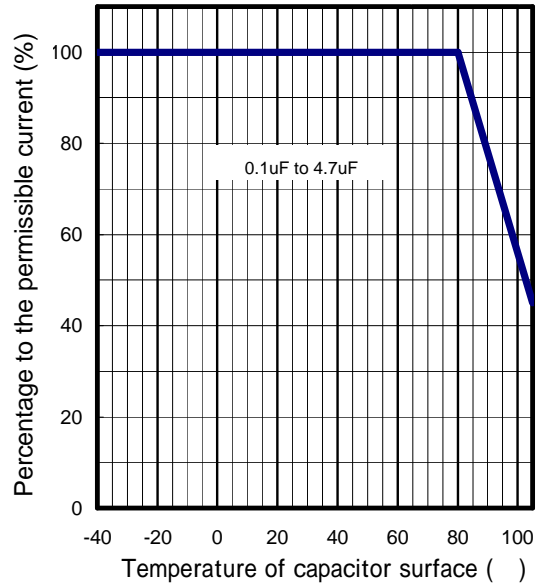
ECWF (A) Type DC450V series (Metallized Polypropylene Film)

Applicable Specifications

Permissible Current



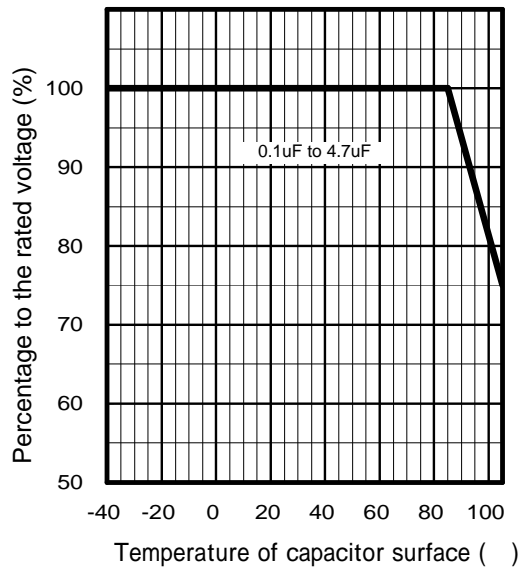
Permissible Current Derating by Temperature



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

Rated Voltage	Capacitance (μF)	Code	dV/dt (V/μs)	Current (A0-P)
DC 450V	0.10	104	41.6	4.2
	0.15	154		6.2
	0.22	224		9.2
	0.33	334		13.7
	0.47	474		19.6
	0.68	684	24.3	16.5
	1.00	105		24.3
	1.50	155		36.4
	2.20	225		53.4
	2.20	335		47.2
4.70	475	14.3	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(O-P) value is calculated using nominal capacitance.