

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

1	2	3	4	5	6	7	8	9	10	11	12																						
E	C	Q	E							B																							
Products code		Dielectric & construction		Rated voltage		Capacitance			Cap.Tol.	Suffix	Suffix																						
				<table border="1"> <tr><td>2</td><td>250 VDC</td></tr> <tr><td>1A</td><td>125 VAC</td></tr> </table>		2	250 VDC	1A	125 VAC				<table border="1"> <tr><td>J</td><td>±5 %</td></tr> <tr><td>K</td><td>±10 %</td></tr> </table>	J	±5 %	K	±10 %	<table border="1"> <tr><th>Suffix</th><th>Lead Form</th></tr> <tr><td>Blank</td><td>Straight</td></tr> <tr><td>B</td><td>Crimped lead</td></tr> <tr><td>Z</td><td>Cut lead</td></tr> <tr><td>2</td><td>Straight taping (Ammo)</td></tr> <tr><td>3</td><td>Crimped taping (Ammo)</td></tr> <tr><td>6</td><td>Crimped taping (Ammo)</td></tr> </table>		Suffix	Lead Form	Blank	Straight	B	Crimped lead	Z	Cut lead	2	Straight taping (Ammo)	3	Crimped taping (Ammo)	6	Crimped taping (Ammo)
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Metallized Film

■ Explanation of Part Numbers for Odd Size Taping

1	2	3	4	5	6	7	8	9	10	11	12	
E	C	Q	E							R		B
Products code		Dielectric & construction		Rated voltage		Capacitance			Suffix	Cap. Tol.	Suffix	

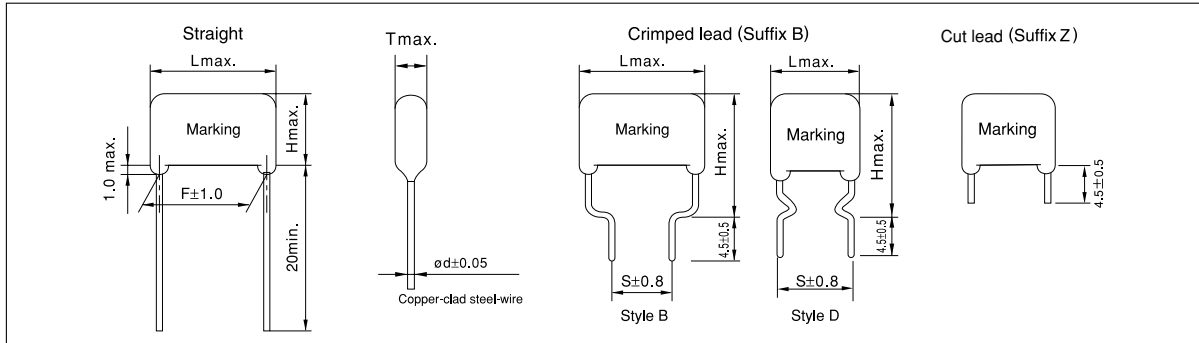
■ Specifications

Category temp. range (Including temperature-rise on unit surface)	250 VDC	-40 °C to +105 °C
	125 VAC	-40 °C to +105 °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 (tanδ)	tanδ ≤ 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)

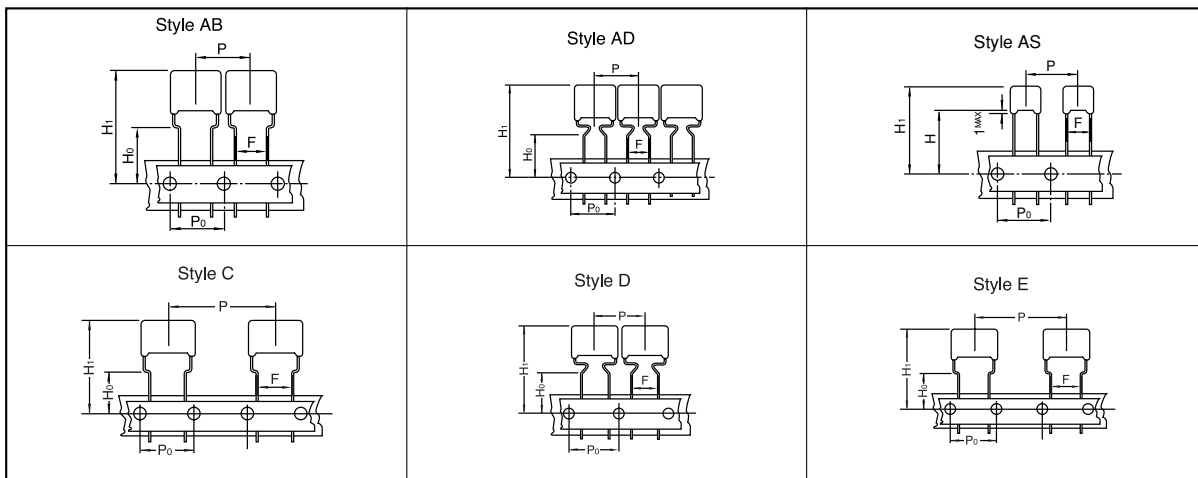


■ Packaging Specifications for Bulk Package

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 _{max.}	T _{max.}	H _{max.}		F		S		ø d	Taping			Bulk				
				Straight	Crimped lead	Straight	Crimped lead	Crimped lead	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									
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									
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	—									
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				
									—									
														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			Bulk	
		L _{max.}	T _{max.}	H _{max.}		F	S		ø d	Taping			
				Straight	Crimped lead		Straight	Crimped lead		Standard 5 mm	Ogd 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					
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.

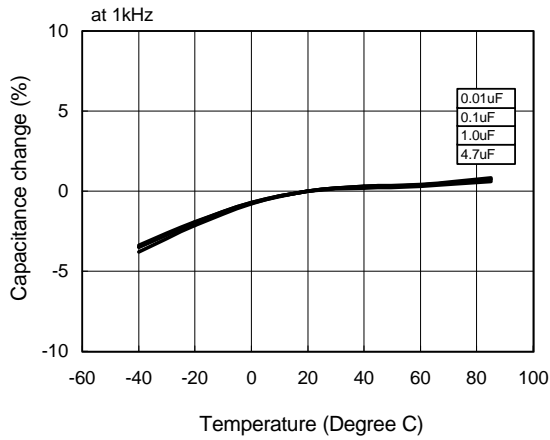
Table 1

Cap. Rated Voltage	Varistor voltage	Pulse voltage
125 VAC	250 V	250 V _{0-P}

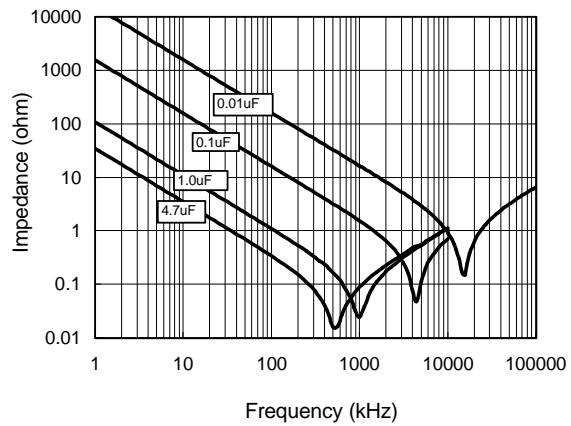
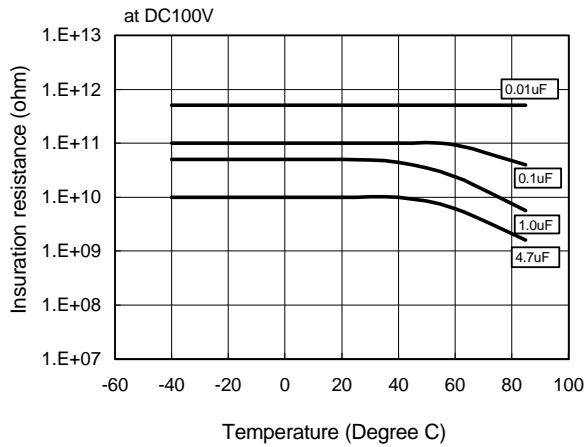
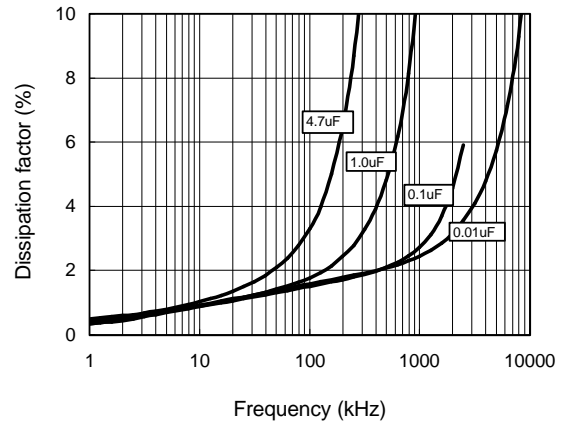
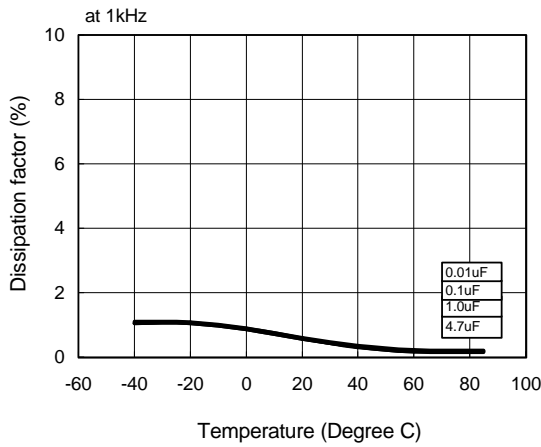
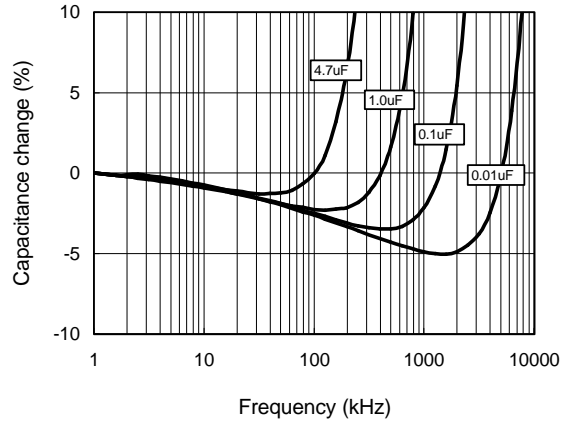
ECQE(B) Type 250VDC Series (Metallized Polyester Film)

Electrical Characteristics <Typical Data>

Temperature Characteristics



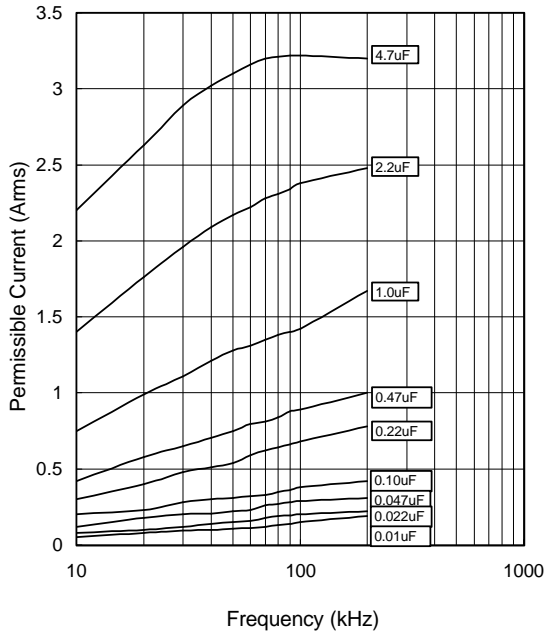
Frequency Characteristics



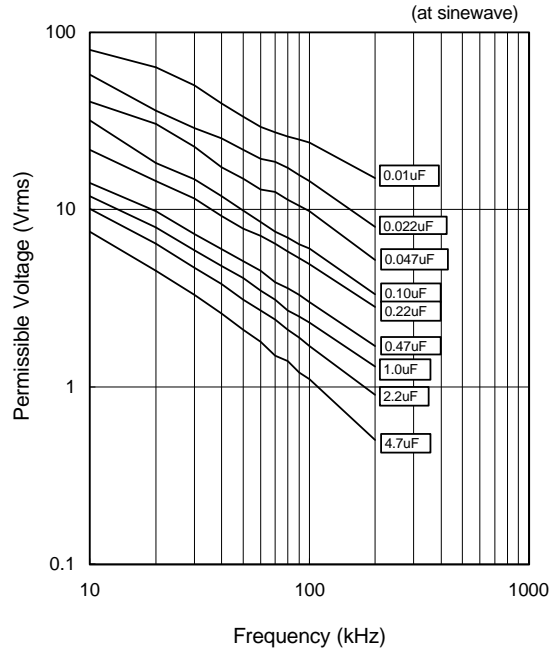
ECQE(B) Type 250VDC Series (Metallized Polyester Film)

Applicable Specifications

Permissible Current



Permissible Voltage

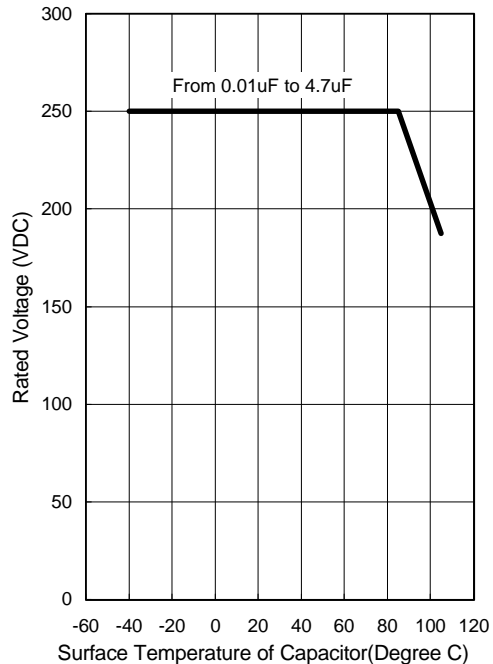


Pulse Handling Capability (dV/dt)

(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		23	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

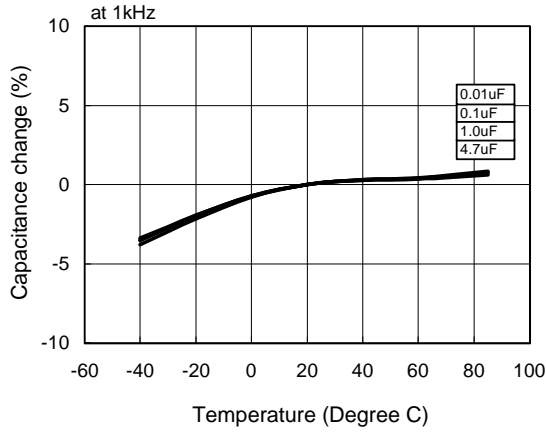


* Please consult Panasonic if your condition exceeds the above spec.

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

Erectrical Characteristics <Typical Data>

Temperature Characteristics



Frequency Characteristics

