

Metallized Polypropylene Film Capacitors

Type: **ECWF(A)**

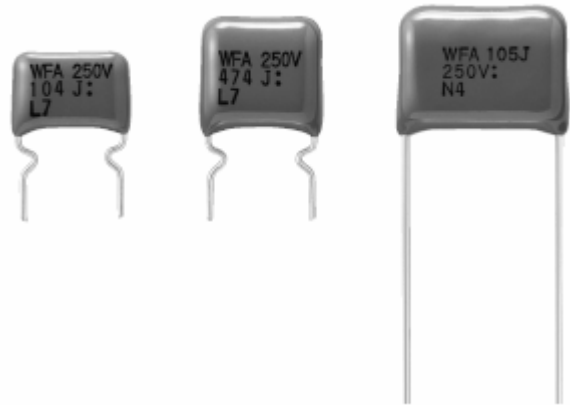
Designed for high frequency and current applications.

■ Features

- Small size
- Excellent frequency characteristics
- Low loss
- Low Hum Sound Noise
- 85 degree C , 85%RH , 500VDC , 500 hours (630VDC)
- RoHS directive compliant

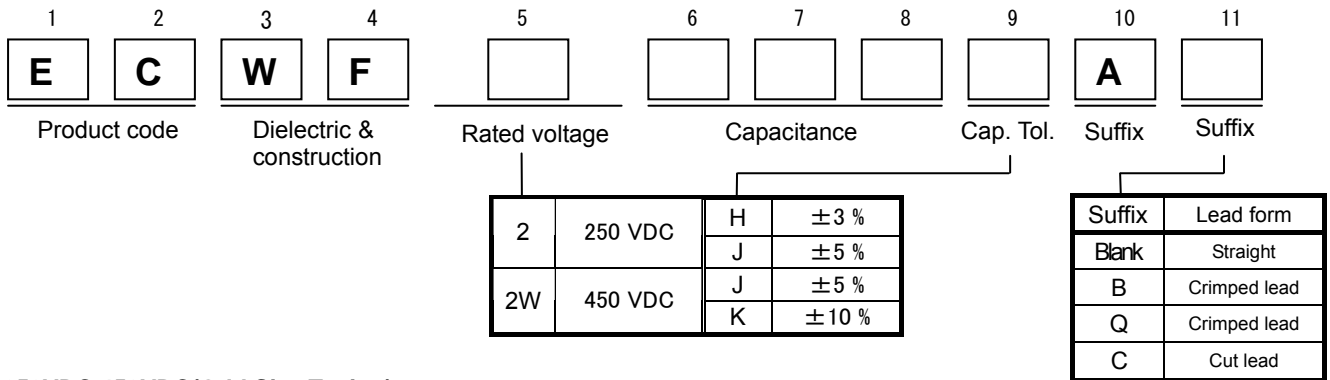
■ Recommended Applications

- 250VDC,630VDC : High frequency and high current circuits
- 450VDC : Active filter circuits

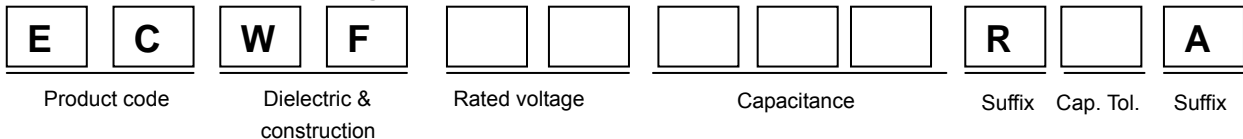


■ Explanation of Part Numbers

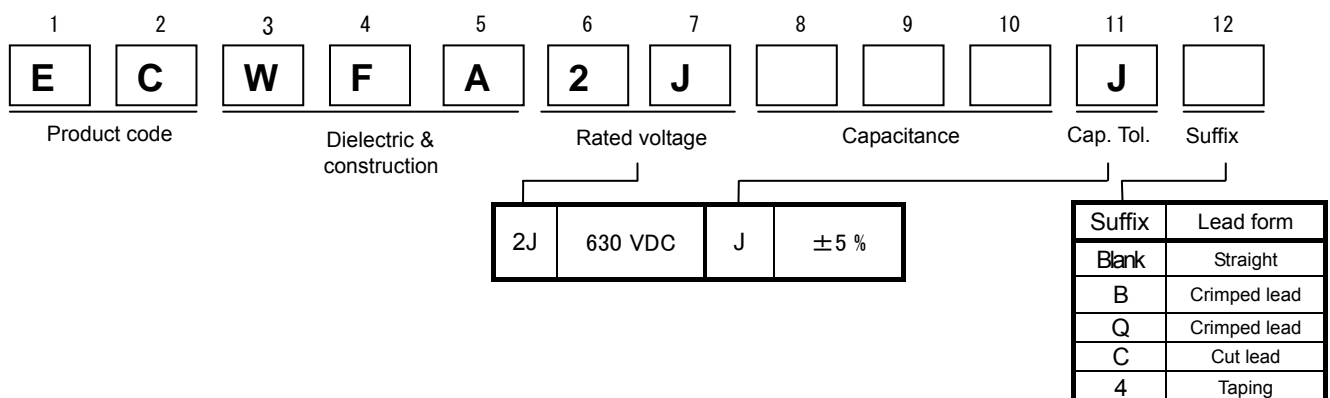
● 250VDC,450VDC(Bulk)



● 250VDC,450VDC(Odd Size Taping)



● 630VDC(Bulk, Odd Size Taping)



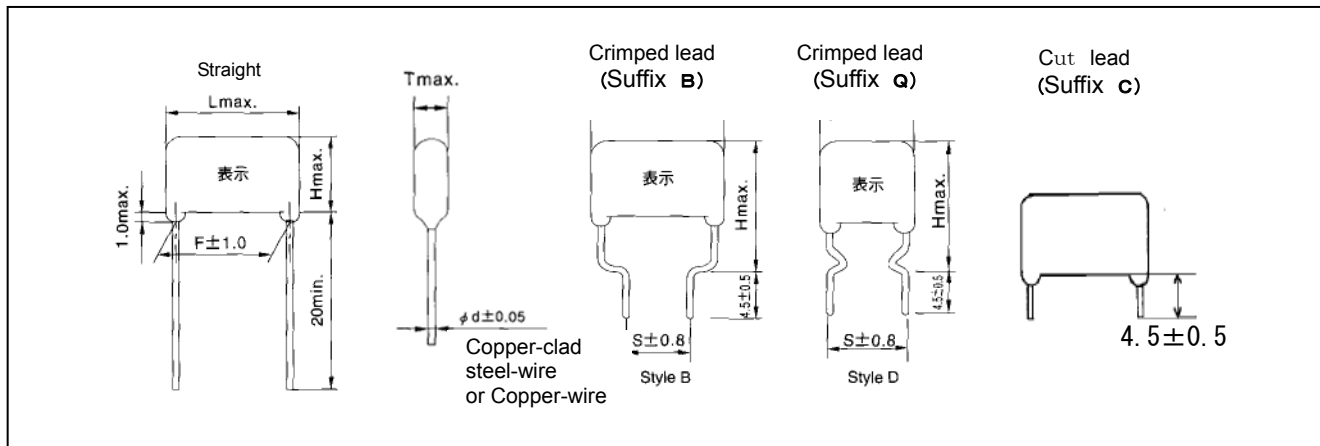
■ Specifications

Category temp. range (Including temperature-rise on unit surface)	-40 °C to +105 °C	
Rated voltage	250 VDC	
	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)	
Capacitance range	250 VDC	0.1 uF to 6.8 uF
	450 VDC	0.1 uF to 4.7 uF
	630 VDC	0.1 uF to 2.2 uF
Capacitance tolerance	250 VDC	±3% (H), ±5% (J)
	450 VDC	±5% (J), ±10 % (K)
	630 VDC	±5% (J)
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 uF : IR ≥ 9000 MΩ C > 0.33 uF : IR ≥ 3000 MΩ · uF (20 °C, 100 VDC, 60 s)
	450 VDC	C ≤ 0.33 uF : IR ≥ 30,000 MΩ C > 0.33 uF : IR ≥ 10,000 MΩ · uF (20 °C, 100 VDC, 60 s)
	630 VDC	C ≤ 0.33 uF : IR ≥ 9,000 MΩ C > 0.33 uF : IR ≥ 3,000 MΩ · 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)

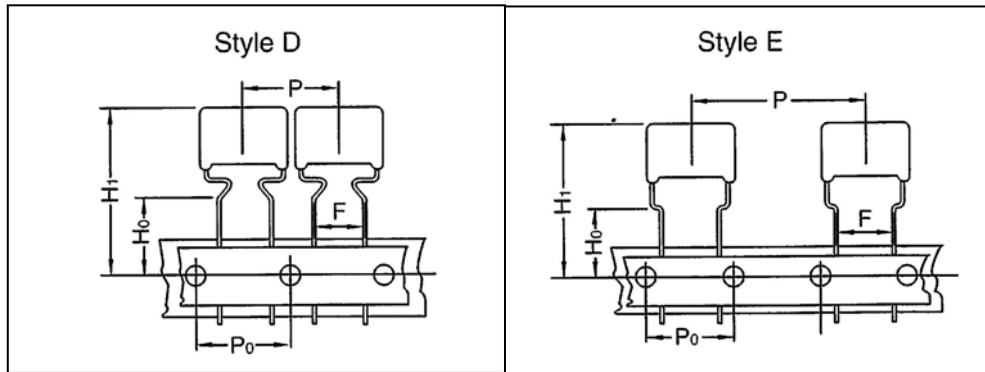


■ Packaging Specification for Bulk Package

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 (uF)	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							○		
	630 VDC	0.10 to 0.68						○	J4

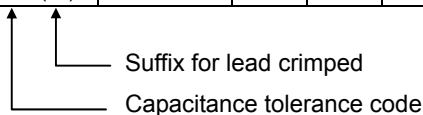
● Lead Spacing

Style	Lead spacing
D	7.5 mm
E	7.5 mm

■ Rating, Dimension & Quantity / Ammo Box

● Type ECWF(A) Rated voltage : 250 VDC

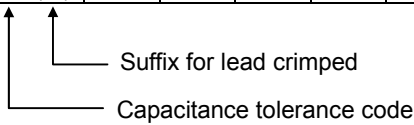
Part No.	Capacitance (uF)	Dimensions (mm)										Min. Order Q'ty		
		L ^{max}	T ^{max}	H ^{max}			F	S			G ^{max}		Φd	Taping 7.5mm
				Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)		Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)				
ECWF2104□A()	0.10	13.0	5.0			14.1	14.1			7.5	10.0		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	1000
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	1000
ECWF2334□A()	0.33	13.0	7.3			16.4	16.4			7.5	10.0		0.6	800
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	600
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()	1.00	18.1	8.5	13.3		18.3	20.3	15.0		7.5	15.0	1.5	0.8	300
ECWF2125□A()	1.20	18.8	9.5	14.6		19.6	21.6	15.0		7.5	15.0	1.5	0.8	300
ECWF2155□A()	1.50	18.8	10.5	15.6		20.6	22.6	15.0		7.5	15.0	1.5	0.8	300
ECWF2185□A()	1.80	18.8	11.4	16.5		21.5	23.5	15.0		7.5	15.0	1.5	0.8	200
ECWF2225□A()	2.20	18.8	12.6	17.6		22.6	24.6	15.0		7.5	15.0	1.5	0.8	200
ECWF2275□A()	2.70	23.8	11.4	17.2		22.2	24.2	20.0		12.5	20.0	1.5	0.8	200
ECWF2335□A()	3.30	23.8	12.5	18.3		23.3	25.3	20.0		12.5	20.0	1.5	0.8	200
ECWF2395□A()	3.90	23.8	13.5	19.3		24.3	26.3	20.0		12.5	20.0	1.5	0.8	200
ECWF2475□A()	4.70	23.8	14.8	20.6		25.6	27.6	20.0		12.5	20.0	1.5	0.8	200
ECWF2565□A()	5.60	23.8	16.2	21.9		26.9	28.9	20.0		12.5	20.0	1.5	0.8	200
ECWF2685□A()	6.80	23.8	17.8	23.5		28.5	30.5	20.0		12.5	20.0	1.5	0.8	200



■Rating, Dimension & Quantity / Ammo Box

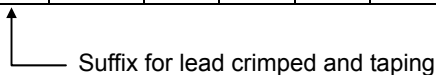
●Type ECWF(A) Rated voltage : 450VDC

Part No.	Capacitance (μF)	Dimensions (mm)										Min. Order Q'ty		
		L ^{max}	T ^{max}	H ^{max}			F	S		G ^{max}	Φd		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	—	—	—	—	7.5	10.0	1.5	0.6	1200		
ECWF2W124□A()	0.12	13.0	5.4					14.3	14.3	7.5	10.0		1.5	0.6
ECWF2W154□A()	0.15	13.0	5.7					14.5	14.5	7.5	10.0		1.5	0.6
ECWF2W184□A()	0.18	13.0	6.1					14.9	14.9	7.5	10.0	1.5	0.6	1100
ECWF2W224□A()	0.22	13.0	6.5					15.2	15.2	7.5	10.0	1.5	0.6	
ECWF2W274□A()	0.27	13.0	7.0					15.6	15.6	7.5	10.0	1.5	0.6	
ECWF2W334□A()	0.33	13.0	7.6					16.1	16.1	7.5	10.0	1.5	0.6	1000
ECWF2W394□A()	0.39	13.0	8.1					16.7	16.7	7.5	10.0	1.5	0.6	
ECWF2W474□A()	0.47	13.0	8.7					17.2	17.2	7.5	10.0	1.5	0.6	
ECWF2W564□A()	0.56	13.0	9.3	17.9	17.9	7.5	10.0	1.5	0.6	900				
ECWF2W684□A()	0.68	18.1	7.0	11.5	16.5	18.5	15.0	7.5	15.0		1.5	0.6		
ECWF2W824□A()	0.82	18.1	7.5	12.1	17.1	19.1	15.0	7.5	15.0		1.5	0.6		
ECWF2W105□A()	1.00	18.1	8.2	12.7	17.7	19.7	15.0	7.5	15.0	1.5	0.6	800		
ECWF2W125□A()	1.20	18.1	9.3	12.6	17.6	19.6	15.0	7.5	15.0	1.5	0.6			
ECWF2W155□A()	1.50	18.1	10.7	14.7	19.7	21.7	15.0	7.5	15.0	1.5	0.6			
ECWF2W185□A()	1.80	18.8	9.7	14.7	19.7	21.7	15.0	7.5	15.0	1.5	0.6	400		
ECWF2W225□A()	2.20	18.8	10.7	15.8	20.8	22.8	15.0	7.5	15.0	1.5	0.6			
ECWF2W275□A()	2.70	18.8	11.6	16.7	21.7	23.7	15.0	7.5	15.0	1.5	0.6			
ECWF2W335□A()	3.30	18.8	12.8	17.9	22.9	24.9	15.0	7.5	15.0	1.5	0.6	300		
ECWF2W395□A()	3.90	26.3	10.6	16.5	21.5	23.5	22.5	15.0	22.5	1.5	0.8			
ECWF2W475□A()	4.70	26.3	11.7	17.5	22.5	24.5	22.5	15.0	22.5	1.5	0.8			
ECWF2W564□A()	0.56	26.3	11.7	17.5	22.5	24.5	22.5	15.0	22.5	1.5	0.8	200		
ECWF2W684□A()	0.68	26.3	12.6	18.4	23.4	25.4	22.5	15.0	22.5	1.5	0.8			
ECWF2W824□A()	0.82	26.3	12.6	18.4	23.4	25.4	22.5	15.0	22.5	1.5	0.8			
ECWF2W105□A()	1.00	26.3	13.8	19.6	24.6	26.6	22.5	15.0	22.5	1.5	0.8	—		
ECWF2W125□A()	1.20	26.3	13.8	19.6	24.6	26.6	22.5	15.0	22.5	1.5	0.8			
ECWF2W155□A()	1.50	26.3	13.8	19.6	24.6	26.6	22.5	15.0	22.5	1.5	0.8			



●Type ECWF(A) Rated voltage : 630VDC

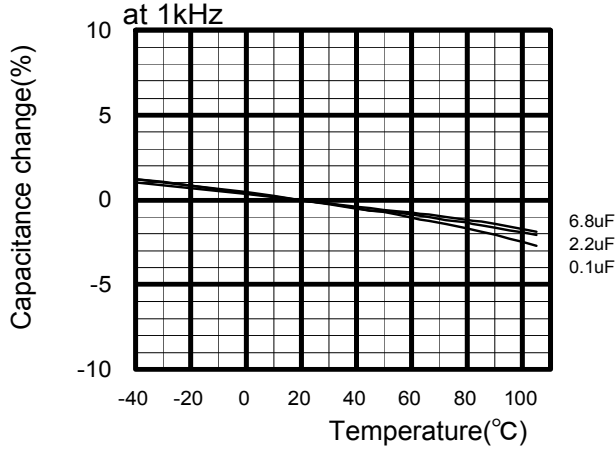
Part No.	Capacitance (μF)	Dimensions (mm)										Min. Order Q'ty	
		L ^{max}	T ^{max}	H ^{max}			F	S		G ^{max}	Φd		Taping 7.5mm
				ストレート	Crimped lead (Suffix B)	Crimped lead (Suffix Q)		Crimped lead (Suffix B)	Crimped lead (Suffix Q)				
ECWFA2J104J()	0.10	18.2	5.2	10.4	15.4	15.4	15.0	7.5	15.0	1.5	0.6	600	
ECWFA2J124J()	0.12	18.2	5.5	10.8	15.8	15.8	15.0	7.5	15.0	1.5	0.6		
ECWFA2J154J()	0.15	18.2	6.0	11.2	16.2	16.2	15.0	7.5	15.0	1.5	0.6		
ECWFA2J184J()	0.18	18.2	6.5	11.7	16.7	16.7	15.0	7.5	15.0	1.5	0.6	500	
ECWFA2J224J()	0.22	18.2	7.1	12.3	17.3	17.3	15.0	7.5	15.0	1.5	0.6		
ECWFA2J274J()	0.27	18.2	7.8	12.9	17.9	17.9	15.0	7.5	15.0	1.5	0.6		
ECWFA2J334J()	0.33	18.2	8.5	13.6	18.6	18.6	15.0	7.5	15.0	1.5	0.6	400	
ECWFA2J394J()	0.39	18.2	9.2	14.3	19.3	19.3	15.0	7.5	15.0	1.5	0.6		
ECWFA2J474J()	0.47	18.2	10.0	15.1	20.1	20.1	15.0	7.5	15.0	1.5	0.6		
ECWFA2J564J()	0.56	18.2	10.9	16.0	21.0	21.0	15.0	7.5	15.0	1.5	0.6	300	
ECWFA2J684J()	0.68	18.2	12.0	17.1	22.1	22.1	15.0	7.5	15.0	1.5	0.6		
ECWFA2J824J()	0.82	26.0	10.1	15.3	20.3	22.3	22.5	15.0	22.5	1.5	0.6		
ECWFA2J105J()	1.0	26.0	11.1	16.2	21.2	23.2	22.5	15.0	22.5	1.5	0.6	200	
ECWFA2J125J()	1.2	26.0	12.1	17.2	22.2	24.2	22.5	15.0	22.5	1.5	0.6		
ECWFA2J155J()	1.5	26.0	13.5	18.6	23.6	25.6	22.5	15.0	22.5	1.5	0.6		
ECWFA2J185J()	1.8	26.0	14.8	19.8	24.8	26.8	22.5	15.0	22.5	1.5	0.6	—	
ECWFA2J225J()	2.2	26.0	16.3	21.4	26.4	28.4	22.5	15.0	22.5	1.5	0.6		



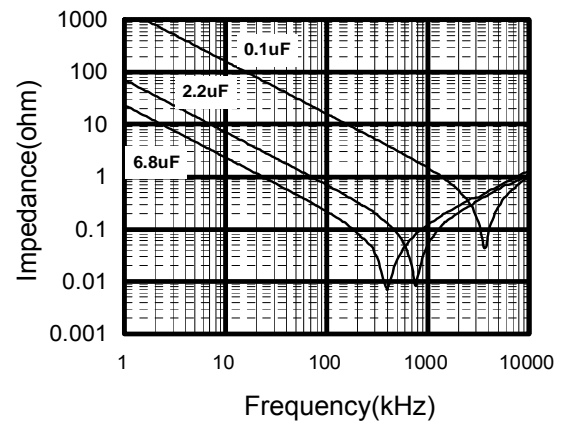
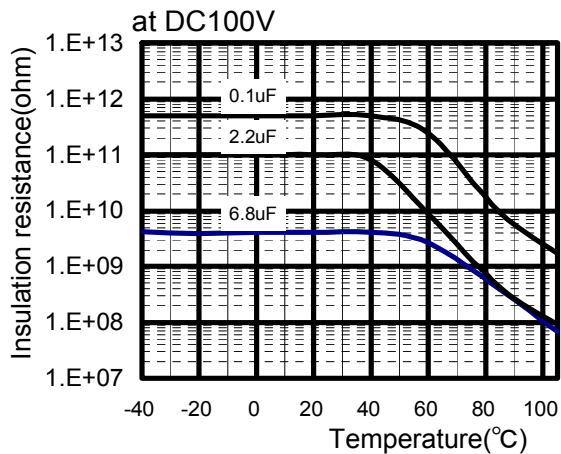
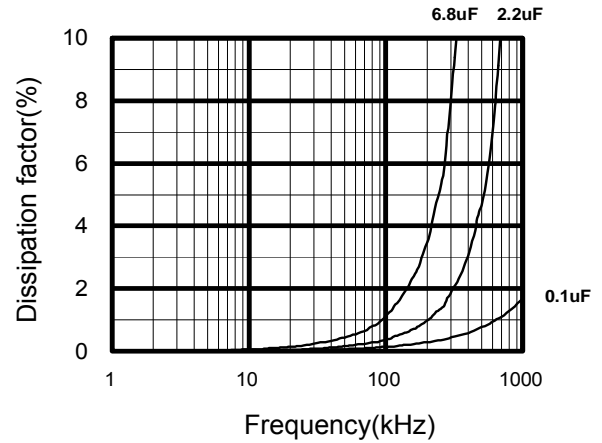
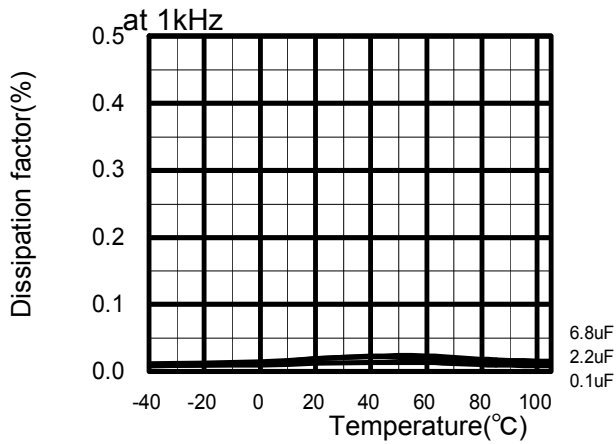
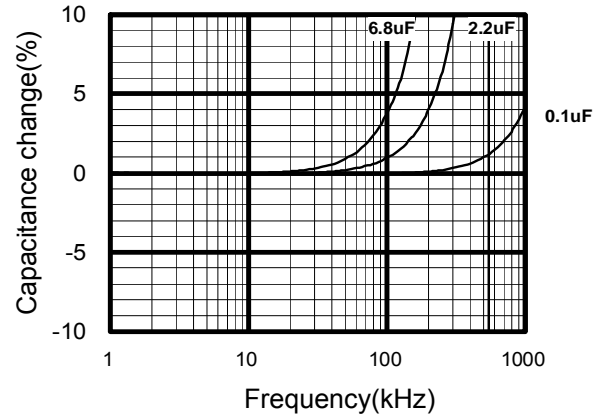
ECWF (A) Type DC250V series (Metallized Polypropylene Film)

Electrical Characteristics <Typical Data >

Temperature Characteristics



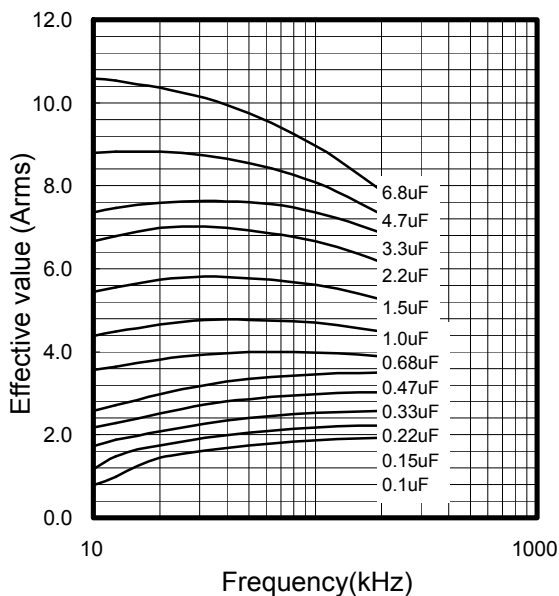
Frequency Characteristics



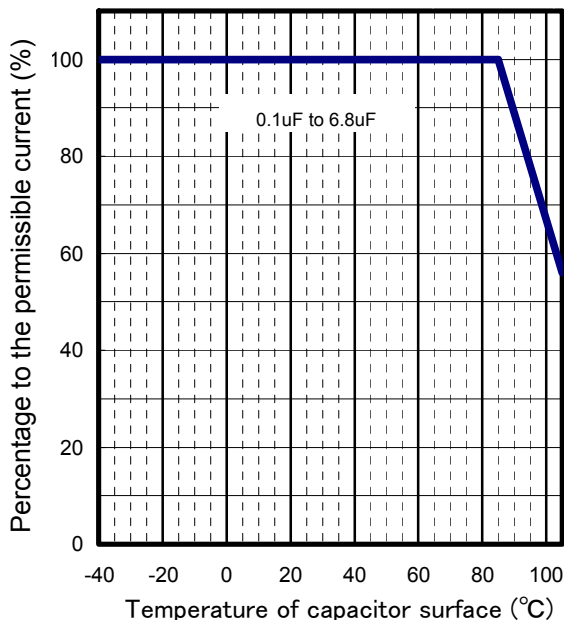
ECWF (A) Type DC250V series (Metallized Polypropylene Film)

Applicable Specifications

Permissible Current



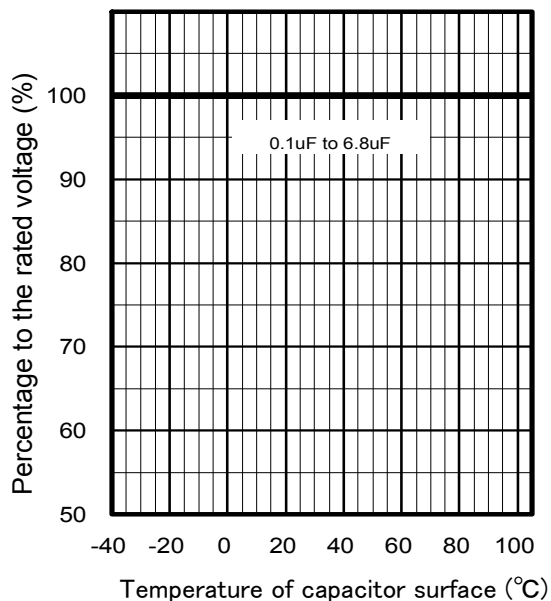
Permissible Current Derating by Temperature



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		55.7
	1.00	105	82	82.0
	1.50	155		123.0
	2.20	225		180.4
	3.30	335	57	188.1
	6.80	685		387.6

Voltage Derating by Temperature

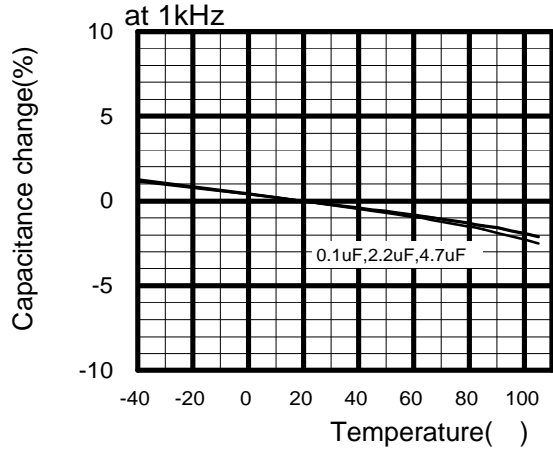


*Please consult Panasonic if your condition exceeds the above
 *P When you use this product, peak voltage must not exceed DC rated voltage.
 *The current(0-P) value is calculated using nominal capacitance.

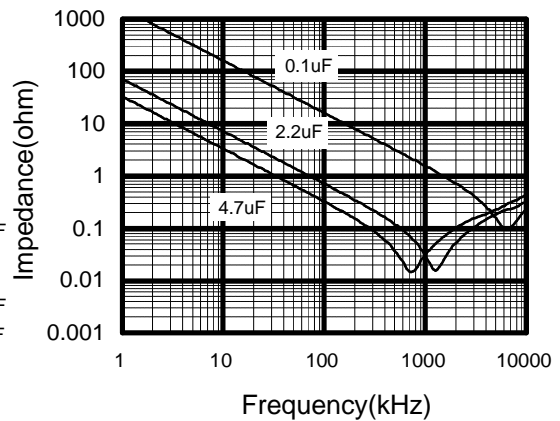
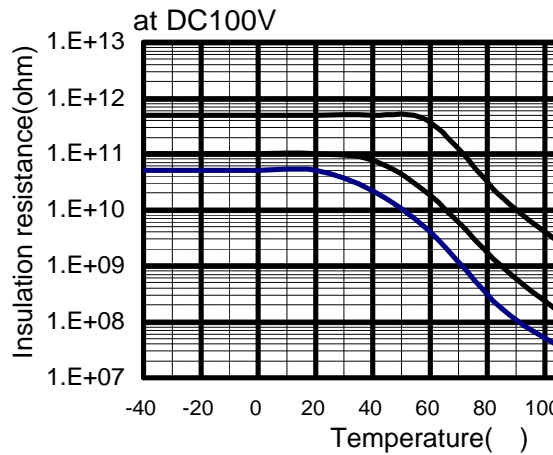
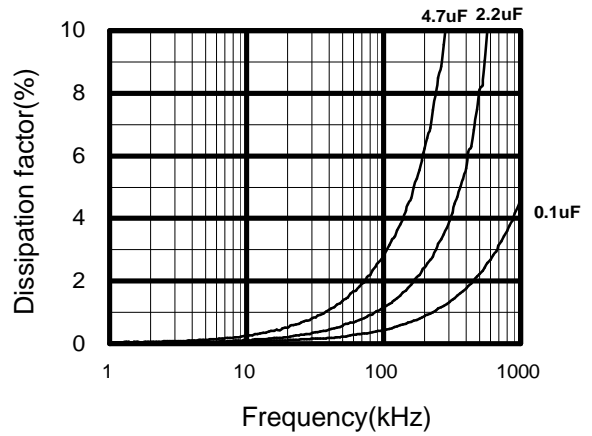
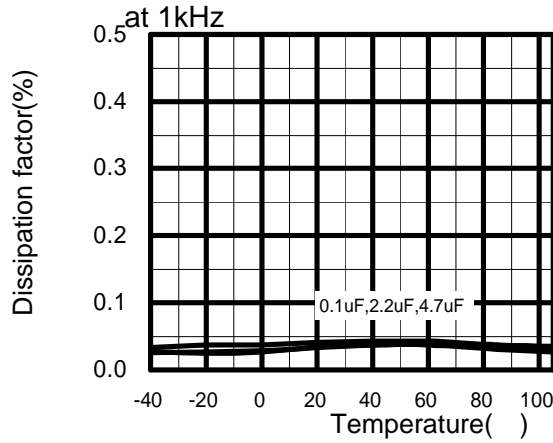
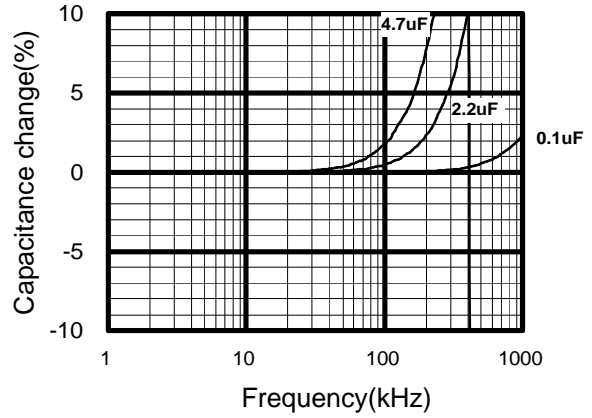
ECWF (A) Type DC450V series (Metallized Polypropylene Film)

Electrical Characteristics <Typical Data >

Temperature Characteristics



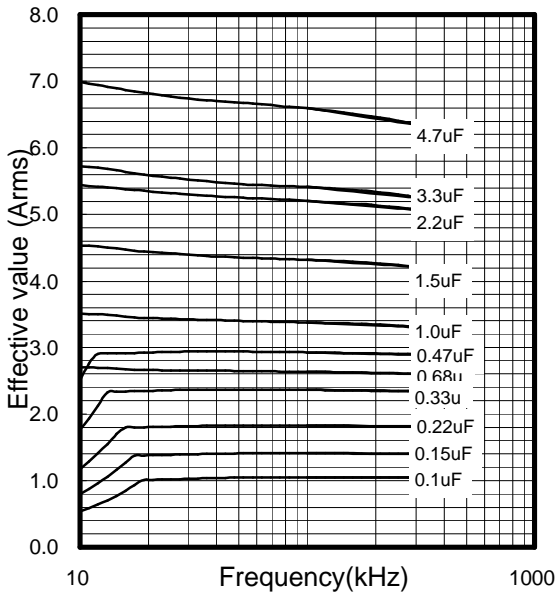
Frequency Characteristics



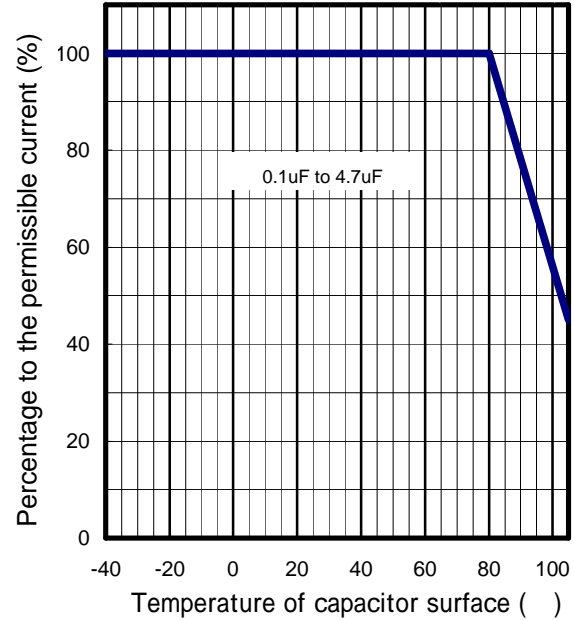
ECWF (A) Type DC450V series (Metallized Polypropylene Film)

Applicable Specifications

Permissible Current



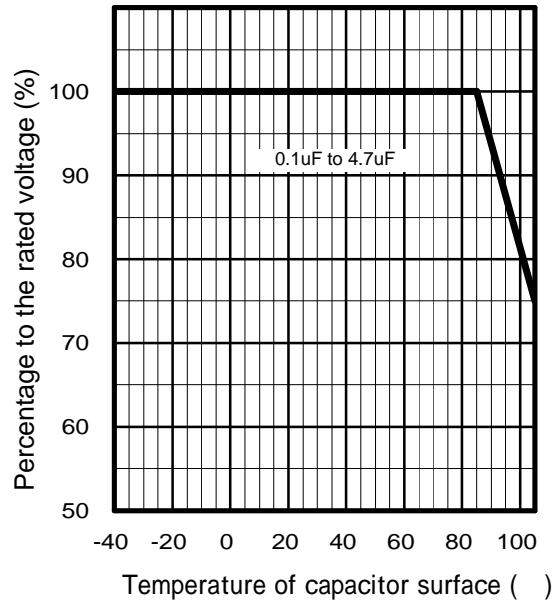
Permissible Current Derating by Temperature



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	14.3	53.4
	2.20	335		47.2
	4.70	475		67.3

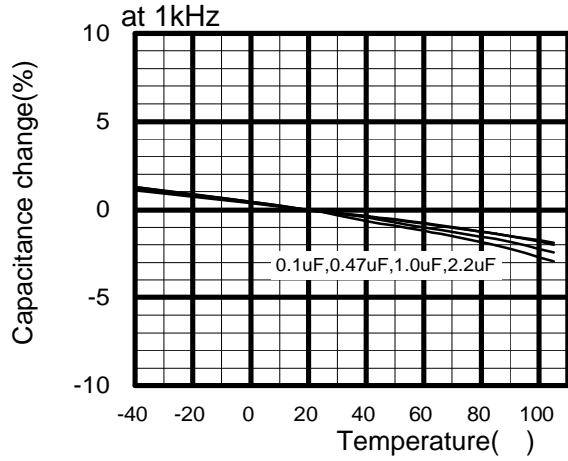
Voltage Derating by Temperature



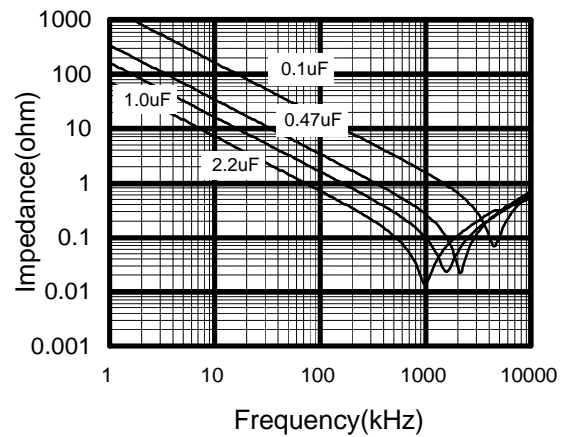
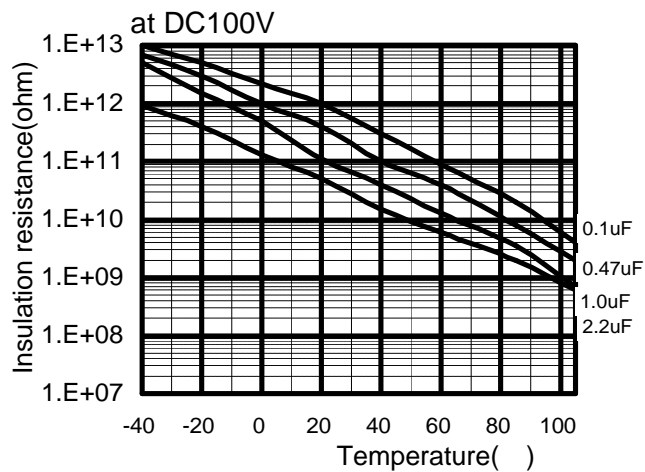
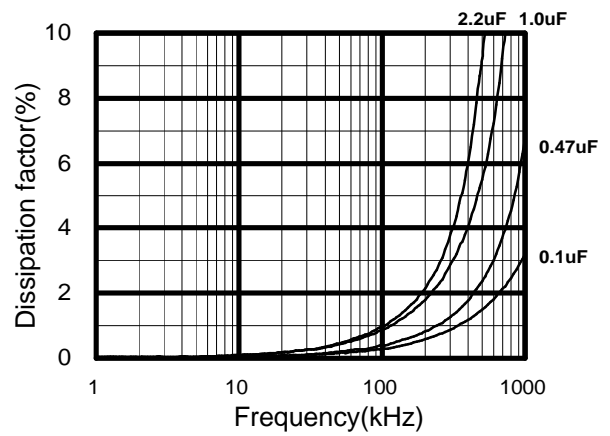
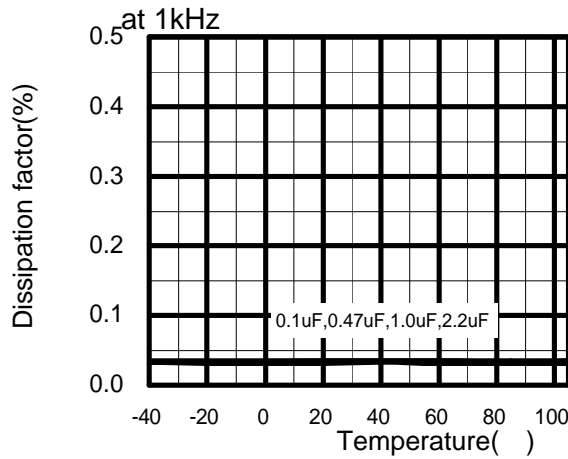
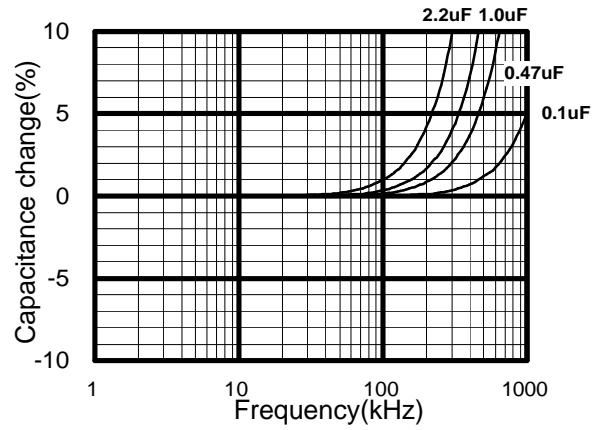
*Please consult Panasonic if your condition exceeds the above
 *P When you use this product, peak voltage must not exceed DC rated voltage.
 *The current(0-P) value is calculated using nominal capacitance.

ECWFA Type DC630V series (Metallized Polypropylene Film)
Electrical Characteristics <Typical Data >

Temperature Characteristics

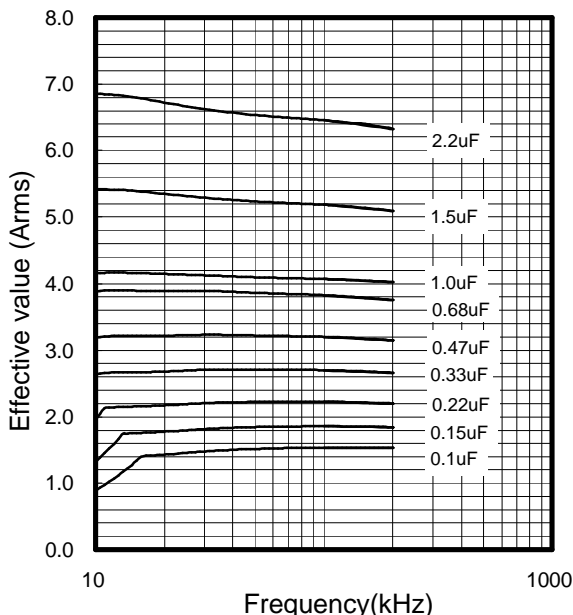


Frequency Characteristics

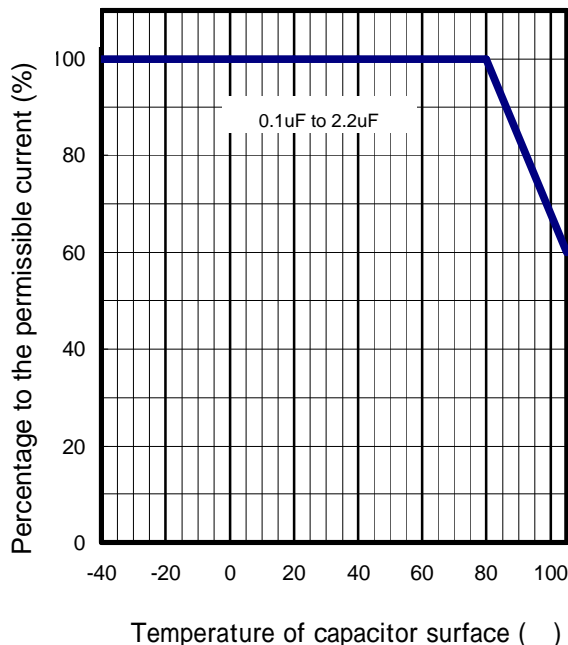


ECWFA Type DC630V series (Metallized Polypropylene Film)
Applicable Specifications

Permissible Current



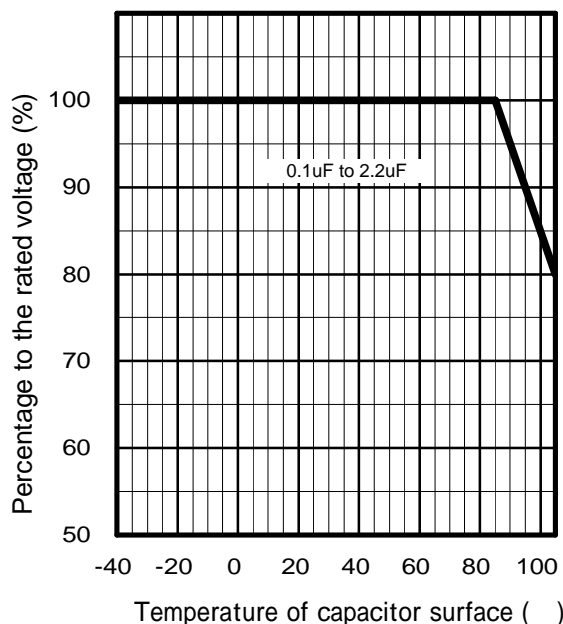
Permissible Current Derating by Temperature



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

Rated Voltage	Capacitance (μF)	Code	dV/dt (V/μs)	Current (A0-P)	
DC 630V	0.10	104	155	15.5	
	0.12	124		18.6	
	0.15	154		23.3	
	0.18	184		27.9	
	0.22	224		34.1	
	0.27	274		41.9	
	0.33	334		51.2	
	0.39	394		60.5	
	0.47	474		72.9	
	0.56	564		86.8	
	0.68	684		105.4	
	0.82	824		65	53.3
	1.00	105			65.0
	1.20	125			78.0
	1.50	155			97.5
1.80	185	117.0			
2.20	225	143.0			

Voltage Derating by Temperature



*Please consult Panasonic if your condition exceeds the above
 *When you use this product, peak voltage must not exceed DC rated voltage.
 *The current(I0-P) value is calculated using nominal capacitance.