

### Metallized Polyester Film Capacitor

Type: **ECQE(B)**

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



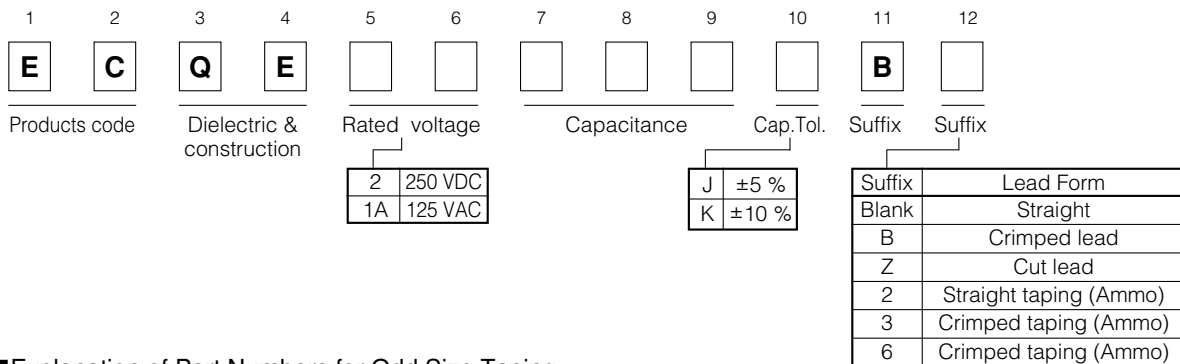
#### ■ Features

- Small size
- Excellent electrical characteristics
- Flame retardant epoxy resin coating
- RoHS directive compliant

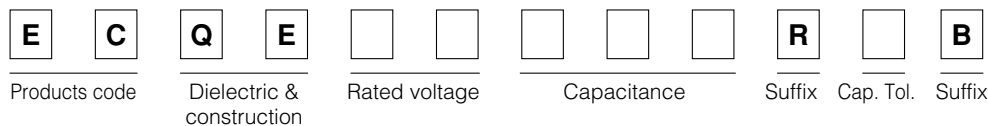
#### ■ Recommended Applications

- General purpose usage
- \*Please contact us when applications are CDI, ignitor etc.

#### ■ Explanation of Part Numbers



#### ■ Explanation of Part Numbers for Odd Size Taping



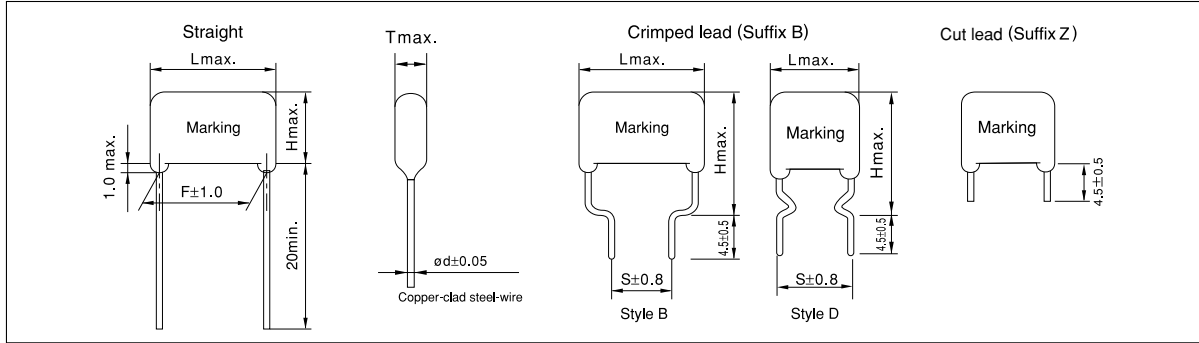
#### ■ Specifications

Category temp. range (Including temperature-rise on unit surface)	250 VDC	-40 °C to +105 °C
	125 VAC	-40 °C to +85 °C
Rated voltage	250 VDC, 125 VAC (250 VDC : Derating of rated voltage by 1.25 %/°C at more than 85 °C)	
Capacitance range	0.010 μF to 4.7 μF	
Capacitance tolerance	±5 % (J), ±10 % (K)	
Dissipation factor (tan δ)	tan δ ≤ 1.0 % (20 °C, 1 kHz)	
Withstand voltage	Rated volt. 250 VDC Between terminals : Rated vol. (VDC) × 150 % 60 s	
	Rated volt. 125 VAC Between terminals : Rated volt. (VAC) × 230 % 60 s Between terminals to enclosure: 1500 VAC 60 s	
Insulation resistance (IR)	250 VDC	C ≤ 0.33 μF : IR ≥ 9000 MΩ (20 °C, 100 VDC, 60 s) C > 0.33 μF : IR ≥ 3000 MΩ · μF (20 °C, 100 VDC, 60 s)
	125 VAC	C ≤ 0.47 μF : IR ≥ 2000 MΩ (20 °C, 500 VDC, 60 s) C > 0.47 μF : IR ≥ 3000 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".
- \* Voltage to be applied to ECQE1A (B) is only sine wave (50 Hz or 60 Hz).

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)

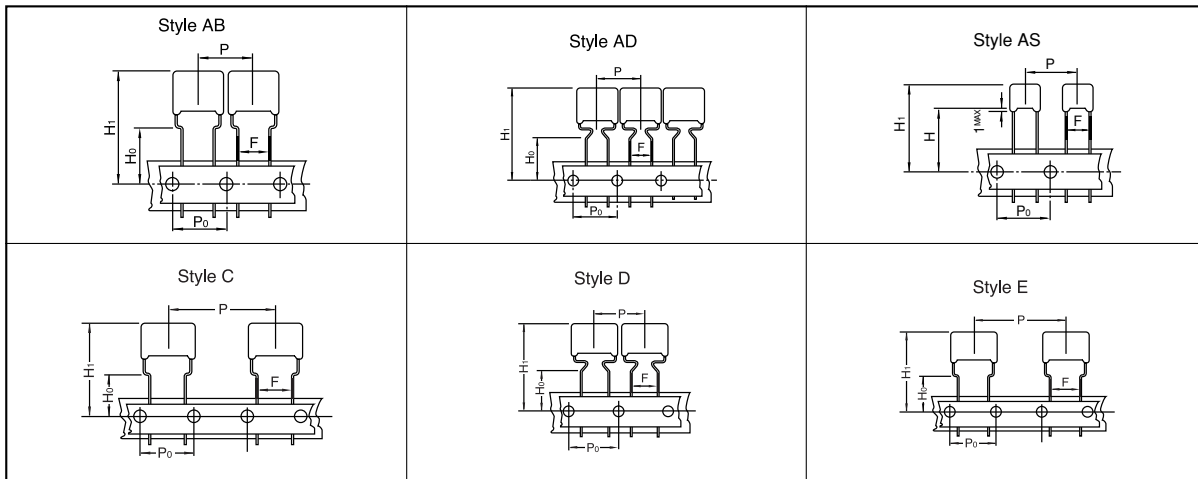


### ■ Packaging Specifications for Bulk Package

Packing quantity : 100 pcs./bag

### ■ Taping Specifications for Automatic Insertion

#### ● Taping style



\*Refer to the page of taping specifications.

#### ● Packaging Specifications

Type	Rated volt.	Cap. range (μF)	Taping style							Packing	suffix
			AD	AS	AB	B	C	D	E		
ECQE(B)	250 VDC	0.010 to 0.15		○						Ammo	( ) B2
		0.010 to 0.68	○							Ammo	( ) B3
		0.82 to 1.5					○			Ammo	( ) B3
		0.18 to 0.68						○		Ammo	R( ) B
		0.82 to 4.7							○	Ammo	R( ) B
	125 VAC	0.010 to 0.068		○						Ammo	( ) B2
		0.082 to 0.22			○					Ammo	( ) B6
		0.27 to 2.7					○			Ammo	( ) B3
		0.082 to 0.68						○		Ammo	R( ) B
		0.82 to 2.7							○	Ammo	R( ) B

#### ● Lead Spacing

Style	Lead Spacing
AD	5.0 mm
AS	5.0 mm
AB	5.0 mm
C	5.0 mm
D	7.5 mm
E	7.5 mm

\*See the column "Rating, Dimensions & Quantity Box" for packing quantity.

■ Rating, Dimensions & Quantity/Ammo Box

● Rated voltage: 250 VDC, Capacitance tolerance: ±5 % (J), ±10 % (K)

Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty					
		L <sub>max.</sub>	T <sub>max.</sub>	H <sub>max.</sub>		F		S	ø d	Taping				
				Straight	Crimped lead	Straight	Crimped lead	Standard 5 mm		Odd size 5 mm	Odd size 7.5 mm			
ECQE2103□B( )	0.010	7.9	4.2	7.1	12.1	5.0	5.0	0.50	2000					
ECQE2123□B( )	0.012	7.9	4.2	7.1	12.1	5.0	5.0	0.50						
ECQE2153□B( )	0.015	7.9	4.2	7.1	12.1	5.0	5.0	0.50						
ECQE2183□B( )	0.018	7.9	4.3	7.2	12.2	5.0	5.0	0.50						
ECQE2223□B( )	0.022	7.9	4.3	7.2	12.2	5.0	5.0	0.50						
ECQE2273□B( )	0.027	7.9	4.3	7.2	12.2	5.0	5.0	0.50						
ECQE2333□B( )	0.033	7.9	4.3	7.2	12.2	5.0	5.0	0.50						
ECQE2393□B( )	0.039	7.9	4.5	7.4	12.4	5.0	5.0	0.50	1500					
ECQE2473□B( )	0.047	7.9	4.5	7.4	12.4	5.0	5.0	0.50						
ECQE2563□B( )	0.056	7.9	4.7	7.7	12.7	5.0	5.0	0.50						
ECQE2683□B( )	0.068	7.9	5.1	8.0	13.0	5.0	5.0	0.50						
ECQE2823□B( )	0.082	7.9	5.4	8.6	13.6	5.0	5.0	0.50						
ECQE2104□B( )	0.10	7.9	5.9	9.0	14.0	5.0	5.0	0.50						
ECQE2124□B( )	0.12	7.9	5.7	10.6	15.6	5.0	5.0	0.50						
ECQE2154□B( )	0.15	7.9	6.3	11.2	16.2	5.0	5.0	0.50	1000	1500				
ECQE2184□B( )	0.18	10.3	5.0	9.7	14.7	7.5	5.0	0.50						
ECQE2224□B( )	0.22	10.3	5.4	10.1	15.1	7.5	5.0	0.50						
ECQE2274□B( )	0.27	10.3	5.9	10.8	15.8	7.5	5.0	0.50						
ECQE2334□B( )	0.33	10.3	6.4	11.3	16.3	7.5	5.0	0.50						
ECQE2394□B( )	0.39	12.3	5.7	10.9	15.9	10.0	5.0	0.60						
ECQE2474□B( )	0.47	12.3	6.2	11.4	16.4	10.0	5.0	0.60						
ECQE2564□B( )	0.56	12.3	6.7	11.9	16.9	10.0	5.0	0.60	1000	1000				
ECQE2684□B( )	0.68	12.3	7.3	12.7	17.7	10.0	5.0	0.60						
ECQE2824□B( )	0.82	15.3	6.3	13.3	18.3	12.5	5.0	0.60						
ECQE2105□B( )	1.0	15.3	7.0	14.0	19.0	12.5	5.0	0.60						
ECQE2125□B( )	1.2	15.3	7.6	14.6	19.6	12.5	5.0	0.60						
ECQE2155□B( )	1.5	15.3	8.6	15.7	20.7	12.5	5.0	0.60						
ECQE2185□B( )	1.8	20.8	7.6	14.6	19.6	17.5	10.0	0.80						
ECQE2225□B( )	2.2	20.8	8.4	15.6	20.6	17.5	10.0	0.80	400					
ECQE2275□B( )	2.7	20.8	9.3	16.7	21.7	17.5	10.0	0.80						
ECQE2335□B( )	3.3	20.8	10.5	17.9	22.9	17.5	10.0	0.80						
ECQE2395□B( )	3.9	20.8	10.8	19.8	24.8	17.5	10.0	0.80						
ECQE2475□B( )	4.7	20.8	11.9	21.0	26.0	17.5	10.0	0.80						
												600	500	
									400	300				
												400	300	
									400	300				
												300	200	
									300	200				


— Suffix for lead crimped or taped type  
 — Cap. tol. code

Style D: 0.010 μF to 0.68 μF  
 Style B: 0.82 μF to 4.7 μF

### ■ Rating, Dimensions & Quantity/Ammo Box

● Rated voltage : 125 VAC Capacitance tolerance : ±5 % (J), ±10 % (K)

Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty		
		L <sub>max.</sub>	T <sub>max.</sub>	H <sub>max.</sub>		F	S	ø d	Taping		
				Straight	Crimped lead				Standard 5 mm	Odd size 5 mm	Odd size 7.5 mm
ECQE1A103□B( )	0.010	7.9	4.2	7.1		5.0		0.50	2000		
ECQE1A123□B( )	0.012	7.9	4.2	7.1		5.0		0.50			
ECQE1A153□B( )	0.015	7.9	4.2	7.1		5.0		0.50			
ECQE1A183□B( )	0.018	7.9	4.3	7.2		5.0		0.50			
ECQE1A223□B( )	0.022	7.9	4.3	7.2		5.0		0.50			
ECQE1A273□B( )	0.027	7.9	4.3	7.2		5.0		0.50			
ECQE1A333□B( )	0.033	7.9	4.3	7.2		5.0		0.50			
ECQE1A393□B( )	0.039	7.9	4.5	7.4		5.0		0.50			
ECQE1A473□B( )	0.047	7.9	4.8	7.7		5.0		0.50			
ECQE1A563□B( )	0.056	7.9	5.1	8.0		5.0		0.50			
ECQE1A683□B( )	0.068	7.9	5.4	8.6		5.0		0.50			
ECQE1A823□B( )	0.082	10.3	4.6	7.6	12.6	7.5	7.5	0.50	1500		1500
ECQE1A104□B( )	0.10	10.3	5.1	7.7	12.7	7.5	7.5	0.50			
ECQE1A124□B( )	0.12	10.3	5.3	8.4	13.4	7.5	7.5	0.50			
ECQE1A154□B( )	0.15	10.3	5.7	8.9	13.9	7.5	7.5	0.50			
ECQE1A184□B( )	0.18	10.3	5.6	10.3	15.3	7.5	7.5	0.50			
ECQE1A224□B( )	0.22	10.3	6.1	11.0	16.0	7.5	7.5	0.50			
ECQE1A274□B( )	0.27	12.3	5.4	10.7	15.7	10.0	7.5	0.60			
ECQE1A334□B( )	0.33	12.3	5.9	11.2	16.2	10.0	7.5	0.60			
ECQE1A394□B( )	0.39	12.3	6.4	11.6	16.6	10.0	7.5	0.60			
ECQE1A474□B( )	0.47	12.3	7.0	12.2	17.2	10.0	7.5	0.60			
ECQE1A564□B( )	0.56	12.3	6.7	11.9	16.9	10.0	7.5	0.60			
ECQE1A684□B( )	0.68	12.3	7.3	12.7	17.7	10.0	7.5	0.60			
ECQE1A824□B( )	0.82	15.3	6.3	13.3	18.3	12.5	7.5	0.60	1000		1000
ECQE1A105□B( )	1.0	15.3	7.0	14.0	19.0	12.5	7.5	0.60			
ECQE1A125□B( )	1.2	20.8	7.1	14.1	19.1	17.5	10.0	0.80			
ECQE1A155□B( )	1.5	20.8	8.0	15.1	20.1	17.5	10.0	0.80			
ECQE1A185□B( )	1.8	20.8	8.7	15.9	20.9	17.5	10.0	0.80			
ECQE1A225□B( )	2.2	20.8	9.7	17.1	22.1	17.5	10.0	0.80			
ECQE1A275□B( )	2.7	20.8	10.9	18.2	23.2	17.5	10.0	0.80			
ECQE1A335□B( )	3.3	25.8	9.6	18.7	23.7	22.5	15.0	0.80			
ECQE1A395□B( )	3.9	25.8	10.6	19.7	24.7	22.5	15.0	0.80			
ECQE1A475□B( )	4.7	25.8	11.8	20.8	25.8	22.5	15.0	0.80			


 Suffix for lead crimped or taped type.  
 Cap. tol. code

Style D: 0.082 μF to 0.68 μF  
 Style B: 0.82 μF to 4.7 μF

#### Notice for AC rated

AC rated capacitors complying with clause 1 of "Electrical Appliance and Material Safety Law".

As for clause 2 of "Electrical Appliance and Material Safety Law", please use ECQUL type or ECQUG type.

When using these capacitors as a across-the-line capacitor, it shall be required to follow either item 1. or item 2. condition.

1. Capacitor shall be connected in parallel with varistor (Specified varistor voltage in table 1.)
2. Voltage applied for capacitor shall not exceed other than specified in table 1, when using these capacitors.

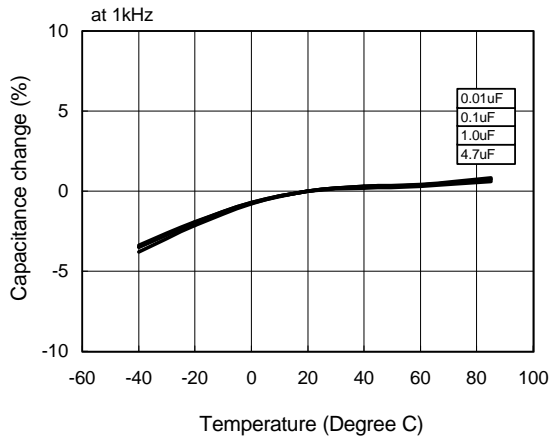
Table 1

Cap. Rated Voltage	Varistor voltage	Pulse voltage
125 VAC	250 V	250 V <sub>0-P</sub>

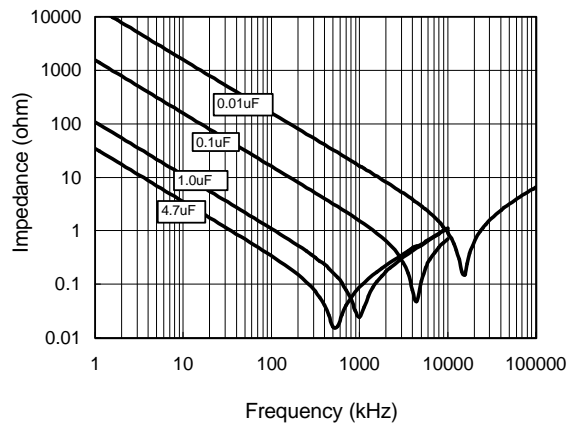
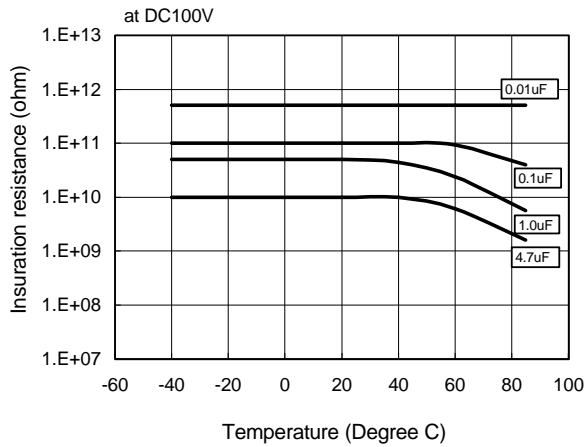
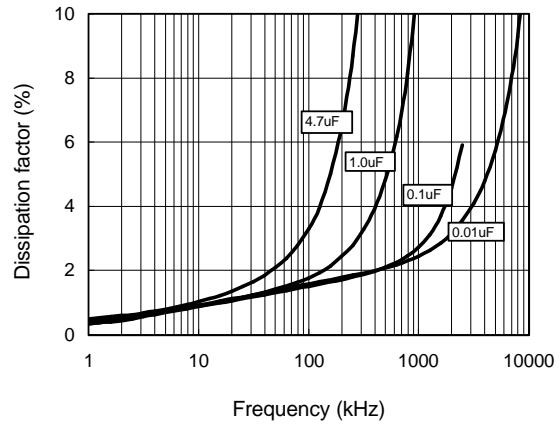
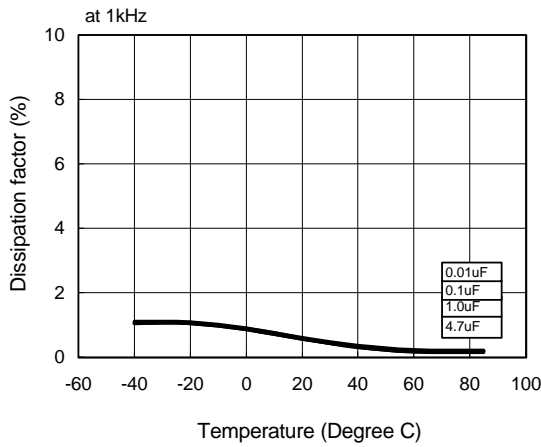
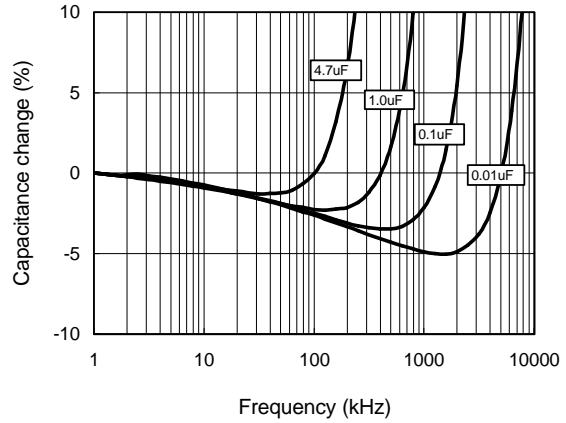
**ECQE(B) Type 250VDC Series (Metallized Polyester Film)**

**Electrical Characteristics <Typical Data>**

**Temperature Characteristics**



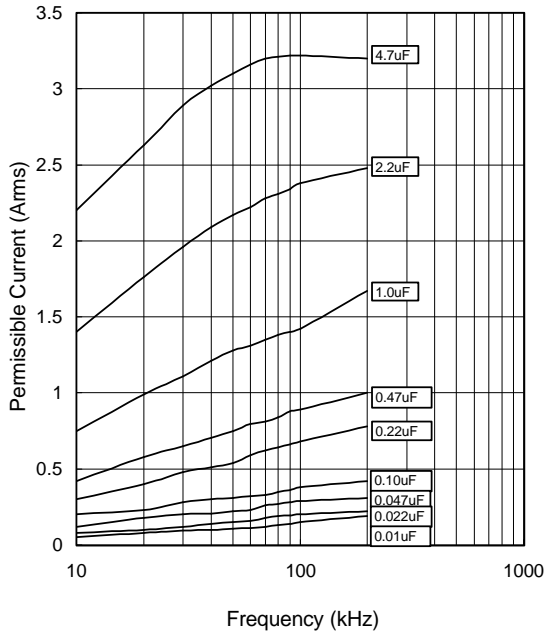
**Frequency Characteristics**



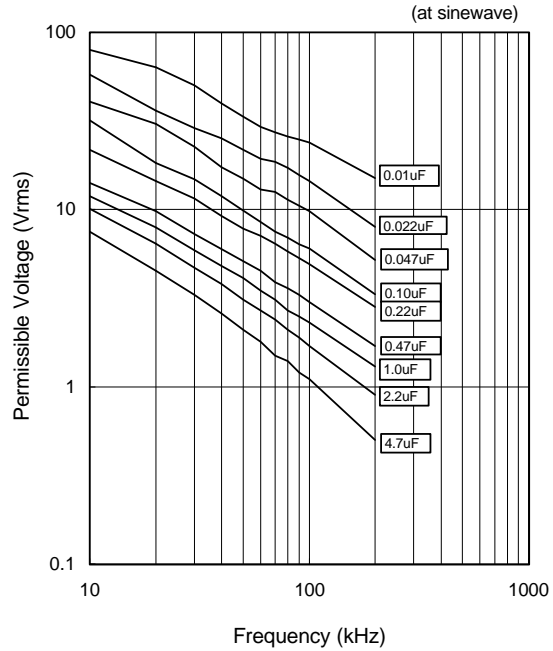
**ECQE(B) Type 250VDC Series (Metallized Polyester Film)**

**Applicable Specifications**

**Permissible Current**



**Permissible Voltage**

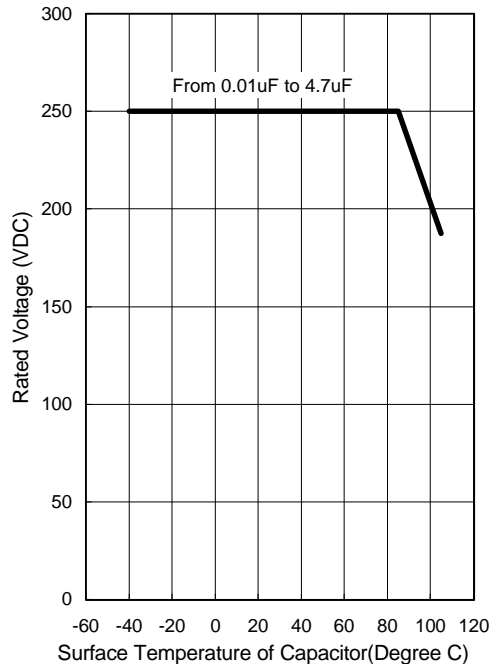


**Pulse Handling Capability (dV/dt)**

(Max 10000cycles)

Rating Voltage	Capacitance Value(uF)	Code	dV/dt(V/us)	Current(o-p) (A)	
250VDC	0.010	103	48	0.48	
	0.015	153		0.72	
	0.022	223		1.06	
	0.033	333		1.58	
	0.047	473		2.26	
	0.068	683		3.26	
	0.100	104		4.80	
	0.150	154		7.20	
	0.220	224		33	7.26
	0.330	334		10.89	
	0.470	474		23	10.81
	0.680	684		15.64	
	1.000	105		18	18.00
	1.500	155		18	27.00
	2.200	225		10	22.00
3.300	335	10	33.00		
4.700	475	10	47.00		

**Voltage Derating by Temperature**

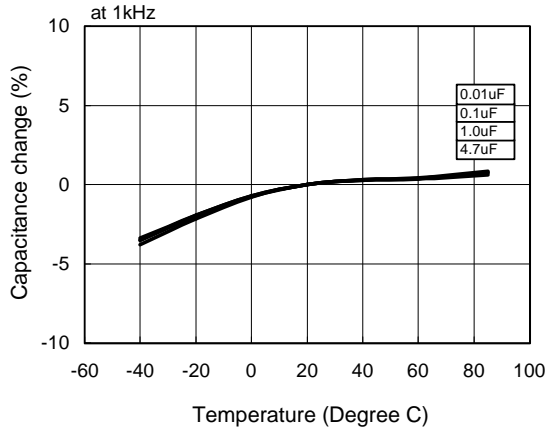


\* Please consult Panasonic if your condition exceeds the above spec.

**ECQE(B) Type 125VAC Series (Metallized Polyester Film)**

**Erectrical Characteristics <Typical Data>**

**Temperature Characteristics**



**Frequency Characteristics**

