Panasonic

2014

CATALOG

Film Capacitors

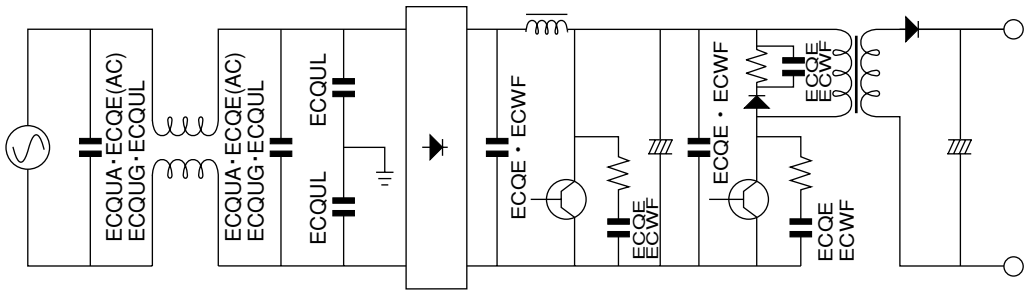
2014.7 | industrial.panasonic.com/ww/

Memo

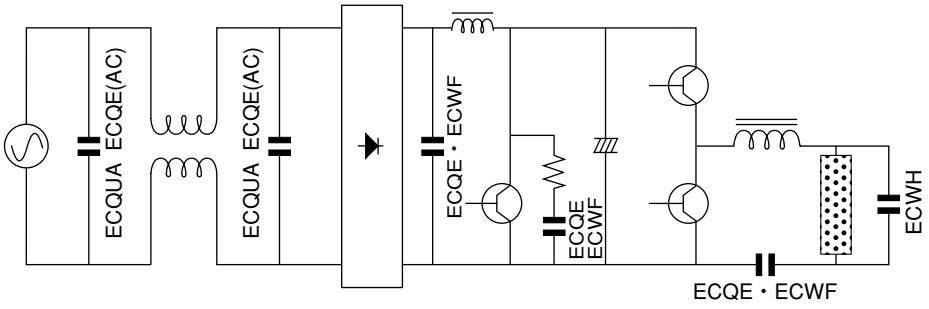
Plastic Film Capacitors

C O N T E N T S

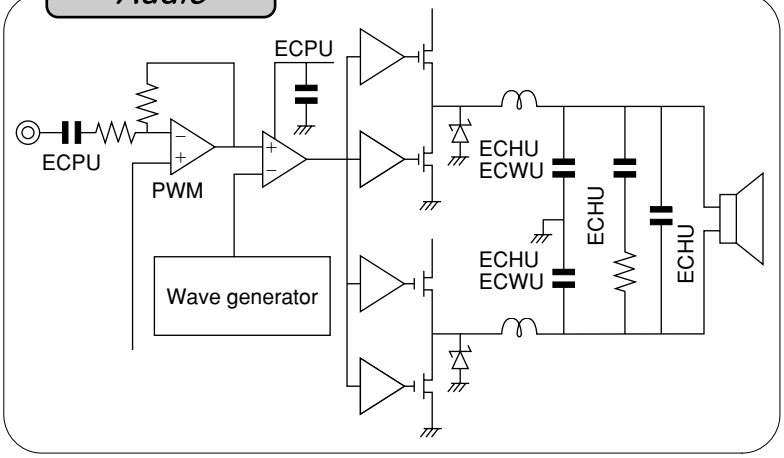
Switcing Power Supply



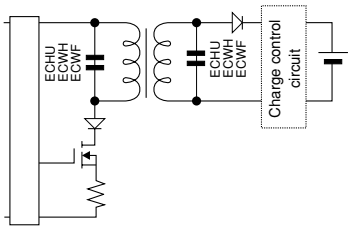
Lighting



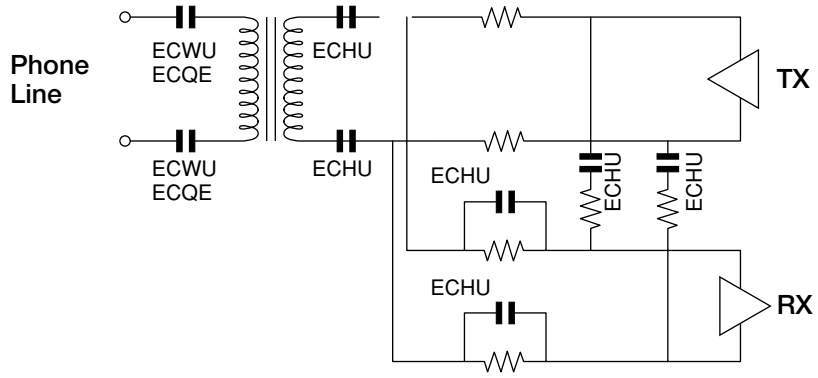
Audio



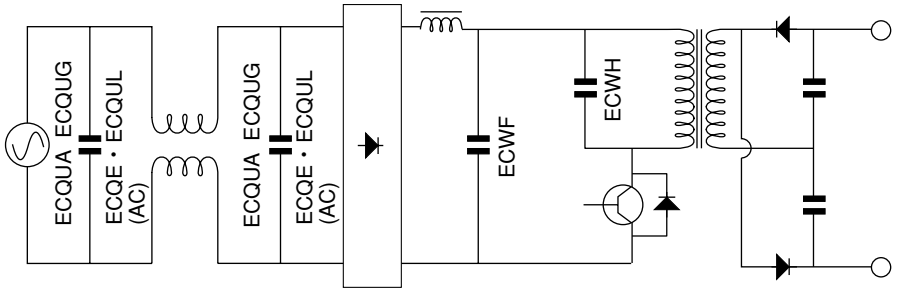
Non-contact charger



xDSL

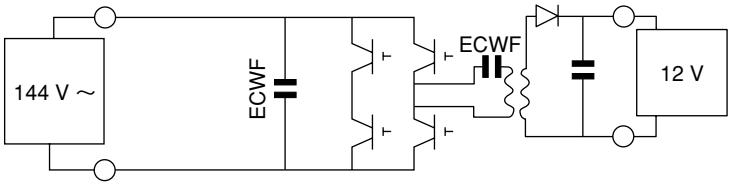


Microwave oven(IH)

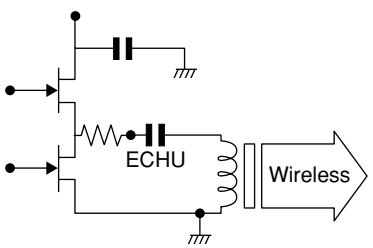


Automobile

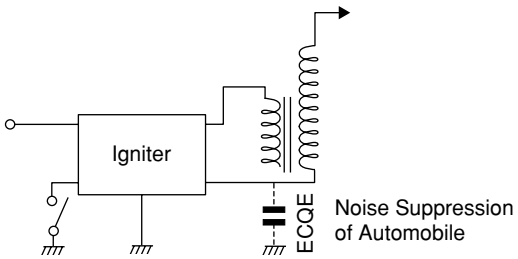
Hybrid car DC/DC Convertars

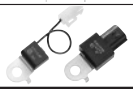


Smart Keyless



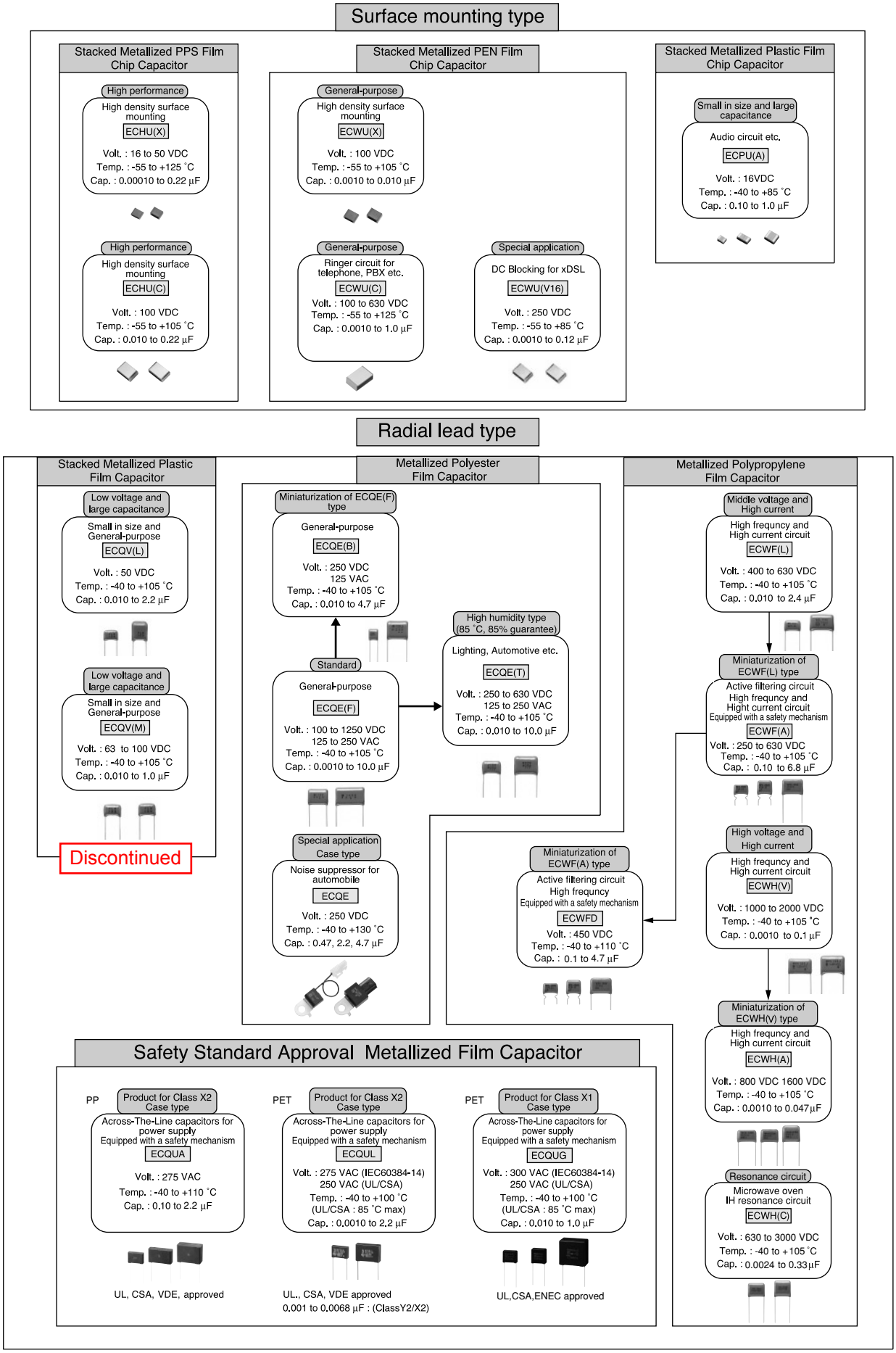
Ignition



Dielectric		Type	Appearance	Operating Temp*	Rating	Feature	Application	Page
Stacked Metallized Film Chip Capacitor	Stacked Metallized PPS Film Chip Capacitor	ECHU(X)		−55 to +125 ℃	0.00010 μF to 0.22 μF 16 VDC, 50 VDC	● Non-inductive, Stacked ● Tight C-Tol. ● Reflow soldering	● High density mounting	16
		ECHU(C)		−55 to +105 ℃	0.010 μF to 0.22 μF 100 VDC	● Non-inductive, Stacked ● Tight C-Tol. ● Reflow soldering	● High density mounting ● Resonance circuit for LCD B/L inverter unit	18
	Stacked Metallized PEN Film Chip Capacitor	ECWU(X)		−55 to +105 ℃	0.0010 μF to 0.010 μF 100 VDC	● Non-inductive, ● Reflow soldering	● High density mounting	20
		ECWU(C)		−55 to +125 ℃	0.0010 μF to 1.0 μF 100VDC to 630 VDC	● Non-inductive, ● Reflow soldering ● Noise suppressor	● Ringer circuit telephone PBX ● DC Blocking for xDSL	22
		ECWU(V16)		–55 to +85 ℃	0.0010 μF to 0.12 μF 250 VDC	● Non-inductive, ● Reflow soldering ● Noise suppressor	● Ringer circuit telephone PBX ● DC Blocking for xDSL	25
	Stacked Metallized Plastic Film Chip Capacitor	ECPU(A)		−40 to +85 ℃	0.10 μF to 1.0 μF 16 VDC	● Non-inductive, ● Reflow soldering	● Coupling	27
Stacked Metallized Type	Stacked Metallized Plastic Film Capacitor	ECQV(L) ECQV(M)		−40 to +105 ℃	0.010 μF to 2.2 μF 50 VDC, 63 VDC, 100 VDC	● Epoxy resin coating ● Non-inductive	● General purpose	29 Discontinued
Metallized Type	Metallized Polyester Film Capacitor	ECQE(F)		−40 to +105 ℃	0.0010 μF to 10 μF 100 VDC to 1250 VDC, 125 VAC, 250 VAC	● Epoxy resin coating ● Wide capacitance range	● General purpose ● Noise suppressor	32
		ECQE(B)		−40 to +105 ℃	0.010 μF to 4.7 μF 250 VDC 125 VAC	● Epoxy resin coating ● Miniaturization of ECQE(F) type	● General purpose ● Noise suppressor	41
		ECQE(T)		−40 to +105 ℃	0.010 μF to 10 μF 250 VDC to 630 VDC 125 VAC, 250 VAC	● Excellent moisture resistance	● Electric circuit of high humidity equipment	45
	Metallized Polypropylene Film Capacitor	ECWF(L)		−40 to +105 ℃	0.010 μF to 2.4 μF 400 VDC 630 VDC	● Epoxy resin coating ● Low D.F ● Excellent moisture resistance	● High frequncy high current circuit	50
		ECWF(A)		−40 to +105 ℃	0.10 μF to 6.8 μF 250 VDC to 630 VDC	● Miniaturization of ECWF(L) type ● Low D.F	● Active filtering circuit ● High frequency high current circuit	54
		ECWFD		−40 to +110 ℃	0.1 μF to 4.7 μF 450 VDC	● Epoxy resin coating ● Low D.F ● Excellent moisture resistance	● High frequncy high current circuit	58
		ECWH(V)		−40 to +105 ℃	0.0010 μF to 0.10 μF 1000 VDC to 2000 VDC	● Epoxy resin coating ● Low D.F ● Small in size	● High frequency high current circuit	61
		ECWH(A)		−40 to +105 ℃	0.0010 μF to 0.047 μF 800 VDC, 1600 VDC	● Epoxy resin coating ● Low D.F ● Small in size	● General resonant circuits	67
		ECWH(C)		–40 to +105 ℃ (+85 ℃)	0.0024 μF to 0.33 μF 630 VDC to 3000 VDC	● Epoxy resin coating ● Low D.F	● General resonance circuit ● Microwave oven ● IH resonance circuit	70
		EZPE		−40 to +85 ℃	10 μF to 110 μF 500 VDC to 1300 VDC	● High safety ● Long product life, High reliebly ● Low loss	● DC filtening ● DC linlt circuit	73
Interference Suppressors (Safety standard approval capacitors)	Metallized Polypropylene Film Capacitor	ECQUA		−40 to +110 ℃	0.10 μF to 2.2 μF 275 VAC	● UL,CSA,VDE, Approved (ClassX2)	● Noise suppressor for AC line	76
	Metallized Polyester Film Capacitor	ECQUL		−40 to +100 ℃	0.0010 μF to 2.2 μF 275 VAC(250 VAC)	● UL,CSA,VDE Approved (ClassX2)	● Noise suppressor for AC line	78
		ECQUG		−40 to +100 ℃	0.010 μF to 1.0 μF 300 VAC(250 VAC)	● Equipped with a safety mechanism ● UL,CSA,NEMKO,ENEC Approved(ClassX1)	● Noise suppressor for AC line	80
Metallized Polyester Film Capacitor for Noise Suppression of Automobile		ECQE		–40 to +130 ℃	0.47 μF, 2.2 μF, 4.7 μF 250 VDC	● Box type	● Noise suppressor for automobile	82

❉ Operating temp. : Including temperature-rise on unit surface. Refer to each product page for details.

Products system chart



⚠ SAFETY PRECAUTIONS

1. The Film Capacitors shown in this catalogue contain a film based dielectric which may be flammable under certain operating conditions. When in use, they can either emit smoke and/or ignite should the product be defective. It is recommeded covering the surrounding resin with flame-resistant materials or case as needed particularly when used long-term.

2. Prior to use, please make sure that failure of the film capacitors does not have any negative effects on other surrounding electronic circuit components and devices that would possibly cause damage. Proper safety measures should be taken using fail-safe protective circuit designs to help prevent other devices of becoming unsafe.
   Example:
   a.State in which basic performance of automobiles (run, turn and stop)
   b.False operations
   c.Smoke emission/ignitions (Example : A large current flowed to the speaker because of the short circuit of the capacitor for the coupling of car audio, and it was smoking from the speaker)

We request the user to observe the following:

1. Information of this catalogue is subject to change without notice. Prior of use, the latest written agreement on delivery specifications ought to be prepared beforehand. Please make sure that the product you purchased is used in compliance with the descriptions in the aforementioned specifications.
   The precautions in using film capacitors follow the JEITA RCR-1001A "Safety Application Guide on components for use in electronic and electrical equipments" and JEITA RCR-2350C "Safety Application Guide for fixed plastic film capacitors for use in electornic equipment". Please refer to the above guidelines for details. Additional technical specifications are available upon request.

2. The Film Capacitors listed in this catalogue are designed and manufactured specifically for general electronic devices, including audio-video equipment, home appliance, office equipment and data communication equipment etc.. Accordingly, it is strongly recommended that the user contact us in advance if the parts are to be used for the following devices (items 1~12), which require having advanced security measures:
   (1) Transport Equipment (motor vehicles, airplanes, trains, ships, traffic signal controllers)
   (2) Medical Equipment (life-support equipment, pacemakers for the heart, dialysis controllers)
   (3) Aircraft Epuipment, Aerospace Equipment (airplanes, artifical satellites, rockets, etc.)
   (4) Submarine Equipment (submarine repeating equipment, etc.)
   (5) Generatrion Control Equipment (equipment for atomic/hydraulic/heat power plants)
   (6) Information Processing Equipment (large scale computer system)
   (7) Electric Heating Appliance, Burning Apparatus
   (8) Rotary Motion Equipment
   (9) Security Systems
   (10) Robots
   (11) Lighting Equipment
   (12) And any similar types of equipment

   It is strongly recommended that further investigation or analysis is performed to verify the compatibility of the film capacitors when used in conjunction with any life-supporting equipment like electronic aviation controllers, automotive driving controllers and engine controllers (i.e:fuel injection, ignition, etc.).

3. This catalogue indicates the quality and performance of film capacitors as discrete components. Prior of using the film capacitors, the user should evaluate and verify its quality and performance after it has been assembled on the product. Further care should be taken when parts are subjected under voltages, currents and/or temperatuers that go beyond the specified ratings. These conditions should not be applied to the film capacitors even if defects such as short or open of other parts are found in the circuit.

4. When exporting product the user is required to comply with export-related regulations, including Foreign Exchange and Foreign Trade laws.

Other Notices

1. Our film capacitors comply with the RoHS Directive.
2. Any ozone-depleting substances (ODS), the use of which is restricted in the Montreal Protocol are not used in our manufacturing process.
3. Technical information shown in this catalogue, which is intended for describing the typical operation, application circuits, and so forth of our products, means neither to warrant our company's and third parties' intellectual property rights and other rights nor to grant a license on the occasion of the use of the products listed in this catalogue.
4. Product characteristics indicated in this catalogue, which are shown as representative values, does not warrant the performance of our products.

■Permissible voltage (R.M.S) in alternating current corresponding to DC Rated Voltage

1. In case of applying voltage in alternating current (50 Hz or 60 Hz sine wave) to a capacitor, permissible voltage (R.M.S) in alternating current is shown in the following table.
2. Permissible voltage (R.M.S) in alternating current is not an AC rated voltage.
3. The capacitor of DC rating should not be used at the primary side of power supplies.
4. In case of using ECWH(V) type in CRT horizontal resonance circuit, please apply voltage not higher than permissible voltage (peak-to-peak : p-p) in CRT horizontal resonance circuit shown in the following table.
5. The peak value (zero-to-peak) including pulse of voltage applied capacitor of DC rating should be less than DC rated voltage.
   The permissible pulse current is different in each type of the capacitor, please request the product specifications.
6. Please request the product specifications or consult us about details of permissible voltage (R.M.S) in alternating current .

Type & Series		Rated voltage (DC)	Permissible voltage (R.M.S) in alternating current	Permissible voltage (p-p)in CRT horizontal resonance circuit
ECHU(X)	ECHU1C(X)	16 V	11 V	
	ECHU1H(X)	50 V	30 V	
ECHU(C)	ECHU1(C)	100 V	40 V	
ECWU(X)	ECWU1(X)	100 V	40 V	
ECWU(C)	ECWU1(C)	100 V	40 V	
	ECWU2(C)	250 V	125 V	
	ECWUC2J	630 V	250 V	
ECPU(A)	ECPU1C(A)	16 V	12 V	
ECQV(L)	ECQV1H(L)	50 V	40 V	
ECQV(M)	ECQV1J(M)	63 V	40 V	
	ECQV1(M)	100 V	63 V	
ECQE(F)	ECQE1(F)	100 V	63 V	
	ECQE2(F)	250 V	150 V	
	ECQE4(F)	400 V	200 V	
	ECQE6(F)	630 V	250 V	
	ECQE10(F)	1000 V	400 V	
	ECQE12(F)	1250 V	500 V	
ECQE(B)	ECQE2(B)	250 V	125 V	
ECQE(T)	ECQE2(T)	250 V	150 V	
	ECQE4(T)	400 V	200 V	
	ECQE6(T)	630 V	250 V	
ECWF(A)	ECWF2(A)	250 V	125 V	
	ECWF2W(A)	450 V	84 V	
	ECWFA2J	630 V	141 V	
ECWFD	ECWFD2W	450 V	84 V	
ECWF(L)	ECWF4(L)	400 V	141 V	
	ECWF2W(L)	450 V	160 V	
	ECWF6(L)	630 V	223 V	
ECWH(A)	ECWH8(A)	800 V	283 V	—
	ECWHA3C	1600 V	700 V	
ECWH(C)	ECWH6(C)	630 V	223 V	
	ECWHC3B	1250 V	450 V	
	ECWHC3F	3000 V	1167 V	
ECWH(V)	ECWH10(V)	1000 V	283 V	
	ECWH12(V)	1250 V	354 V	V1000 Vp-p
	ECWH16(V)	1600 V	424 V	V1200 Vp-p
	ECWH20(V)	2000 V	531 V	V1500 Vp-p

■Completed standardization products in the 2009 fiscal year

Dielectric	Type	Parts Number Style
SMD Type	ECHU1H(C)	ECHU1H***( )C( )
	ECPU(B)	ECPU□□***( )B( )
AC capacitor	ECHD	ECHD□□***( )( )( )
	ECWD	ECWD□□***( )( )( )
	ECWX	ECWX□□***( )( )( )
Metallized PP	ECWF(K)	ECWF□□***( )K( )
	ECWH(U)	ECWH□□***( )U( )

☆The above series was discontinued in March/10.

■Completed standardization products in the 2010 fiscal year

Dielectric	Type	Parts Number Style
SMD Type	ECWU1H(C)	ECWU1H***( )C( )
	ECHU01(X)	ECHU01***( )X( )
Metallized PP	ECWF2(S)	ECWF2***( )S( )
	ECWF2(B)	ECWF2***( )B( )

☆The above series was discontinued in September/10.

■Standardization products in the 2011 fiscal year

・Please use following alternative products for new design.

Dielectric	Standardization products		Alternative Products (Standard)	
	Type	Parts Number Style	Type	Parts Number Style
Stacked Metallized Type	ECQV1H(Z) ECQV1H(M)	ECQV1H***( )Z( ) ECQV1H***( )M( )	No substitution	
Metallized PET	ECQE2W(H)	ECQE2W***( )H( )	ECWFD ECWF2W(A)	ECWFD2W***( )( ) ECWF2W***( )A( )
	ECQE10(F) [0.001 μF to 0.0082 μF]	ECQE10***( )F( )	ECQE12(F) [0.001 μF to 0.0082 μF]	ECQE12***( )F( )

■Standardization products in the 2012 fiscal year

・Please use following alternative products for new design.

Dielectric	Standardization products		Alternative Products (Standard)	
	Type	Parts Number Style	Type	Parts Number Style
Safety standard approved	ECQUN	ECQU2A***( )N( )	ECQUA ECQUL	ECQUAAF***( )( ) ECQU2A***( )L( )
	ECQUY	ECQU2A***( )Y( )	ECQUL [0.001 μF to 0.0068 μF]	ECQU2A***( )L( )
AC capacitor	ECHA	ECHAMM***( )( )( )	No substitution	
Metallized PET	ECQE10(F) [0.27 μF or more]	ECQE10***( )F( )	No substitution	
Safety standard approved	ECQJ	ECQJ0186XB ECQJ0187XB	No substitution	

■Discontinued products in the 2014 fiscal year

Dielectric	Standardization products		Alternative Products	Last purchasing order Last shipment
	Type	Parts Number Style		
Stacked Metallized Type	ECQV	ECQV□□***( )( )( )	No substitution	Last purchasing order: 31/Mar/2015 Last shipment : 30/Jun/2015

When making an order :

When ordering capacitor, please provide information on the items below :

Ordering Check list(Capacitor)

Class	Item	Examples	Spsecifications
Rating	Rated Voltage	125 VAC, 630 VDC etc.	
	Capacitance	100 pF, 0.0010 μF, 1.0 μF etc.	
	Capacitance Tolerance	±5 %, ±10 %, ±20 % etc.	
Conditions	Applied Equipment	TV, Microwave oven, Car, Lighting apparatus etc.	
	Applied Circuit, Purpose	TV horizontal deflection circuit, Snubber circuit, etc.	
	Enviroment	In-house, Outdoor, Bathroom, Cold district etc.	
	Temperature	−10 ℃ to +60 ℃, −30 ℃ to +105 ℃ etc.	
	Humidity	5 to 75 %RH, 45 to 95 %RH etc.	
	Applied Voltage	100 Vrms, 125 Vo-p, 5 VDC etc.	
	Voltage Waveform	Sinusoidal wave, Half wave, Full wave, Rectangular wave, Pulse etc.	
	Current	10 mArms, 5 Ap-p, 65 Ao-p etc.	
	Current Waveform	Sinusoidal wave, Sawtooth type wave, Pulse etc.	
	Frequency	50 Hz/60 Hz, 15.75 kHz etc.	
	Self Temperature-rise	8 ℃, 20 ℃ etc. (Self temperature-rise=Capacitor surface temperature−Ambient temperature)	
	Temperature Coeffidient	−150 ppm/℃, +200 ppm/℃ etc.	
Mounting	Mounting Method	Manual, Automatic	
	Mounting Machine	Panasert R^{HU} etc.	
Soldering	Method	Manual, Automatic	
	Conditions	Temperature 260 ℃, Dipping time 4 sec, Repeating times 2 time etc.	
	Preheat Conditions	Heat method, Temperature, Time etc.	
	Detergent	Freon substitute etc. (Specify the name)	
	Cleanig Method Cleaning Conditions	Soaking,Ultrasonic etc. 5 min.dipping, 5 min. drying etc.	
Shape/Size	Shape	Coated, Cased, Chip	
	Size	(L) (T) (H) (Lead-pitch) 23 mm×10 mm×18 mm 20 mm / Land dimensions etc.	
	Terminal Type	Lead wire, Fast-on terminal etc.	
	Terminal Form	Straigt, Cut, Crimped, Taped etc.	
Reflow Temp.		Pre heat temp., Main heat temp., Temp. monitoring method etc.	
Others			

Notes:

1.When you specify custom type(made-to-order),new tools & jigs or new equipment might be required on our side. Your notice on development schedule and estimated quantity would help in preparation of our response to your order.

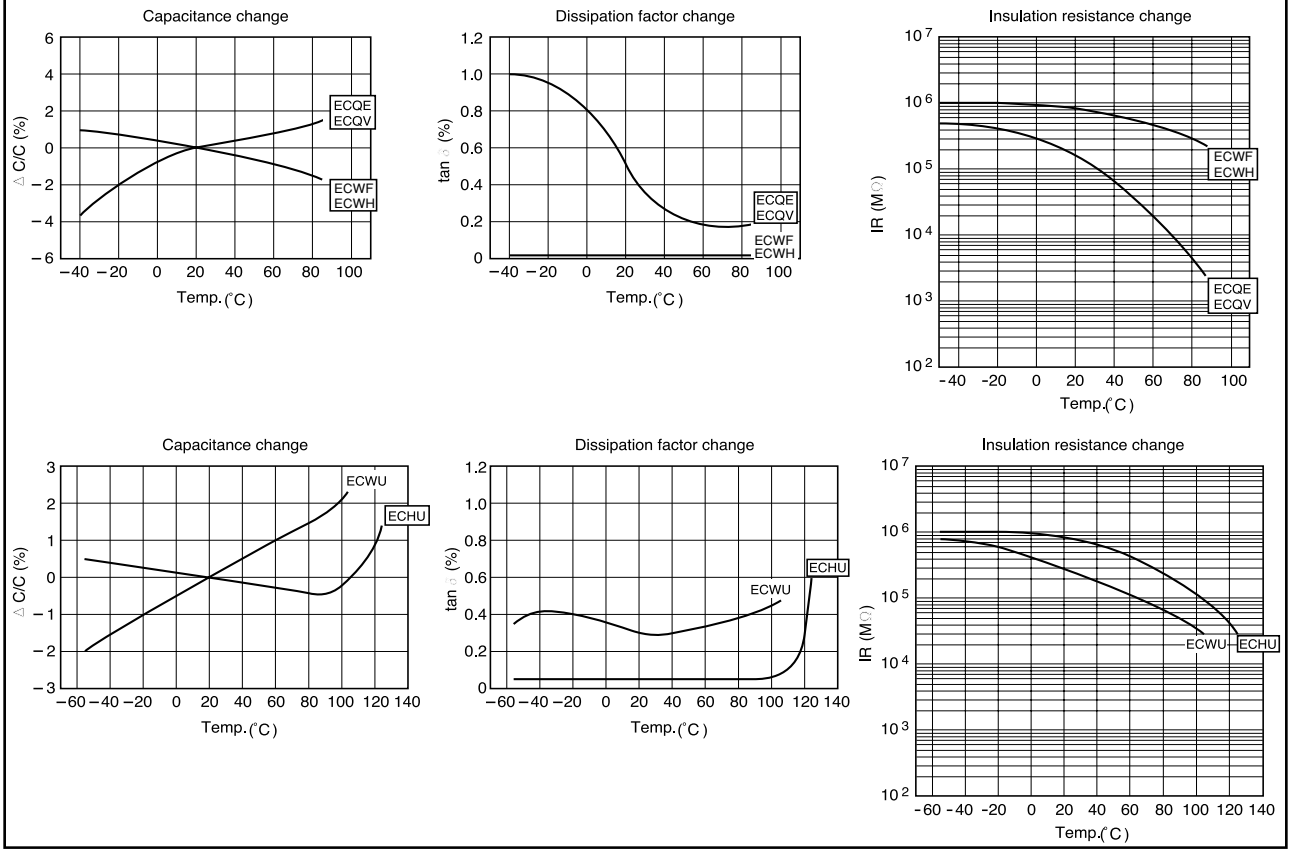
2.If you designate your own part number, please let us know.

3.The information in this catalog is furnished for guidance and is subject to change without notice.

4.Specifications shall be agreed in written form of approval sheet.

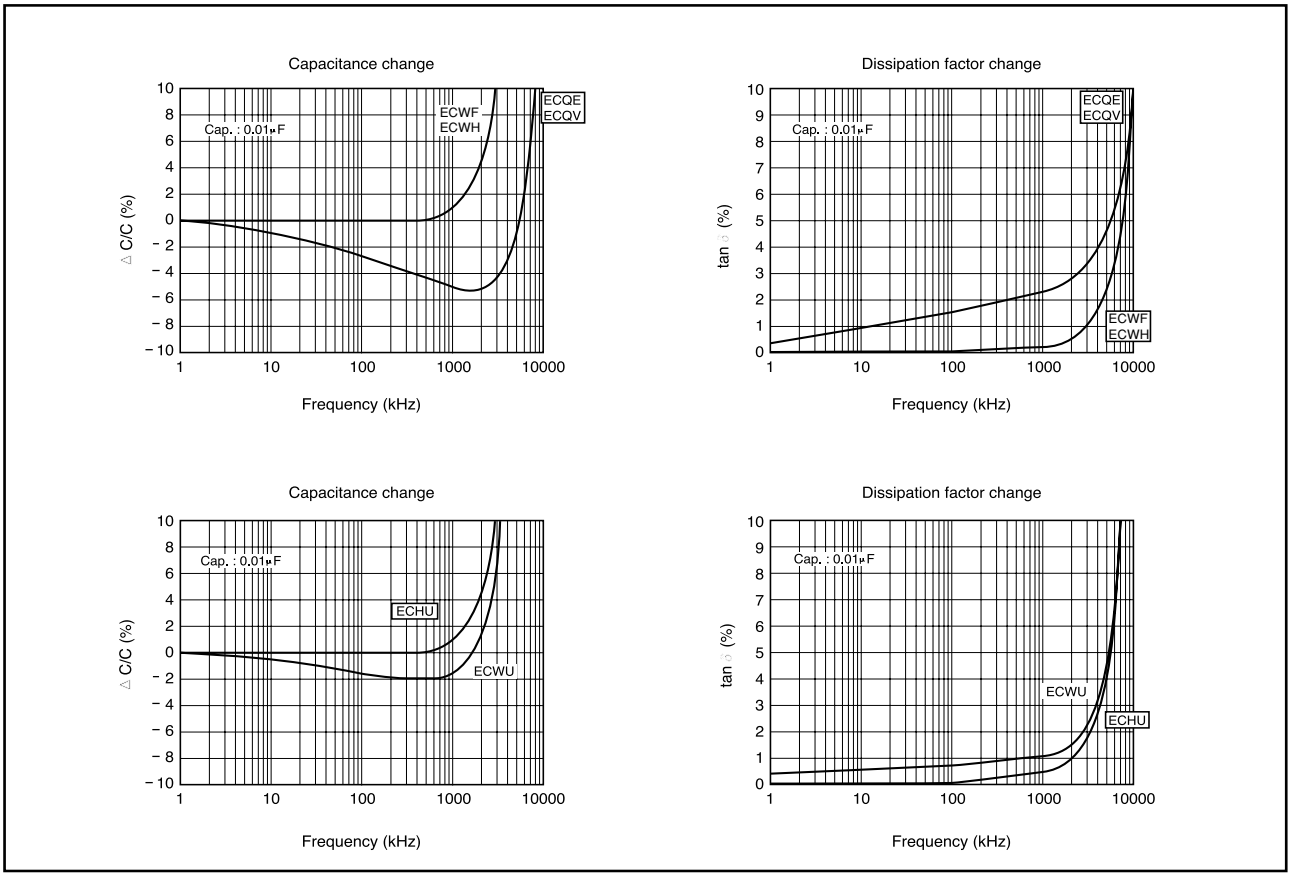
■Temperature Characteristics

Typical curve



■Frequency Characteristics

Typical curve

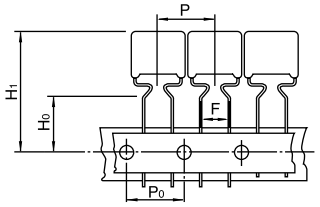
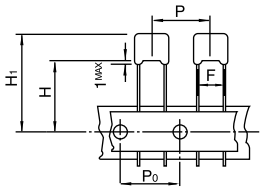
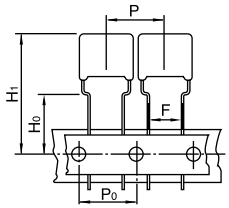


■Taping Type

Shape	Name	Specification	Taping Style
Radial type	Standard taping	5mm lead spacing with 12.7 mm body width	AD, AS, AB
	Odd size taping (Ⅰ)	5/7.5 mm lead spacing with 15 mm & up body width	B, C, D, E, F
	Odd size taping (Ⅱ)	Other than above	Please consult
Chip type	Embossed taping	Apply for chip type	8,12,16,24 mm carrier tape

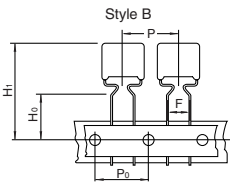
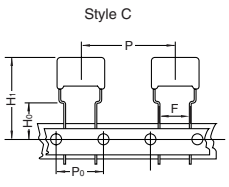
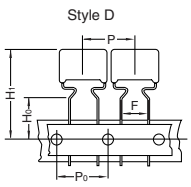
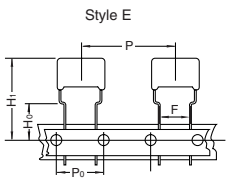
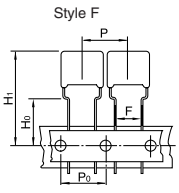
■Radial type taping

●Standard taping (Unit : mm)

	Style AD	Style AS	Style AB
			
P	12.7	12.7	12.7
P_0	12.7	12.7	12.7
F	5.0	5.0	5.0
H_0	16.0	(H)18.0–20.0	16.0
H_1	34.0max.	34.0max.	34.0max.

Note : H_1 dimension is based on insertion machine “Panasert RH series” made by Panasonic.
Consult with Panasonic technical staff when using other insertion machines.

Odd size taping (Ⅰ) (Unit : mm)

	Style B	Style C	Style D	Style E	Style F
					
P	15.0	25.4	15.0	30.0	15.0
P_0	15.0	12.7	15.0	15.0	15.0
F	5.0	5.0	7.5	7.5	7.5
H_0	16.0	16.0	16.0	16.0	16.0
H_1	39.0max	39.0max.	44.0max.	44.0max.	44.0max.

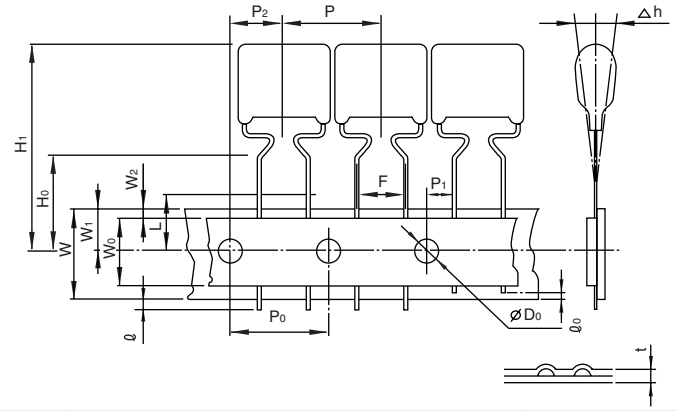
Note : H_1 dimension is based on insertion machine “Panasert RH series” made by Panasonic.
Consult with Panasonic technical staff when using other insertion machines.

●Odd size taping (Ⅱ)

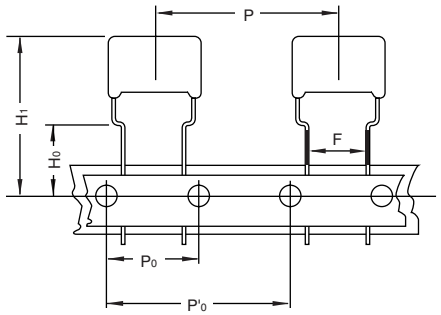
●If the specification of taping is changed by various conditions, including, dimensions, lead spacing and insertion machine, please contact the nearest sales office for further information.

■Dimensions in mm(not to scale)

Style AD, Style B, Style D, Style F



Style C, Style E



Code	Style AB, AD, AS	Style B	Style C	Style D, F	Style E
P	12.7±1.0	15.0±1.0	25.4±1.0	15.0±1.0	30.0±1.0
P_0	12.7±0.2	15.0±0.2	12.7±0.2	15.0±0.2	15.0±0.2
P'_0	——	——	25.4±0.2	——	30.0±0.2
P_1	3.85±0.50	5.0±0.5	3.85±0.50	3.75±0.50	3.75±0.50
P_2	6.35±1.30	7.5±1.3	6.35±1.30	7.5±1.3	7.5±1.3
F	$5.0\pm^{0.8}_{0.2}$	$5.0\pm^{0.8}_{0.2}$	$5.0\pm^{0.8}_{0.2}$	$7.5\pm^{0.8}_{0.2}$	$7.5\pm^{0.8}_{0.2}$
Δh	0±2.0				
W	18.0±0.5				
W_0	9.5 min.				
W_1	9.0±0.5				
W_2	0–3.0				
H_0	16.0±0.5※	16.0±0.5	16.0±0.5	$16.0\pm^{1.0}_{0}$	$16.0\pm^{1.0}_{0}$
H_1	34.0max.	39.0max.	39.0max.	44.0max.	44.0max.
ℓ	0				
$ℓ_0$	7.0max.				
øD_0	4.0±0.2				
t	0.7±0.2				
L	11.0max.				

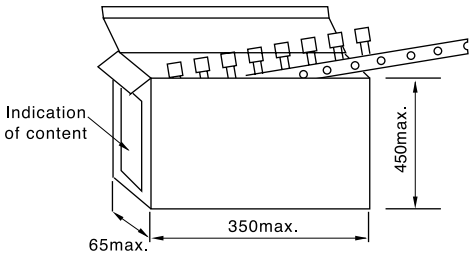
※Style AS is 18.0－20.0 in code H.

Note : H_1 dimension is based on insertion machine “Panasert RH series” made by Panasonic.
Consult with Panasonic technical staff when using other insertion machines.

■Packing

(Unit : mm)

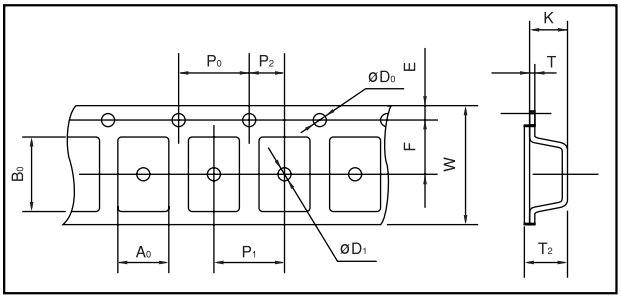
Ammo Packing



Ammo Box depends on capacitor's dimensions, taping style and quantity.

■Chip type embossed taping

●Embossed taping



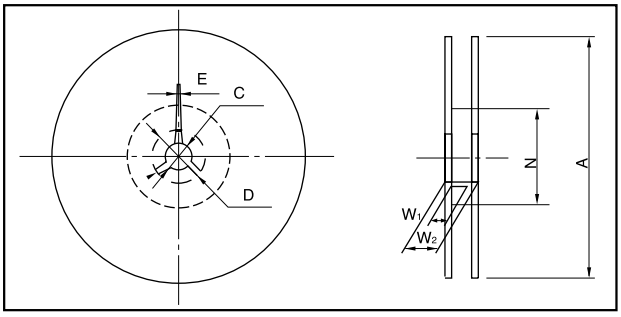
●Standard packaging quantities

Size code	Reel	Quantities
K1	ø180	4000 pcs/reel
J1, J2, H1, H2	ø180	3000 pcs/reel
H3, G1, G2, G3	ø180	2000 pcs/reel
E1, E2, D1, D2	ø330	3000 pcs/reel
E3a, E3, D3, D4, D5	ø330	2000 pcs/reel
B, Z	ø330	1500 pcs/reel
X, Y, V	ø330	1000 pcs/reel

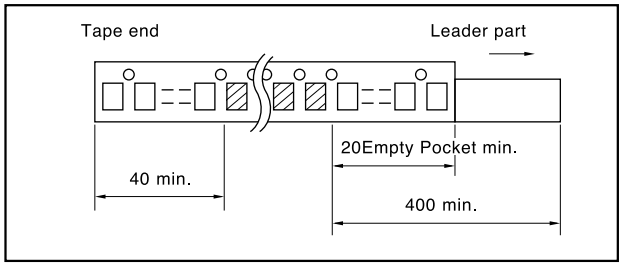
Size code	Dimensions (mm)											
	A_0±0.10	B_0±0.10	W±0.3	F±0.05	E±0.10	P_1±0.1	P_2±0.05	P_0±0.1	$øD_0$ $^{+0.1}_{0}$	$øD_1$ $^{+0.2}_{0}$	T±0.05	T_2±0.2	K±0.1
K1	1.00	1.85	8.0	3.50	1.75	—	2.00	4.0	1.5	—	0.20	1.0	0.9
J1	1.55	2.3				4.0				1.0	0.25	1.3	1.2
J2	1.55	2.3										1.5	1.4
H1, H2	1.9	3.5										1.5	1.4
H3	1.9	3.5										1.9	1.8
G1, G2	2.8	3.5										1.9	1.8
G3	2.8	3.5										2.5	2.4
E1	3.8	5.1	12.0	5.50	1.75	8.0	2.00	4.0	1.5	1.5	0.30	2.0	1.9
E2	3.8	5.1										2.6	2.5
E3a, E3	3.8	5.1										3.4	3.3
D1, D2	4.6	6.3	12.0	5.50	1.75	8.0	2.00	4.0	1.5	—	0.30	2.7	2.6
D3, D4	4.6	6.3										3.5	3.4
D5	4.6	6.3										4.6	4.5
B	5.5	6.3										5.1	5.0
Z	5.5	7.5										4.7	4.6

Size code	Dimensions (mm)												
	A_0±0.1	B_0±0.1	W±0.3	F±0.1	E±0.10	P_1±0.1	P_2±0.1	P_0±0.1	ø D_0 $^{+0.10}_{0}$	ø D_1 $^{+0.25}_{0}$	T±0.02	T_2±0.2	K±0.1
X, Y	6.9	8.4	16.0	7.5	1.75	12.0	2.0	4.0	1.50	1.50	0.34	5.7	5.7
V	8.9	10.5										5.9	5.8

●Reel dimensions



●Leader part and tape end (Unit : mm)



Code	Dimensions (mm)		
	Reel size ø 180	Reel size ø 330	
	Tape width 8	Tape width 12	Tape width 16
A	180.0 $^{0}_{-1.5}$	330.0±2.0	
C	13.0±0.2	13.0±0.2	
D	21.0±0.8	21.0±0.8	
E	2.0±0.5	2.0±0.5	
N	60.0 $^{+1.0}_{0}$	80.0±1.0	
W1	9.0 $^{+1.0}_{0}$	13.4±1.0	17.4±1.0
W2	11.4±1.0	17.4±1.0	21.4±1.0

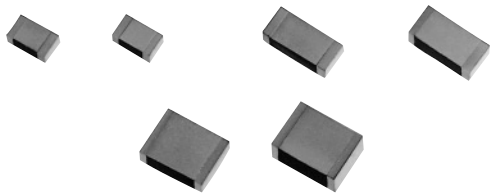
Dielectric	PPS						PEN										Thermoset resin	
Type	ECHU(X)				ECHU(C)		ECWU(C)						ECWU(C)V16		ECWU(X)		ECPU(A)	
Rated. volt	16 VDC		50 VDC*		100 VDC		100 VDC*		250 VDC*		630 VDC*		250 VDC		100 VDC		16 VDC	
Categorytemp. range	−55 ℃ to +125 ℃				−55 ℃ to +105 ℃		−55 ℃ to +125 ℃						−55 ℃ to +85 ℃		−55 ℃ to +105 ℃		−40 ℃ to +85 ℃	
Cap. tol.	±2 %, ±5 %						±5 %, ±10 %				±5 %		±5 %				±20 %	
Soldering	Reflow						Reflow										Reflow	
Cap.	Size code	H	Size code	H	Size code	H	Size code	H	Size code	H	Size code	H	Size code	H	Size code	H	Size code	H
0.00010	1608	0.7	2012	0.9														
0.00012	1608	0.7	2012	0.9														
0.00015	1608	0.7	2012	0.9														
0.00018	1608	0.7	2012	0.9														
0.00022	1608	0.7	2012	0.9														
0.00027	1608	0.7	2012	0.9														
0.00033	1608	0.7	2012	0.9														
0.00039	1608	0.7	2012	0.9														
0.00047	1608	0.7	2012	0.9														
0.00056	1608	0.7	2012	0.9														
0.00068	1608	0.7	2012	0.9														
0.00082	1608	0.7	2012	0.9														
0.0010	1608	0.7	2012	0.9					4833	1.4			4833	1.4	3216	1.1		
0.0012	1608	0.7	2012	0.9					4833	1.4			4833	1.4	3216	1.1		
0.0015	1608	0.7	2012	0.9					4833	1.4			4833	1.4	3216	1.1		
0.0018	1608	0.7	2012	0.9					4833	1.4			4833	1.4	3216	1.1		
0.0022	1608	0.7	2012	0.9					4833	1.4			4833	1.4	3216	1.1		
0.0027	1608	0.7	2012	0.9					4833	1.4			4833	1.4	3216	1.1		
0.0033	2012	0.9	3216	0.9					4833	1.4			4833	1.4	3216	1.5		
0.0039	2012	0.9	3216	0.9					4833	1.4			4833	1.4	3216	1.5		
0.0047	2012	0.9	3216	0.9					4833	1.4			4833	1.4	3216	1.5		
0.0056	2012	0.9	3216	0.9					4833	1.4			4833	1.4	3225	1.5		
0.0068	2012	0.9	3216	0.9					4833	1.4			4833	1.4	3225	1.5		
0.0082	2012	1.1	3216	1.1					4833	1.4			4833	1.4	3225	2.1		
0.010	2012	1.1	3216	1.1	4833	1.4			4833	1.4			4833	1.4	3225	2.1		
0.012	3216	0.9	3225	1.1	4833	1.4	4833	1.4	4833	1.4			4833	1.4				
0.015	3216	0.9	3225	1.1	4833	2.0	4833	1.4	4833	1.4			4833	1.4				
0.018	3216	0.9	3225	1.5	4833	2.0	4833	1.4	4833	2.0			4833	2.0				
0.022	3216	0.9	3225	1.5	4833	2.4	4833	1.4	4833	2.0	7163	3.6	7163	3.6				
0.027	3216	1.1	3225	1.5	4833	2.8	4833	1.4	4833	2.4	7163	4.1	7163	4.1				
0.033	3216	1.1	3225	2.1	6041	1.8	4833	1.4	4833	2.8	7163	5.1	7163	5.1				
0.039	3216	1.5	3225	2.1	6041	2.0	4833	1.4	6041	2.0			6041	2.0				
0.047	3216	1.5	4833	1.5	6041	2.4	4833	2.0	6041	2.4			6041	2.4				
0.056	3225	1.5	4833	1.5	6041	2.8	4833	2.0	6041	2.8			6041	2.8				
0.068	3225	1.5	4833	1.5	6041	3.2	4833	2.4	6041	3.2			6041	3.2				
0.082	3225	2.1	4833	2.1	7150	2.8	4833	2.8	6050	3.2			6050	3.2				
0.10	3225	2.1	4833	2.1	7150	3.0	6041	1.8	6050	3.8			6050	3.8			2012	1.0
0.12			6041	1.9	7150	3.4	6041	2.4	6050	4.5			6050	4.5				
0.15			6041	1.9	7163	3.4	6041	2.8									3216	0.8
0.18			6041	2.5	7163	4.0	7150	2.0										
0.22			6041	2.8	7163	4.8	7150	2.4									3216	0.8
0.27							7150	2.9										
0.33							7150	3.5									3216	1.0
0.39							7755	3.4										
0.47							7755	4.0									3216	1.4
0.56							9863	3.0										
0.68							9863	3.6									3216	1.4
0.82							9863	4.3										
1.0							9863	5.1									3225	1.4

*Please confirm in the individual page because the specifications depend on the partial capacitance.

Stacked Metallized PPS Film Chip Capacitor

Type: ECHU(X)

Stacked metallized PPS film as dielectric with simple mold-less construction



■Features

- Small in size (minimum size 1.6 mm × 0.8 mm)
- 85 ℃, 85 %RH, W.V. × 1.0 for 500 hours
- For reflow soldering
- RoHS directive compliant

■Recommended Applications

- Time-constant
- Filtering
- Oscillation and resonance

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	C	H	U							X	

Product code: E C

Dielectric & construction: H U

Rated voltage:

1C	16 VDC
1H	50 VDC

Capacitance: 5 6 7 8 9

Cap. Tol.:

G	±2 %
J	±5 %

Suffix: 10

Suffix: 11 12

	Tape width / Reel diameter
5	8 mm / size ø180 mm
9	12 mm / size ø330 mm

✻ Tape width 8 mm and diameter ø330 mm reel is prepared.

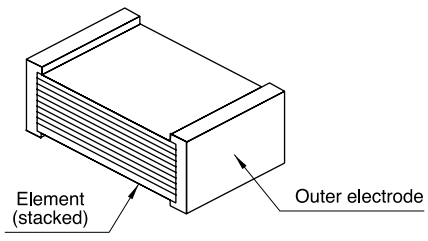
■Specifications

Category temp. range (Including temperature-rise on unit surface)	−55 ℃ to +125 ℃
Rated voltage	16 VDC, 50 VDC (50 VDC: 0.12 µF or more: Derating or rated voltage by 1.25 % / ℃ at more than 105 ℃)
Capacitance range	0.00010 µF to 0.22 µF (E12)
Capacitance tolerance	±2 %(G), ±5 %(J)
Withstand voltage	Between terminals : Rated volt. (VDC)×150 % 60 s
Dissipation factor (tanδ)	tan δ ≦0.6 % (20 ℃, 1 kHz)
Insulation resistance (IR)	16 VDC : IR≧3000 MΩ (20 ℃, 10 VDC, 60 s) 50 VDC : IR≧3000 MΩ (20 ℃, 50 VDC, 60 s)
Soldering conditions	Reflow soldering : 260 ℃ max. and 95 sec max. at more than 220 ℃ (Temp. at cap. surface)

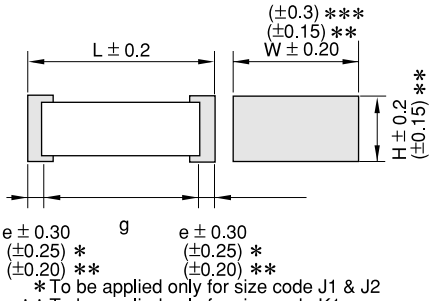
✻ Please consult us for flow soldering

✻ 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".

■Construction



■Dimensions in mm (not to scale)



∗ To be applied only for size code J1 & J2
∗∗ To be applied only for size code K1
∗∗∗ To be applied only for size code E1, E2, D1, D3, D4

saize code	L	W	H	e	g
K1	1.6	0.8	0.7	0.35	≧0.4
J1	2.0	1.25	0.9	0.45	≧0.6
J2	2.0	1.25	1.1	0.45	≧0.6
H1	3.2	1.6	0.9	0.65	≧1.0
H2	3.2	1.6	1.1	0.65	≧1.0
H3	3.2	1.6	1.5	0.65	≧1.0
G1	3.2	2.5	1.1	0.65	≧1.0
G2	3.2	2.5	1.5	0.65	≧1.0
G3	3.2	2.5	2.1	0.65	≧1.0
E1	4.8	3.3	1.5	0.80	≧2.0
E2	4.8	3.3	2.1	0.80	≧2.0
D1	6.0	4.1	1.9	0.80	≧2.0
D3	6.0	4.1	2.5	0.80	≧2.0
D4	6.0	4.1	2.8	0.80	≧2.0

■Taping Specification for Automatic Mounting
Refer to the page of taping specifications

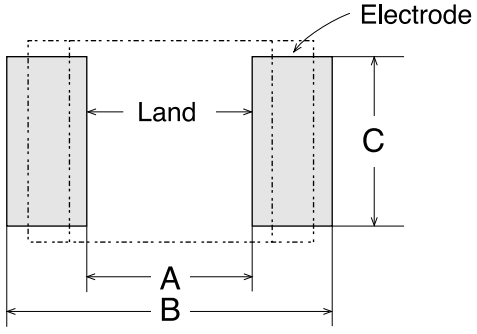
■Rating, Dimensions & Quantity/Reel

●Capacitance tolerance : ±2 %(G), ±5 %(J)

Cap. (μF)	Rated volt. 16 VDC						Rated volt. 50 VDC					
	Part No.	Dimensions (mm)			Size Code	Q'ty	Part No.	Dimensions (mm)			Size Code	Q'ty
		L	W	H				L	W	H		
0.00010	ECHU1C101□X5	1.6	0.8	0.7	K1	4000	ECHU1H101□X5	2.0	1.25	0.9	J1	3000
0.00012	ECHU1C121□X5	1.6	0.8	0.7	K1		ECHU1H121□X5	2.0	1.25	0.9	J1	
0.00015	ECHU1C151□X5	1.6	0.8	0.7	K1		ECHU1H151□X5	2.0	1.25	0.9	J1	
0.00018	ECHU1C181□X5	1.6	0.8	0.7	K1		ECHU1H181□X5	2.0	1.25	0.9	J1	
0.00022	ECHU1C221□X5	1.6	0.8	0.7	K1		ECHU1H221□X5	2.0	1.25	0.9	J1	
0.00027	ECHU1C271□X5	1.6	0.8	0.7	K1		ECHU1H271□X5	2.0	1.25	0.9	J1	
0.00033	ECHU1C331□X5	1.6	0.8	0.7	K1		ECHU1H331□X5	2.0	1.25	0.9	J1	
0.00039	ECHU1C391□X5	1.6	0.8	0.7	K1		ECHU1H391□X5	2.0	1.25	0.9	J1	
0.00047	ECHU1C471□X5	1.6	0.8	0.7	K1		ECHU1H471□X5	2.0	1.25	0.9	J1	
0.00056	ECHU1C561□X5	1.6	0.8	0.7	K1		ECHU1H561□X5	2.0	1.25	0.9	J1	
0.00068	ECHU1C681□X5	1.6	0.8	0.7	K1		ECHU1H681□X5	2.0	1.25	0.9	J1	
0.00082	ECHU1C821□X5	1.6	0.8	0.7	K1		ECHU1H821□X5	2.0	1.25	0.9	J1	
0.0010	ECHU1C102□X5	1.6	0.8	0.7	K1		ECHU1H102□X5	2.0	1.25	0.9	J1	
0.0012	ECHU1C122□X5	1.6	0.8	0.7	K1		ECHU1H122□X5	2.0	1.25	0.9	J1	
0.0015	ECHU1C152□X5	1.6	0.8	0.7	K1		ECHU1H152□X5	2.0	1.25	0.9	J1	
0.0018	ECHU1C182□X5	1.6	0.8	0.7	K1		ECHU1H182□X5	2.0	1.25	0.9	J1	
0.0022	ECHU1C222□X5	1.6	0.8	0.7	K1		ECHU1H222□X5	2.0	1.25	0.9	J1	
0.0027	ECHU1C272□X5	1.6	0.8	0.7	K1		ECHU1H272□X5	2.0	1.25	0.9	J1	
0.0033	ECHU1C332□X5	2.0	1.25	0.9	J1	3000	ECHU1H332□X5	3.2	1.6	0.9	H1	
0.0039	ECHU1C392□X5	2.0	1.25	0.9	J1		ECHU1H392□X5	3.2	1.6	0.9	H1	
0.0047	ECHU1C472□X5	2.0	1.25	0.9	J1		ECHU1H472□X5	3.2	1.6	0.9	H1	
0.0056	ECHU1C562□X5	2.0	1.25	0.9	J1		ECHU1H562□X5	3.2	1.6	0.9	H1	
0.0068	ECHU1C682□X5	2.0	1.25	0.9	J1		ECHU1H682□X5	3.2	1.6	0.9	H1	
0.0082	ECHU1C822□X5	2.0	1.25	1.1	J2		ECHU1H822□X5	3.2	1.6	1.1	H2	
0.010	ECHU1C103□X5	2.0	1.25	1.1	J2		ECHU1H103□X5	3.2	1.6	1.1	H2	
0.012	ECHU1C123□X5	3.2	1.6	0.9	H1		ECHU1H123□X5	3.2	2.5	1.1	G1	2000
0.015	ECHU1C153□X5	3.2	1.6	0.9	H1		ECHU1H153□X5	3.2	2.5	1.1	G1	
0.018	ECHU1C183□X5	3.2	1.6	0.9	H1		ECHU1H183□X5	3.2	2.5	1.5	G2	
0.022	ECHU1C223□X5	3.2	1.6	0.9	H1		ECHU1H223□X5	3.2	2.5	1.5	G2	
0.027	ECHU1C273□X5	3.2	1.6	1.1	H2		ECHU1H273□X5	3.2	2.5	1.5	G2	
0.033	ECHU1C333□X5	3.2	1.6	1.1	H2		ECHU1H333□X5	3.2	2.5	2.1	G3	
0.039	ECHU1C393□X5	3.2	1.6	1.5	H3	2000	ECHU1H393□X5	3.2	2.5	2.1	G3	
0.047	ECHU1C473□X5	3.2	1.6	1.5	H3		ECHU1H473□X9	4.8	3.3	1.5	E1	3000
0.056	ECHU1C563□X5	3.2	2.5	1.5	G2		ECHU1H563□X9	4.8	3.3	1.5	E1	
0.068	ECHU1C683□X5	3.2	2.5	1.5	G2		ECHU1H683□X9	4.8	3.3	1.5	E1	
0.082	ECHU1C823□X5	3.2	2.5	2.1	G3		ECHU1H823□X9	4.8	3.3	2.1	E2	
0.10	ECHU1C104□X5	3.2	2.5	2.1	G3		ECHU1H104□X9	4.8	3.3	2.1	E2	
0.12							ECHU1H124□X9	6.0	4.1	1.9	D1	
0.15							ECHU1H154□X9	6.0	4.1	1.9	D1	
0.18							ECHU1H184□X9	6.0	4.1	2.5	D3	2000
0.22							ECHU1H224□X9	6.0	4.1	2.8	D4	

Cap. tol. code

■Recommended for Land Dimensions (mm)



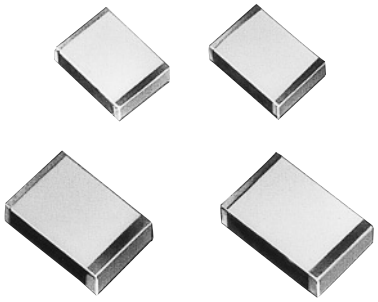
Size Code	Land dimensions		
	Reflow soldering		
	A	B	C
K1	0.6	2.0	0.7
J1,J2	0.8	2.4	1.1
H1,H2,H3	1.8	3.6	1.4
G1,G2,G3	1.8	3.6	2.3
E1,E2	3.0	5.6	3.0
D1,D3,D4	4.0	7.0	3.8

❊ It is not warrantable that you can mount the capacitor without trouble under all the mounting condition when "Recommender for Land dimensions" is adopted.

Stacked Metallized PPS Film Chip Capacitor

Type: ECHU(C)

Stacked metallized PPS film as dielectric with simple mold-less construction



■Features
- Small in size
- Low loss and excellent frequency characteristics
- For reflow soldering
- RoHS directive compliant

■Recommended Applications
- Time-constant
- Filtering
- Oscillation and resonance
- Resonance circuit for LCD backlight inverter unit

■Explanation of Numbers

1	2	3	4	5	6	7	8	9	10	11
E	C	H	U	1					C	

Product code: EC

Dielectric & construction: HU

Rated voltage:

1	100 VDC

Capacitance: 6 7 8

Cap. Tol.:

G	±2 %
J	±5 %

Suffix: C

Suffix:

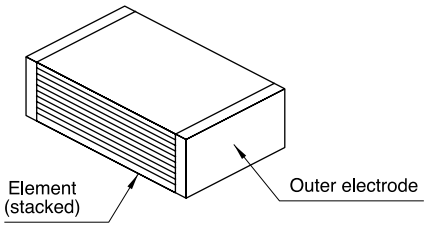
	Tape width
9	12 mm
V	16 mm

■Specifications

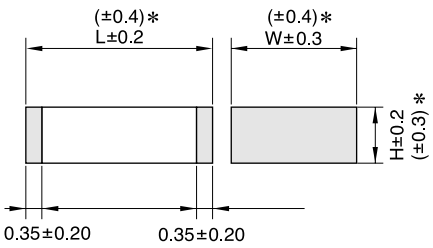
Category temp. range (Including temperature-rise on unit surface)	−55 ℃ to +105 ℃
Rated voltage	100 VDC
Capacitance range	0.010 μF to 0.22 μF(E12)
Capacitance tolerance	±2 %(G),±5 %(J)
Withstand voltage	Between terminals : Rated volt. (VDC)×150 % 60 s
Dissipation factor (tanδ)	tanδ ≦0.6 % (20 ℃, 1 kHz)
Insulation resistance (IR)	IR≧3000 MΩ(20 ℃, 100 VDC, 60 s)
Soldering conditions	Reflow soldering : 260 ˚C max. and 95 s max. at more than 220 ˚C (Temp. at cap. Surface)

❊ 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”.

■Construction



■Dimensions in mm (not to scale)



* To be applied only for size Z&Y

size code	L	W	H
E1	4.8	3.3	1.4
E2	4.8	3.3	2.0
E3a	4.8	3.3	2.4
E3	4.8	3.3	2.8
D1	6.0	4.1	1.8
D2	6.0	4.1	2.0
D3	6.0	4.1	2.4
D4	6.0	4.1	2.8
D5	6.0	4.1	3.2
Z	7.1	5.0	❊
Y	7.1	6.3	❊

❊Refer to the column "Rating,Dimensions&Quantity"

■Taping Specification for Automatic Mounting

Refer to the page of taping specifications.

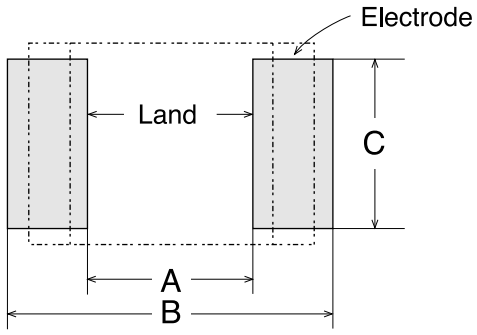
■Rating, Dimensions & Quantity/Reel

●Capacitance tolerance: ±2 %(G), ±5 %(J)

Cap.(μF)	Rated volt. 100 VDC						
	Part No.	Dimensions (mm)			Size Code	Q'ty
		L	W	H		
0.010	ECHU1103□C9	4.8	3.3	1.4	E1	3000
0.012	ECHU1123□C9	4.8	3.3	1.4	E1	
0.015	ECHU1153□C9	4.8	3.3	2.0	E2	
0.018	ECHU1183□C9	4.8	3.3	2.0	E2	
0.022	ECHU1223□C9	4.8	3.3	2.4	E3a	2000
0.027	ECHU1273□C9	4.8	3.3	2.8	E3	
0.033	ECHU1333□C9	6.0	4.1	1.8	D1	3000
0.039	ECHU1393□C9	6.0	4.1	2.0	D2	
0.047	ECHU1473□C9	6.0	4.1	2.4	D3	2000
0.056	ECHU1563□C9	6.0	4.1	2.8	D4	
0.068	ECHU1683□C9	6.0	4.1	3.2	D5	
0.082	ECHU1823□C9	7.1	5.0	2.8	Z	1500
0.10	ECHU1104□C9	7.1	5.0	3.0	Z	
0.12	ECHU1124□C9	7.1	5.0	3.4	Z	
0.15	ECHU1154□CV	7.1	6.3	3.4	Y	1000
0.18	ECHU1184□CV	7.1	6.3	4.0	Y	
0.22	ECHU1224□CV	7.1	6.3	4.8	Y	

Cap. tol. code

■Recommended for Land Dimensions (mm)



Size code	Land dimensions		
	Reflow soldering		
	A	B	C
E1,E2,E3a,E3	2.6	6.6	3.0
D1,D2,D3,D4,D5	3.8	7.8	3.8
Z	4.5	9.0	4.6
Y	4.5	9.0	5.7

❊ It is not warrantable that you can mount the capacitor without trouble under all the mounting condition when "Recommender for Land dimensions" is adopted.

Stacked Metallized PEN Film Chip Capacitor

Type: ECWU(X)

Stacked metallized PEN film as dielectric with simple mold-less construction

■Features

- Small in size (minimum size 3.2 mm × 1.6 mm)
- 85 ˚C, 85 %RH, W.V. × 1.0 for 500 hours
- For reflow soldering
- RoHS directive compliant

■Recommended Applications

- General purpose (Coupling, By-pass)

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11
E	C	W	U	1				J	X	5

Product code: EC

Dielectric & construction: WU

Rated voltage: 1 = 100 VDC

Capacitance: 6 7 8

Cap. Tol.: J = ±5 %

Suffix: X

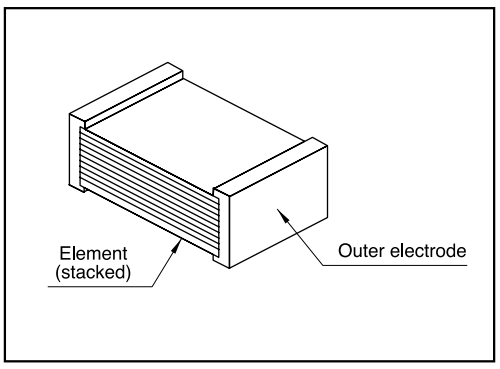
Suffix: 5 = Tape width 8 mm

■Specifications

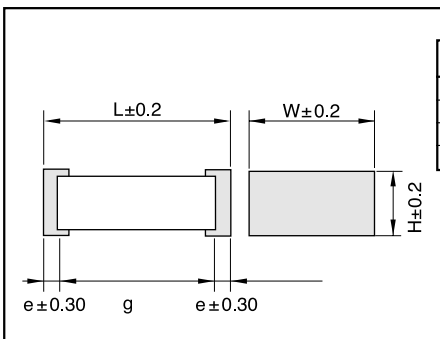
Category temp. range (Including temperature-rise on unit surface)	−55 ˚C to +105 ˚C
Rated voltage	100 VDC
Capacitance range	0.0010 µF to 0.010 µF (E12)
Capacitance tolerance	±5 % (J)
Withstand voltage	Between terminals : Rated volt. (VDC)×150 % 60 s
Dissipation factor (tanδ)	tanδ≦1.0 % (20 ˚C, 1 kHz)
Insulation resistance (IR)	IR≧3000 MΩ (20 ˚C, 100 VDC, 60 s)
Soldering conditions	Reflow soldering : 240 ˚C max. and 60 s max. at more than 220 ˚C (Temp. at cap. surface) (Please consult us for Reflow 250 ˚C max product.)

❊ 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”.

■Construction



■Dimensions in mm (not to scale)



size code	L	W	H	e	g
H2	3.2	1.6	1.1	0.65	≧1.0
H3	3.2	1.6	1.5	0.65	≧1.0
G2	3.2	2.5	1.5	0.65	≧1.0
G3	3.2	2.5	2.1	0.65	≧1.0

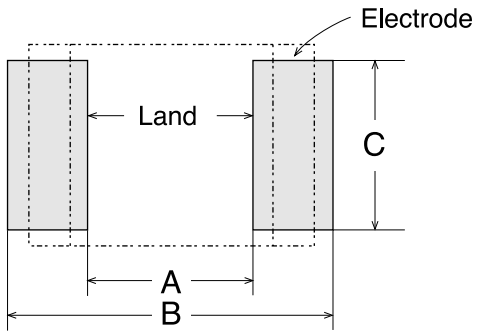
■Taping Specification for Automatic Mounting
Refer to the page of taping specifications.

■Rating, Dimensions & Quantity/Reel
●Capacitance tolerance : ±5 %(J)

Cap. (μF)	Rated volt. 100 VDC					
	Part No.	Dimensions (mm)			Code	Q'ty
		L	W	H		
0.0010	ECWU1102JX5	3.2	1.6	1.1	H2	3000
0.0012	ECWU1122JX5	3.2	1.6	1.1	H2	
0.0015	ECWU1152JX5	3.2	1.6	1.1	H2	
0.0018	ECWU1182JX5	3.2	1.6	1.1	H2	
0.0022	ECWU1222JX5	3.2	1.6	1.1	H2	
0.0027	ECWU1272JX5	3.2	1.6	1.1	H2	
0.0033	ECWU1332JX5	3.2	1.6	1.5	H3	2000
0.0039	ECWU1392JX5	3.2	1.6	1.5	H3	
0.0047	ECWU1472JX5	3.2	1.6	1.5	H3	
0.0056	ECWU1562JX5	3.2	2.5	1.5	G2	
0.0068	ECWU1682JX5	3.2	2.5	1.5	G2	
0.0082	ECWU1822JX5	3.2	2.5	2.1	G3	
0.010	ECWU1103JX5	3.2	2.5	2.1	G3	

cap.≧0.012 μF : Please use 100 VDC rating of ECWU(C)

■Recommened for Land Dimensions (mm)



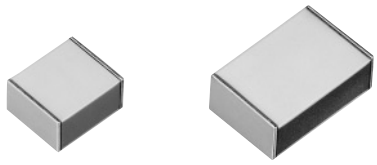
Size code	Land dimensions for reflow soldering		
	A	B	C
H2,H3	1.8	3.6	1.4
G2,G3	1.8	3.6	2.3

❊ It is not warrantable that you can mount the capacitor without trouble under all the mounting condition when "Recommender for Land dimensions" is adopted.

Stacked Metallized PEN Film Chip Capacitor

Type: ECWU(C)

Stacked metallized PEN film as dielectric with simple mold-less construction



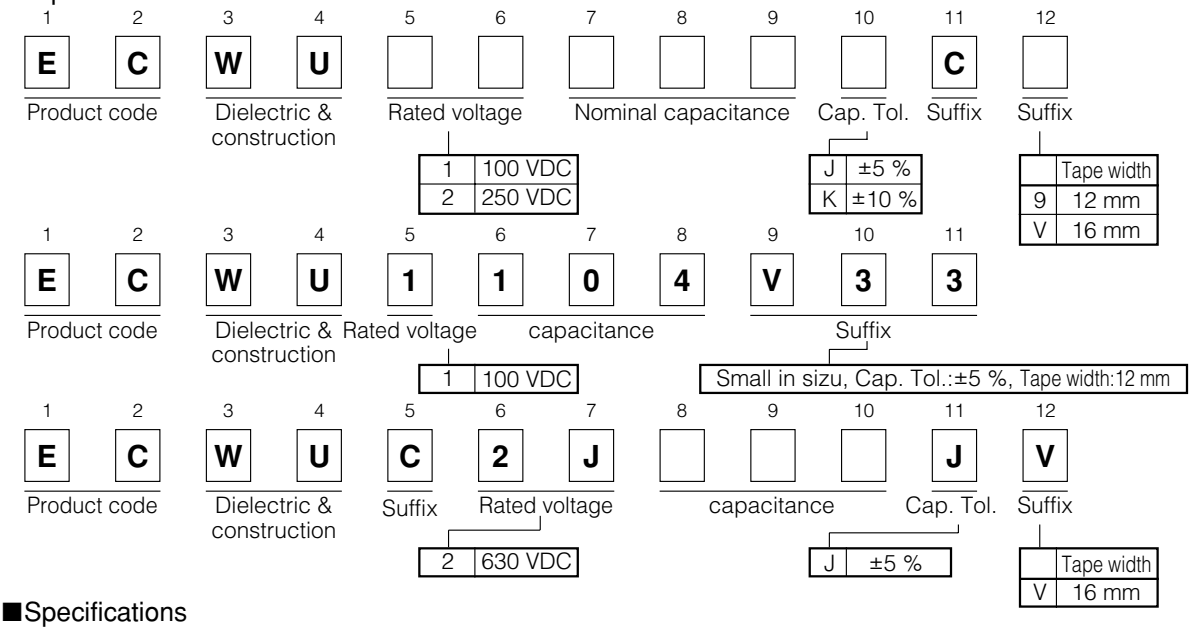
■Features

- Small in size
- For reflow soldering
- RoHS directive compliant

■Recommended Applications

- General purpose (Coupling, By-pass)

■Explanation of Part Numbers



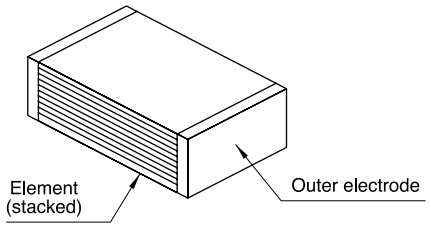
■Specifications

Category temp.range (Including temperature-rise on unit surface)	-55 ˚C to +125 ˚C	
Rated voltage	100 VDC, 250 VDC, 630 VDC (Derating of rated voltage by 1.25 %/˚C more than 85 ˚C)	
Capacitance range	100 VDC	0.012 µF to 1.0 µF (E12)
	250 VDC	0.0010 µF to 0.12 µF (E12)
	630 VDC	0.022 µF, 0.027 µF, 0.033 µF
Capacitance tolerance	100 VDC	±5 %(J), ±10 %(K) (C≧0.18 µF : ±10 %(K)only)
	250 VDC	±5 %(J), ±10 %(K)
	630 VDC	±5 %(J)
Withstand voltage	Between terminals: Rated volt. (VDC)×150 % 60 s	
Dissipation factor (tanδ)	tanδ≦1.0 %(20 ˚C, 1 kHz)	
Insulation resistance (IR)	C≦0.33 µF	100 VDC, 250 VDC, 630 VDC : IR≧3000 MΩ · (20 ˚C,100 VDC, 60 s)
	C>0.33 µF	100 VDC : IR≧1000 MΩ · µF (20 ˚C,100 VDC, 60 s)
Soldering conditions	100 VDC 250 VDC	Reflow soldering : 240 ˚C max. and 60 s max. at more than 220 ˚C (Temp. at cap. surface) (Please consult us for Reflow 250 ˚C max. product.)
	630 VDC	Reflow soldering : 250 ˚C max. and 60 s to 150s. at more than 217 ˚C (Temp. at cap. surface)

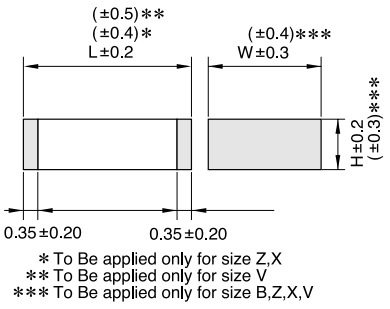
❉ In case of applying voltage in alternating current (50 Hz or 60 Hz sine wave) to a capacitor with DC rated voltage, please refer to the page of “Permissible voltage (R.M.S) in alternating current corresponding to DC rated voltage”.

❉ Please consult us for capacitance range between 0.15 µF and 1.0 µF. (250 VDC)

■Construction



■Dimensions in mm (not to scale)



* To Be applied only for size Z,X
** To Be applied only for size V
*** To Be applied only for size B,Z,X,V

Size code	L	W	H
E1	4.8	3.3	1.4
E2	4.8	3.3	2.0
E3a	4.8	3.3	2.4
E3	4.8	3.3	2.8
D1	6.0	4.1	1.8
D2	6.0	4.1	2.0
D3	6.0	4.1	2.4
D4	6.0	4.1	2.8
D5	6.0	4.1	3.2
B	6.0	5.0	❊
Z	7.1	5.0	
Y	7.1	6.3	
X	7.7	5.5	
V	9.8	6.3	

❊Refer to the column "Rating, Dimensions & Quantity".

■Taping Specification for Automatic Mounting

Refer to the page of taping specifications.

■Rating, Dimensions & Quantity/Reel

●Capacitance tolerance : ±5 %(J), ±10 %(K)

Cap. (μF)	Rated volt. 100 VDC						Rated volt. 250 VDC					
	Part No	Dimensions (mm) L	W	H	Size code	Q'ty	Part No	Dimensions (mm) L	W	H	Size code	Q'ty
0.0010	Please use 100 VDC rating ECWU(X)						ECWU2102□C9	4.8	3.3	1.4	E1	3000
0.0012							ECWU2122□C9	4.8	3.3	1.4	E1	
0.0015							ECWU2155□C9	4.8	3.3	1.4	E1	
0.0018							ECWU2182□C9	4.8	3.3	1.4	E1	
0.0022							ECWU2222□C9	4.8	3.3	1.4	E1	
0.0027							ECWU2272□C9	4.8	3.3	1.4	E1	
0.0033							ECWU2332□C9	4.8	3.3	1.4	E1	
0.0039							ECWU2392□C9	4.8	3.3	1.4	E1	
0.0047							ECWU2472□C9	4.8	3.3	1.4	E1	
0.0056							ECWU2562□C9	4.8	3.3	1.4	E1	
0.0068							ECWU2682□C9	4.8	3.3	1.4	E1	
0.0082							ECWU2822□C9	4.8	3.3	1.4	E1	
0.010							ECWU2103□C9	4.8	3.3	1.4	E1	
0.012	ECWU1123□C9	4.8	3.3	1.4	E1	3000	ECWU2123□C9	4.8	3.3	1.4	E1	
0.015	ECWU1153□C9	4.8	3.3	1.4	E1		ECWU2153□C9	4.8	3.3	1.4	E1	
0.018	ECWU1183□C9	4.8	3.3	1.4	E1		ECWU2183□C9	4.8	3.3	2.0	E2	
0.022	ECWU1223□C9	4.8	3.3	1.4	E1		ECWU2223□C9	4.8	3.3	2.0	E2	
0.027	ECWU1273□C9	4.8	3.3	1.4	E1		ECWU2273□C9	4.8	3.3	2.4	E3a	2000
0.033	ECWU1333□C9	4.8	3.3	1.4	E1		ECWU2333□C9	4.8	3.3	2.8	E3	
0.039	ECWU1393□C9	4.8	3.3	1.4	E1		ECWU2393□C9	6.0	4.1	2.0	D2	3000
0.047	ECWU1473□C9	4.8	3.3	2.0	E2		ECWU2473□C9	6.0	4.1	2.4	D3	
0.056	ECWU1563□C9	4.8	3.3	2.0	E2		ECWU2563□C9	6.0	4.1	2.8	D4	2000
0.068	ECWU1683□C9	4.8	3.3	2.4	E3a	2000	ECWU2683□C9	6.0	4.1	3.2	D5	
0.082	ECWU1823□C9	4.8	3.3	2.8	E3		ECWU2823□C9	6.0	5.0	3.2	B	
0.10	ECWU1104□C9	6.0	4.1	1.8	D1	3000	ECWU2104□C9	6.0	5.0	3.8	B	1500
	ECWU1104V33	4.8	3.3	2.8	E3		ECWU2124□C9	6.0	5.0	4.5	B	
0.12	ECWU1124□C9	6.0	4.1	2.4	D3	2000						
0.15	ECWU1154□C9	6.0	4.1	2.8	D4							
0.18	ECWU1184KC9	7.1	5.0	2.0	Z	1500						
0.22	ECWU1224KC9	7.1	5.0	2.4	Z							
0.27	ECWU1274KC9	7.1	5.0	2.9	Z							
0.33	ECWU1334KC9	7.1	5.0	3.5	Z							
0.39	ECWU1394KCV	7.7	5.5	3.4	X	1000						
0.47	ECWU1474KCV	7.7	5.5	4.0	X							
0.56	ECWU1564KCV	9.8	6.3	3.0	V							
0.68	ECWU1684KCV	9.8	6.3	3.6	V							
0.82	ECWU1824KCV	9.8	6.3	4.3	V							
1.0	ECWU1105KCV	9.8	6.3	5.1	V							

Cap. tol. code

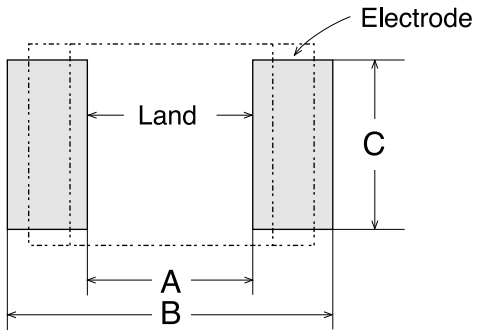
Cap. tol. code

■ Rating, Dimensions & Quantity/Reel

● Capacitance tolerance : ±5 %(J)

Cap. (μF)	Rated volt. 630 VDC					
	Part No.	Dimensions (mm)			Size Code	Q'ty
		L	W	H		
0.022	ECWUC2J223JV	7.1	6.3	3.6	Y	1000
0.027	ECWUC2J273JV	7.1	6.3	4.1	Y	
0.033	ECWUC2J333JV	7.1	6.3	5.1	Y	

■ Recommened for Land Dimensions (mm)



Size code	Land dimensions for reflow soldering		
	A	B	C
E1,E2,E3a,E3	2.6	6.6	3.0
D1,D2,D3,D4,D5	3.8	7.8	3.8
B	3.8	7.8	4.6
Z	4.5	9.0	4.6
Y	4.5	9.0	5.7
X	5.1	9.7	5.0
V	7.2	11.9	5.7

Stacked Metallized PEN Film Chip Capacitor

Type: ECWU(V16)

Stacked metallized PEN film dielectric with simple mold-less construction

■Features
- Small in size
- For reflow soldering
- RoHS directive compliant

■Recommended Applications
- DC Blocking for xDSL

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11
E	C	W	U	2				V	1	6

Product code: EC
Dielectric & construction: WU
Rated voltage: 5
Capacitance: 678
Suffix: 9 10 11

2	250 VDC

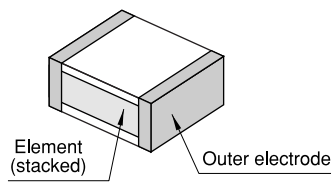
V16	for xDSL,Withstand voltage:400 VDC Cap.tol : ±5 %

■Specifications

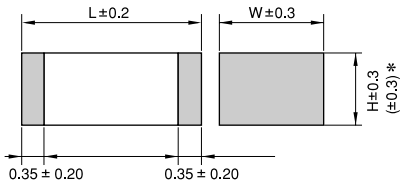
Category temp.range (Including temperature-rise on unit surface)	−55 ˚C to +85 ˚C
Rated voltage	250 VDC
Capacitance range	0.0010 µF to 0.12 µF (E12)
Capacitance tolerance	±5 %(J)
Withstand voltage	Between terminals 400 VDC 60 s
Dissipation factor (tanδ)	tanδ≦1.0 % (20 ˚C, 1 kHz)
Insulation resistance (IR)	IR≧3000 MΩ (20 ˚C, 100 VDC, 60 s)
Soldering conditions	Reflow soldering : 240 ˚C max. and 60 sec max. at more than 220 ˚C (Temp. at cap. surface) (Please consult us for Reflow 250 ˚C max product.)

❉ Application of this capacitor is limited to DC Blocking for xDSL, such as ADSL.
❉ Please consult us for 400 VDC rating product.

■Construction



■Dimensions in mm (not to scale)



* To be applied only for size code B

Size code	L	W	H
E1	4.8	3.3	1.4
E2	4.8	3.3	2.0
E3a	4.8	3.3	2.4
E3	4.8	3.3	2.8
D2	6.0	4.1	2.0
D3	6.0	4.1	2.4
D4	6.0	4.1	2.8
D5	6.0	4.1	3.2
B	6.0	5.0	❉

❉Refer to the column “Rating, Dimensions & Quantity”.

■Taping Specification for Automatic Mounting

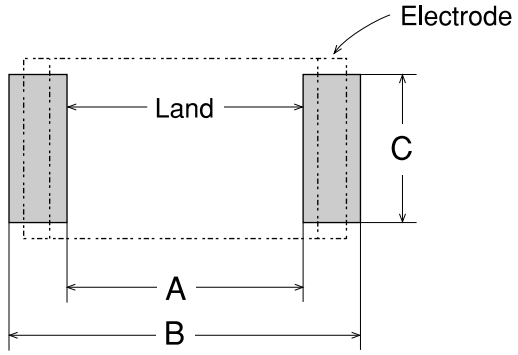
Refer to the page of taping specifications.

■Rating, Dimensions & Quantity/Reel

●Capacitance tolerance : ±5 %(J)

Cap. (μF)	Rated volt. 250 VDC					
	Part No	Dimensions (mm)			Size code	Q'ty
		L	W	H		
0.0010	ECWU2102V16	4.8	3.3	1.4	E1	3000
0.0012	ECWU2122V16	4.8	3.3	1.4	E1	
0.0015	ECWU2152V16	4.8	3.3	1.4	E1	
0.0018	ECWU2182V16	4.8	3.3	1.4	E1	
0.0022	ECWU2222V16	4.8	3.3	1.4	E1	
0.0027	ECWU2272V16	4.8	3.3	1.4	E1	
0.0033	ECWU2332V16	4.8	3.3	1.4	E1	
0.0039	ECWU2392V16	4.8	3.3	1.4	E1	
0.0047	ECWU2472V16	4.8	3.3	1.4	E1	
0.0056	ECWU2562V16	4.8	3.3	1.4	E1	
0.0068	ECWU2682V16	4.8	3.3	1.4	E1	
0.0082	ECWU2822V16	4.8	3.3	1.4	E1	
0.010	ECWU2103V16	4.8	3.3	1.4	E1	
0.012	ECWU2123V16	4.8	3.3	1.4	E1	
0.015	ECWU2153V16	4.8	3.3	1.4	E1	
0.018	ECWU2183V16	4.8	3.3	2.0	E2	
0.022	ECWU2223V16	4.8	3.3	2.0	E2	
0.027	ECWU2273V16	4.8	3.3	2.4	E3a	2000
0.033	ECWU2333V16	4.8	3.3	2.8	E3	
0.039	ECWU2393V16	6.0	4.1	2.0	D2	3000
0.047	ECWU2473V16	6.0	4.1	2.4	D3	2000
0.056	ECWU2563V16	6.0	4.1	2.8	D4	
0.068	ECWU2683V16	6.0	4.1	3.2	D5	
0.082	ECWU2823V16	6.0	5.0	3.2	B	1500
0.10	ECWU2104V16	6.0	5.0	3.8	B	
0.12	ECWU2124V16	6.0	5.0	4.5	B	

■Recommened for Land Dimensions (mm)



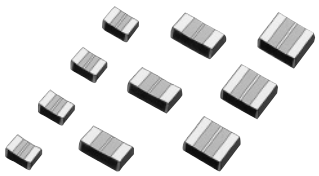
Size code	Land dimensions for reflow soldering		
	A	B	C
E1, E2, E3a, E3	2.6	6.6	3.0
D2, D3, D4, D5	3.8	7.8	3.8
B	3.8	7.8	4.6

❊ It is not warrantable that you can mount the capacitor without trouble under all the mounting condition when "Recommender for Land dimensions" is adopted.

Stacked Metallized Plastic Film Chip Capacitor

Type : ECPU(A)

Stacked dielectric and inner electrode with simple mold - less construction



■Features

- ●Low ESR
- ●Max. capacitance values 1.0 µF
- ●Smallest package size in film capacitors 3225/1.0 µF
- ●For reflow soldering
- ●RoHS directive compliant

■Recommended Applications

- ●Noise suppressor
- ●Coupling

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	C	P	U	1	C				M	A	5
Product code		Dielectric & construction		Rated voltage.		Capacitance			Cap.tol	Suffix	Suffix

1C	16 VDC

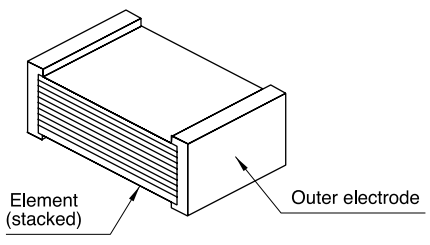
	Tape width
5	8 mm

■Specifications

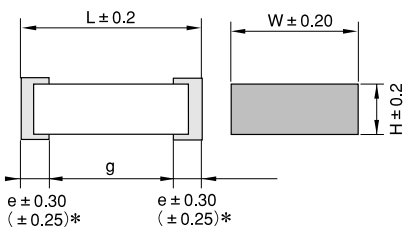
Category temp. range (Including temperature-rise on unit surface)	- 40 ˚C to + 85 ˚C
Rated voltage	16 VDC
Capacitance range	0.10 µF to 1.0 µF (E6)
Capacitance tolerance	± 20 % (M)
Dissipation factor (tanδ)	tanδ≦1.5 % (20 ˚C, 1 kHz)
Withstand voltage	Between terminais: Rated volt (VDC)x175 % 1 s to 5 s
Insulation resistance (IR)	C≦0.33 µF : IR≧1000 MΩ (20 ˚C, 10 VDC, 60 s) C>0.33 µF : IR≧300 MΩ · µF (20 ˚C, 10 VDC, 60 s)
Soldering conditions	Reflow soldering : 240 ˚C max. and 30 sec max. at more than 220 ˚C (Temp. at cap. surface)

❊ 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”.

■Construction



■Dimensions in mm (not to scale)



Saize code	L	W	H	e	g
J1	2.0	1.25	1.0	0.45	≧ 0.6
H1	3.2	1.6	0.8	0.65	≧ 1.0
H2	3.2	1.6	1.0	0.65	≧ 1.0
H3	3.2	1.6	1.4	0.65	≧ 1.0
G2	3.2	2.5	1.4	0.65	≧ 1.0

* To be applied only for size code J1

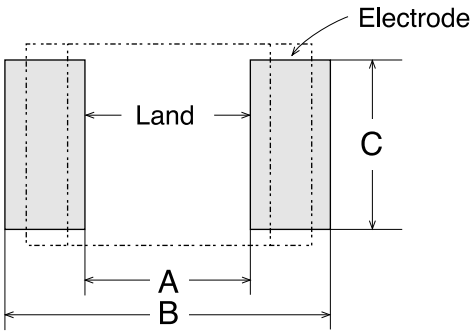
■Taping Specification for Automatic Mounting

Refer to the page of taping specifications.

■Rating, Dimensions & Quantity/Reel

Part No.	Cap. (μF).	Dimensions (mm)				Quantity
		L	W	H	Size Code	
ECPU1C104MA5	0.10	2.0	1.25	1.0	J1	3000
ECPU1C154MA5	0.15	3.2	1.6	0.8	H1	
ECPU1C224MA5	0.22	3.2	1.6	0.8	H1	
ECPU1C334MA5	0.33	3.2	1.6	1.0	H2	
ECPU1C474MA5	0.47	3.2	1.6	1.4	H3	2000
ECPU1C684MA5	0.68	3.2	1.6	1.4	H3	
ECPU1C105MA5	1.0	3.2	2.5	1.4	G2	

■Recommened for Land Dimensions (mm)



Size Code	Land dimensions for reflow soldering		
	A	B	C
J1	0.8	2.4	1.1
H1	1.8	3.6	1.4
H2	1.8	3.6	1.4
H3	1.8	3.6	1.4
G2	1.8	3.6	2.3

❊ It is not warrantable that you can mount the capacitor without trouble under all the mounting condition when "Recommender for Land dimensions" is adopted.

Stacked Metallized Plastic Film Capacitor

Type: **ECQV(L)/(M)**

Discontinued
(Last purchasing order : 31/Mar/2015)
(Last shipment : 30/Jun/2015)

Designed for high density insertion applications.

■Features
- Small size and large capacitance
- Excellent electric characteristics in non-inductive construction
- Wide range for automatic insertion
- RoHS directive compliant

■Recommended Applications
- General purpose
- Noise suppression for logic circuit

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	C	Q	V						J		

Product code: ECQ
Dielectric & construction: V
Rated voltage: 1H (50 VDC), 1J (63 VDC), 1 (100 VDC)
Capacitance: L (50 VDC), M (63 VDC, 100 VDC)
Cap. Tol.: J
Suffix:

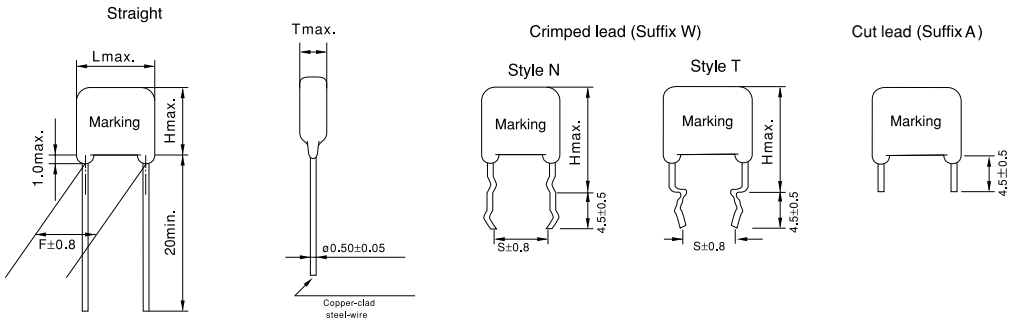
Suffix	Lead Form
Blank	Straight
W	Crimped lead
A	Cut lead
2	Straight taping (Ammo)
3	Crimped taping (Ammo)

■Specifications

Category temp. range (Including temperature-rise on unit surface)	−40 ℃ to + 105 ℃
Rated voltage	50 VDC, 63 VDC, 100 VDC (Derating of rated voltage by 2.5 %/℃ at more than 85 ℃)
Capacitance range	0.010 μF to 2.2 μF
Capacitance tolerance	± 5 %(J)
Dissipation factor (tanδ)	tanδ ≦ 1.0 % (20 ℃, 1 kHz)
Withstand voltage	Between terminals : Rated volt. (VDC) × 150 % 60 s
Insulation resistance (IR)	C ≦ 0.33 μF : IR ≧ 3000 MΩ (20 ℃, 50 VDC, 60 s ECQV1H, ECQV1J) C > 0.33 μF : IR ≧ 1000 MΩ . μF (20 ℃, 100 VDC, 60 s ECQV1)

❊ 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)



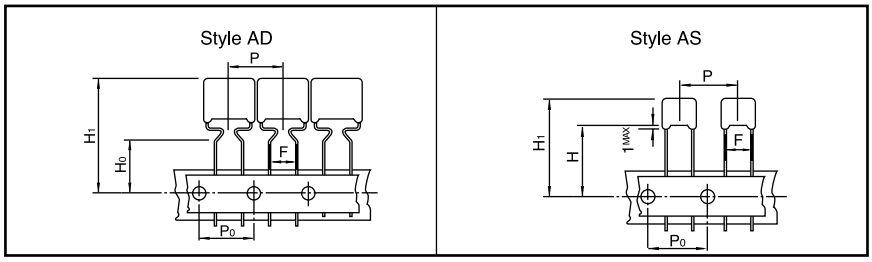
■Packaging Specifications for Bulk Package
Packing quantity: 100 pcs./bag

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.

■Taping Specifications for Automatic Insertion

Discontinued

●Taping style



❊Refer to the page of taping specifications.

●Packaging Specifications

Type	Rated volt.	Cap. range (μF)	Taping style						Packing	suffix
			AD	AS	B	C	D	E		
ECQV (L)	50 VDC	0.010 to 2.2	○						Ammo	JL3
		0.010 to 1.0		○					Ammo	JL2
ECQV (M)	63 VDC	0.010 to 1.0	○						Ammo	JM3
		0.010 to 0.15		○					Ammo	JM2
	100 VDC	0.010 to 0.47	○						Ammo	JM3
		0.010 to 0.10		○					Ammo	JM2

●Lead Spacing

Style	Lead Spacing
AD	5.0 mm
AS	5.0 mm

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

■Rating, Dimensions & Quantity/Ammo Box or Reel

●Type ECQV(L) Rated voltage : 50 VDC

Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty	
		$L^{max.}$	$T^{max.}$	$H^{max.}$		F	S	ød	Taping	Bulk
				Straight	Crimped lead	Straight	Crimped lead			
ECQV1H103JL( )	0.010	7.3	3.2	5.0	9.0	5.0	5.0	0.50	2000	500
ECQV1H123JL( )	0.012	7.3	3.2	5.0	9.0	5.0	5.0	0.50		
ECQV1H153JL( )	0.015	7.3	3.2	5.0	9.0	5.0	5.0	0.50		
ECQV1H183JL( )	0.018	7.3	3.2	5.0	9.0	5.0	5.0	0.50		
ECQV1H223JL( )	0.022	7.3	3.2	5.0	9.0	5.0	5.0	0.50		
ECQV1H273JL( )	0.027	7.3	3.2	5.0	9.0	5.0	5.0	0.50		
ECQV1H333JL( )	0.033	7.3	3.2	5.0	9.0	5.0	5.0	0.50		
ECQV1H393JL( )	0.039	7.3	3.2	5.0	9.0	5.0	5.0	0.50		
ECQV1H473JL( )	0.047	7.3	3.2	5.0	9.0	5.0	5.0	0.50		
ECQV1H563JL( )	0.056	7.3	3.2	5.0	9.0	5.0	5.0	0.50		
ECQV1H683JL( )	0.068	7.3	3.2	5.0	9.0	5.0	5.0	0.50		
ECQV1H823JL( )	0.082	7.3	3.6	5.0	9.0	5.0	5.0	0.50		
ECQV1H104JL( )	0.10	7.3	4.0	5.0	9.0	5.0	5.0	0.50		
ECQV1H124JL( )	0.12	7.3	4.0	5.0	9.0	5.0	5.0	0.50		
ECQV1H154JL( )	0.15	7.3	4.4	5.5	9.5	5.0	5.0	0.50	1000	
ECQV1H184JL( )	0.18	7.3	4.5	5.5	9.5	5.0	5.0	0.50		
ECQV1H224JL( )	0.22	7.3	4.8	5.5	9.5	5.0	5.0	0.50		
ECQV1H274JL( )	0.27	7.3	4.6	7.0	11.0	5.0	5.0	0.50		
ECQV1H334JL( )	0.33	7.3	5.2	7.0	11.0	5.0	5.0	0.50		
ECQV1H394JL( )	0.39	7.3	5.7	7.3	11.3	5.0	5.0	0.50		
ECQV1H474JL( )	0.47	7.3	6.0	7.3	11.3	5.0	5.0	0.50		
ECQV1H564JL( )	0.56	7.3	5.8	10.0	14.0	5.0	5.0	0.50		
ECQV1H684JL( )	0.68	7.3	6.5	10.0	14.0	5.0	5.0	0.50		
ECQV1H824JL( )	0.82	7.3	6.8	10.0	14.0	5.0	5.0	0.50		
ECQV1H105JL( )	1.0	7.3	8.0	11.0	15.0	5.0	5.0	0.50		
ECQV1H125JL( )	1.2	10.2	6.5	10.0	14.0	7.5	5.0	0.50		
ECQV1H155JL( )	1.5	10.2	7.2	10.0	14.0	7.5	5.0	0.50		
ECQV1H185JL( )	1.8	10.2	7.2	12.0	16.5	7.5	5.0	0.50		
ECQV1H225JL( )	2.2	10.2	7.9	12.0	16.5	7.5	5.0	0.50		

└Suffix for lead crimped or taped type

Style N:0.010 μF to 1.0 μF
Style T:1.2 μF to 2.2 μF

■Rating, Dimensions & Quantity/Ammo Box or Reel

Discontinued

●Type ECQV(M) Rated voltage : 63 VDC

	Cap. (μF)	Dimensions (mm)							Min. order Q'ty	
		L max.	T max.	H max.		F	S	ød	Taping	Bulk
				Straight	Crimped lead	Straight	Crimped lead			
ECQV1J103JM( )	0.010	7.5	3.2	6.8	10.8	5.0	5.0	0.50	2000	500
ECQV1J123JM( )	0.012	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J153JM( )	0.015	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J183JM( )	0.018	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J223JM( )	0.022	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J273JM( )	0.027	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J333JM( )	0.033	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J393JM( )	0.039	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J473JM( )	0.047	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J563JM( )	0.056	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J683JM( )	0.068	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J823JM( )	0.082	7.5	3.2	6.8	10.8	5.0	5.0	0.50		
ECQV1J104JM( )	0.10	7.5	3.2	7.0	11.0	5.0	5.0	0.50		
ECQV1J124JM( )	0.12	7.5	3.8	7.0	11.0	5.0	5.0	0.50		
ECQV1J154JM( )	0.15	7.5	4.1	7.0	11.0	5.0	5.0	0.50		
ECQV1J184JM( )	0.18	10.2	3.5	9.0	14.0	7.5	5.0	0.50		
ECQV1J224JM( )	0.22	10.2	3.5	9.0	14.0	7.5	5.0	0.50		
ECQV1J274JM( )	0.27	10.2	3.5	9.0	14.0	7.5	5.0	0.50		
ECQV1J334JM( )	0.33	10.2	3.8	9.0	14.0	7.5	5.0	0.50		
ECQV1J394JM( )	0.39	10.2	4.0	9.0	14.0	7.5	5.0	0.50		
ECQV1J474JM( )	0.47	10.2	4.5	9.0	14.0	7.5	5.0	0.50	1000	
ECQV1J564JM( )	0.56	10.2	4.9	9.0	14.0	7.5	5.0	0.50		
ECQV1J684JM( )	0.68	10.2	5.5	10.0	15.0	7.5	5.0	0.50		
ECQV1J824JM( )	0.82	10.2	6.1	10.0	15.0	7.5	5.0	0.50		
ECQV1J105JM( )	1.0	10.2	6.9	10.0	15.0	7.5	5.0	0.50		

Style N: 0.010 μF to 0.15 μF
Style T: 0.18 μF to 1.0 μF

●Type ECQV(M) Rated voltage : 100 VDC

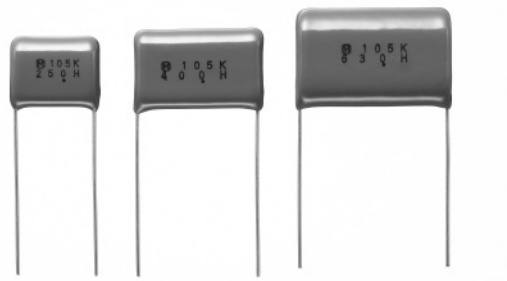
Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty	
		L max.	T max.	H max.		F	S	ød	Taping	Bulk
				Straight	Crimped lead	Straight	Crimped lead			
ECQV1103JM( )	0.010	7.5	3.2	7.0	12.0	5.0	5.0	0.50	2000	500
ECQV1123JM( )	0.012	7.5	3.2	7.0	12.0	5.0	5.0	0.50		
ECQV1153JM( )	0.015	7.5	3.2	7.0	12.0	5.0	5.0	0.50		
ECQV1183JM( )	0.018	7.5	3.2	7.0	12.0	5.0	5.0	0.50		
ECQV1223JM( )	0.022	7.5	3.2	7.0	12.0	5.0	5.0	0.50		
ECQV1273JM( )	0.027	7.5	3.2	7.0	12.0	5.0	5.0	0.50		
ECQV1333JM( )	0.033	7.5	3.2	7.0	12.0	5.0	5.0	0.50		
ECQV1393JM( )	0.039	7.5	3.2	7.0	12.0	5.0	5.0	0.50		
ECQV1473JM( )	0.047	7.5	3.2	7.0	12.0	5.0	5.0	0.50		
ECQV1563JM( )	0.056	7.5	3.2	7.0	12.0	5.0	5.0	0.50		
ECQV1683JM( )	0.068	7.5	4.0	7.0	12.0	5.0	5.0	0.50		
ECQV1823JM( )	0.082	7.5	4.1	7.0	12.0	5.0	5.0	0.50	1000	
ECQV1104JM( )	0.10	7.5	4.5	7.0	12.0	5.0	5.0	0.50		
ECQV1124JM( )	0.12	10.2	3.3	9.0	14.0	7.5	5.0	0.50	2000	
ECQV1154JM( )	0.15	10.2	3.3	9.0	14.0	7.5	5.0	0.50		
ECQV1184JM( )	0.18	10.2	3.6	9.0	14.0	7.5	5.0	0.50		
ECQV1224JM( )	0.22	10.2	4.0	9.0	14.0	7.5	5.0	0.50		
ECQV1274JM( )	0.27	10.2	4.2	9.0	14.0	7.5	5.0	0.50	1000	
ECQV1334JM( )	0.33	10.2	4.8	10.0	15.0	7.5	5.0	0.50		
ECQV1394JM( )	0.39	10.2	5.5	10.0	15.0	7.5	5.0	0.50		
ECQV1474JM( )	0.47	10.2	6.8	10.5	15.5	7.5	5.0	0.50		

Suffix for lead crimped or taped type

Style N: 0.010 μF to 0.10 μF
Style T: 0.12 μF to 0.47 μF

Metallized Polyester Film Capacitor

Type: ECQE(F)



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

■Features
- Self-healing property
- Excellent electrical characteristics
- Flame retardant epoxy resin coating
- RoHS directive compliant

■Recommended Applications
- General purpose usage
  ❊Please contact us when applications are CD Ⅰ, ignitor etc.

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	C	Q	E							F	
Product code		Dielectric & construction		Rated volt.		Capacitance			Cap. Tol.	Suffix	Suffix

1	100 VDC	10	1000 VDC
2	250 VDC	12	1250 VDC
4	400 VDC	1A	125 VAC
6	630 VDC	2A	250 VAC

J	±5 %
K	±10 %

Suffix	Lead Form
Blank	Straight
B	Crimped lead
Z	Cut lead
3	Crimped taping (Ammo)
6	Crimped taping (Ammo)

●Explanation of Part Number for Odd Size Taping

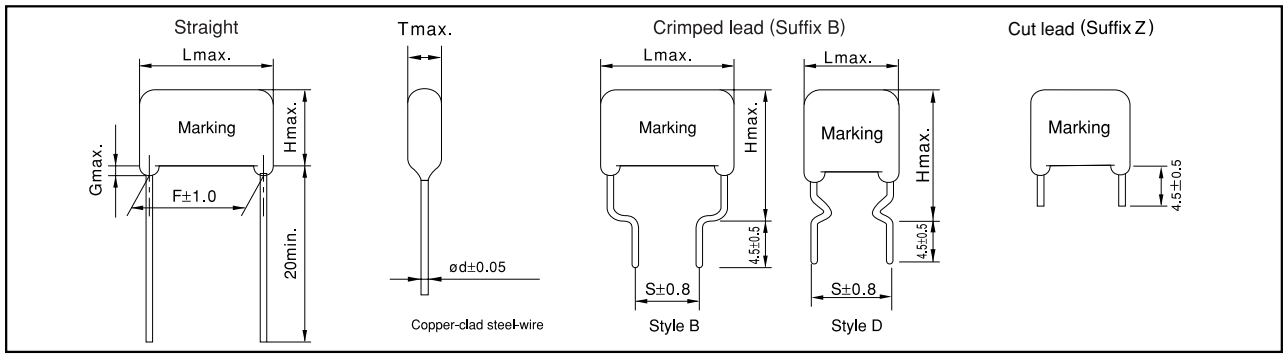
E	C	Q	E						R		F
Product code		Dielectric & construction		Rated volt.		Capacitance			Suffix	Cap. Tol.	Suffix

■Specifications

Category temp. range (Including temperature-rise on unit surface)	100 VDC, 250 VDC,400 VDC, 630 VDC, 1000 VDC, 1250 VDC,	−40 ℃ to +105 ℃
	125 VAC, 250 VAC	−40 ℃ to +105 ℃
Rated voltage	100 VDC, 250 VDC, 400 VDC, 630 VDC, 1000 VDC, 1250 VDC, (Derating of rated voltage by 1.25 %/℃ at more than 85 ℃) 125 VAC, 250 VAC	
Capacitance range	0.0010 μF to 10 μF (E12)	
Capacitance tolerance	±5 %(J), ±10 %(K)	
Dissipation factor (tanδ)	tanδ≦1.0 % (20 ℃, 1 kHz)	
Withstand voltage	●Rated volt. 100 V to 630 VDC Between terminals : Rated volt.(VDC)×150 % 60 s	
	●Rated volt. 1000 VDC, 1250 VDC Between terminals : Rated volt. (VDC)×175 % 2 s to 5 s or 1000 VAC 60 s Between terminals to enclosure : 1500 VAC 60 s	
	●Rated volt. 125 VAC, 250 VAC Between terminals : Rated volt.(VAC)×230 % 60 s Between terminals to enclosure : 1500 VAC 60 s	
Insulation resistance (IR)	100 V to 630 VDC:	C ≦ 0.33 μF : IR≧9000 MΩ (20 ℃, 100 VDC, 60 s) C > 0.33 μF : IR≧3000 MΩ · μF
	1000 VDC, 1250 VDC:	IR≧10000 MΩ (20 ℃, 100 VDC, 60 s) IR≧2000 MΩ (20 ℃, 500 VDC, 60 s)
	125 VAC, 250 VAC:	C ≦ 0.47 μF : IR≧2000 MΩ (20 ℃, 500 VDC, 60 s) C > 0.47 μF : IR≧3000 MΩ · μF (20 ℃, 100 VDC, 60 s)

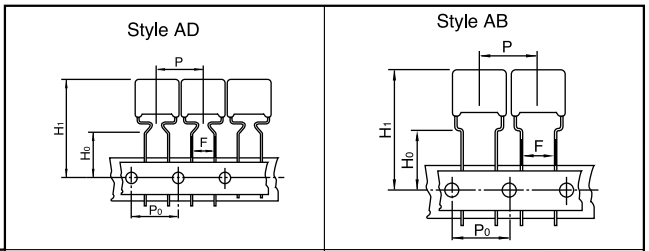
❊ In case of applying voltage in alternating current (50 Hz or 60 Hz sine wave) to a capacitor with DC rated voltage, please refer to the page of “Permissible voltage (R.M.S) in alternating current corresponding to DC rated voltage”.
❊ Voltage to be applied to ECQE1A (F) & ECQE2A (F) is only sine wave (50 Hz or 60 Hz).

■Dimensions in mm (not to scale)



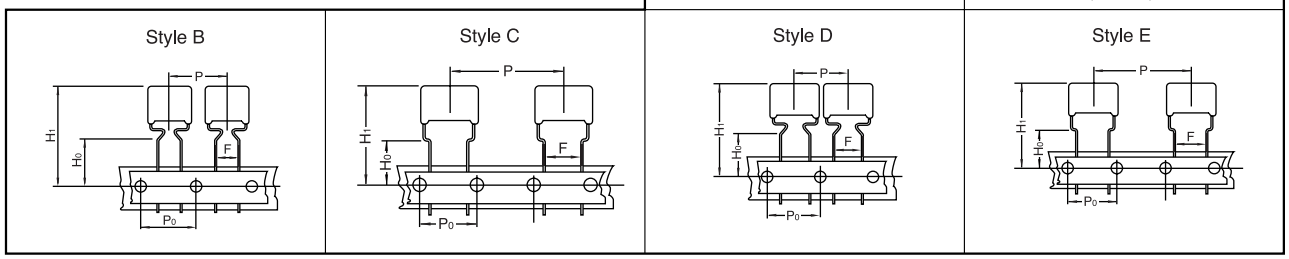
■Packaging Specifications for Bulk Package

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 (F)	100 VDC	0.56 to 0.68	○							Ammo	( ) F3
		0.82 to 1.0				○				Ammo	( ) F3
		1.2 to 3.3					○			Ammo	( ) F3
		1.2 to 3.3							○	Ammo	R( ) F
	250 VDC	0.010 to 0.27	○							Ammo	( ) F3
		0.33				○				Ammo	( ) F3
		0.39 to 1.5					○			Ammo	( ) F3
		0.010 to 0.33						○		Ammo	R( ) F
		0.39 to 1.5							○	Ammo	R( ) F
	400 VDC	0.010 to 0.10	○							Ammo	( ) F3
		0.12 to 0.47					○			Ammo	( ) F3
		0.010 to 0.10						○		Ammo	R( ) F
		0.12 to 0.47							○	Ammo	R( ) F
	630 VDC	0.0010 to 0.033	○							Ammo	( ) F3
		0.039 to 0.047				○				Ammo	( ) F3
		0.056 to 0.22					○			Ammo	( ) F3
		0.0010 to 0.047						○		Ammo	R( ) F
		0.056 to 0.22							○	Ammo	R( ) F
	1000 VDC	0.010 to 0.10							○	Ammo	R( ) F
	1250 VDC	0.0010 to 0.022							○	Ammo	R( ) F
	125 VAC	0.010 to 0.068			○					Ammo	( ) F6
		0.010 to 0.068						○		Ammo	R( ) F
	250 VAC	0.010 to 0.033			○					Ammo	( ) F6
		0.010 to 0.047						○		Ammo	R( ) F
		0.056 to 0.22							○	Ammo	R( ) F

●Lead Spacing

Style	Lead Spacing
AD	5.0 mm
AB	5.0 mm
B	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 : 100 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	G max.	ø d	Taping			Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Standard 5 mm	Odd size 5 mm	Odd size 7.5 mm	
ECQE1564□F( )	0.56	12.0	5.5	10.9	15.9	10.0	10.0	1.0	0.60	500	—	—	500
ECQE1684□F( )	0.68	12.0	6.0	11.9	16.9	10.0	10.0	1.0	0.60				
ECQE1824□F( )	0.82	12.0	6.0	13.5	18.5	10.0	10.0	1.0	0.60	—	1,000		
ECQE1105□F( )	1.0	12.0	6.7	14.0	19.0	10.0	10.0	1.0	0.60				
ECQE1125□F( )	1.2	18.5	5.5	12.8	17.8	15.0	10.0	1.0	0.60		500	600	
ECQE1155□F( )	1.5	18.5	6.0	13.4	18.4	15.0	10.0	1.0	0.80			500	
ECQE1185□F( )	1.8	18.5	6.5	14.4	19.4	15.0	10.0	1.0	0.80				
ECQE1225□F( )	2.2	18.5	7.0	15.0	20.0	15.0	10.0	1.0	0.80				
ECQE1275□F( )	2.7	18.5	8.0	15.8	20.8	15.0	10.0	1.0	0.80			400	
ECQE1335□F( )	3.3	18.5	8.5	16.5	21.5	15.0	10.0	1.0	0.80		400		
ECQE1395□F( )	3.9	26.0	7.0	16.4	21.4	22.5	15.0	1.0	0.80		—	—	
ECQE1475□F( )	4.7	26.0	7.5	17.0	22.0	22.5	15.0	1.0	0.80				
ECQE1565□F( )	5.6	26.0	8.3	17.5	22.5	22.5	15.0	1.0	0.80				
ECQE1685□F( )	6.8	26.0	9.0	18.5	23.5	22.5	15.0	1.0	0.80				
ECQE1825□F( )	8.2	26.0	10.0	20.0	25.0	22.5	15.0	1.5	0.80				
ECQE1106□F( )	10.0	26.0	11.5	21.0	26.0	22.5	15.0	1.5	0.80				

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

style D: 0.056 μF to 1.0 μF
style B: 1.2 μF to 10.0 μF

■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	G max.	ø d	Taping			Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Standard 5 mm	Odd size 5 mm	Odd size 7.5 mm	
ECQE2103□F( )	0.010	10.3	4.3	7.4	12.4	7.5	7.5	1.0	0.60	1000	—	1000	500
ECQE2123□F( )	0.012	10.3	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2153□F( )	0.015	10.3	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2183□F( )	0.018	10.3	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2223□F( )	0.022	10.3	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2273□F( )	0.027	10.3	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2333□F( )	0.033	10.3	4.5	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2393□F( )	0.039	10.3	4.5	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2473□F( )	0.047	10.3	4.5	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2563□F( )	0.056	10.3	4.8	7.9	12.9	7.5	7.5	1.0	0.60				
ECQE2683□F( )	0.068	10.3	4.5	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2823□F( )	0.082	10.3	4.9	8.0	13.0	7.5	7.5	1.0	0.60				
ECQE2104□F( )	0.10	10.3	5.8	8.4	13.4	7.5	7.5	1.0	0.60	500			
ECQE2124□F( )	0.12	10.3	6.0	9.0	14.0	7.5	7.5	1.0	0.60				
ECQE2154□F( )	0.15	10.3	6.0	10.8	15.8	7.5	7.5	1.0	0.60				
ECQE2184□F( )	0.18	12.0	5.0	10.3	15.3	10.0	10.0	1.0	0.60				
ECQE2224□F( )	0.22	12.0	5.5	10.5	15.5	10.0	10.0	1.0	0.60				
ECQE2274□F( )	0.27	12.0	6.0	11.5	16.5	10.0	10.0	1.0	0.60				
ECQE2334□F( )	0.33	12.0	6.5	12.0	17.0	10.0	10.0	1.0	0.60	—	1000		
ECQE2394□F( )	0.39	18.5	4.9	12.0	17.0	15.0	10.0	1.0	0.60		500	500	
ECQE2474□F( )	0.47	18.5	5.3	12.5	17.5	15.0	10.0	1.0	0.60				
ECQE2564□F( )	0.56	18.5	5.5	13.0	18.0	15.0	10.0	1.0	0.60				
ECQE2684□F( )	0.68	18.5	6.0	13.5	18.5	15.0	10.0	1.0	0.80				
ECQE2824□F( )	0.82	18.5	6.5	14.5	19.5	15.0	10.0	1.0	0.80				
ECQE2105□F( )	1.0	18.5	7.4	15.0	20.0	15.0	10.0	1.0	0.80			400	
ECQE2125□F( )	1.2	18.5	8.0	15.9	20.9	15.0	10.0	1.0	0.80				
ECQE2155□F( )	1.5	18.5	9.0	16.8	21.8	15.0	10.0	1.0	0.80		400	300	
ECQE2185□F( )	1.8	26.0	7.5	15.5	20.5	22.5	15.0	1.0	0.80	—	—	—	
ECQE2225□F( )	2.2	26.0	8.5	16.3	21.3	22.5	15.0	1.0	0.80				
ECQE2275□F( )	2.7	26.0	9.4	17.0	22.0	22.5	15.0	1.0	0.80				
ECQE2335□F( )	3.3	26.0	10.3	18.0	23.0	22.5	15.0	1.5	0.80				
ECQE2395□F( )	3.9	26.0	11.0	20.5	25.5	22.5	15.0	1.5	0.80				
ECQE2475□F( )	4.7	26.0	12.0	21.5	26.5	22.5	15.0	1.5	0.80				
ECQE2565□F( )	5.6	31.0	11.8	21.0	26.0	27.5	22.5	1.5	0.80				
ECQE2685□F( )	6.8	31.0	13.0	22.4	27.4	27.5	22.5	1.5	0.80				
ECQE2825□F( )	8.2	31.0	14.3	23.5	28.5	27.5	22.5	1.5	0.80				
ECQE2106□F( )	10.0	31.0	15.9	25.8	30.8	27.5	22.5	1.5	0.80				

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

Style D: 0.010 μF to 0.33 μF
Style B: 0.39 μF to 10.0 μF

■Rating, Dimensions & Quantity/Ammo Box

●Rated voltage : 400 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	G max.	φd	Taping			Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Standard 5 mm	Odd size 5 mm	Odd size 7.5 mm	
ECQE4103□F( )	0.010	10.3	4.3	7.4	12.4	7.5	7.5	1.0	0.60	1000	—	1000	500
ECQE4123□F( )	0.012	10.3	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE4153□F( )	0.015	10.3	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE4183□F( )	0.018	10.3	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE4223□F( )	0.022	10.3	4.8	7.9	12.9	7.5	7.5	1.0	0.60				
ECQE4273□F( )	0.027	10.3	5.5	8.0	13.0	7.5	7.5	1.0	0.60				
ECQE4333□F( )	0.033	10.3	6.0	9.0	14.0	7.5	7.5	1.0	0.60	500			
ECQE4393□F( )	0.039	12.0	4.9	8.0	13.0	10.0	10.0	1.0	0.60				
ECQE4473□F( )	0.047	12.0	5.0	8.3	13.3	10.0	10.0	1.0	0.60				
ECQE4563□F( )	0.056	12.0	5.0	10.0	15.0	10.0	10.0	1.0	0.60				
ECQE4683□F( )	0.068	12.0	5.4	10.5	15.5	10.0	10.0	1.0	0.60				
ECQE4823□F( )	0.082	12.0	5.8	11.0	16.0	10.0	10.0	1.0	0.60				
ECQE4104□F( )	0.10	12.0	6.3	12.0	17.0	10.0	10.0	1.0	0.60				
ECQE4124□F( )	0.12	18.5	5.0	10.0	15.0	15.0	10.0	1.0	0.60	—	500	500	
ECQE4154□F( )	0.15	18.5	5.0	12.4	17.4	15.0	10.0	1.0	0.60				
ECQE4184□F( )	0.18	18.5	5.4	12.5	17.5	15.0	10.0	1.0	0.60				
ECQE4224□F( )	0.22	18.5	5.9	13.0	18.0	15.0	10.0	1.0	0.60				
ECQE4274□F( )	0.27	18.5	6.5	14.3	19.3	15.0	10.0	1.0	0.80				
ECQE4334□F( )	0.33	18.5	7.0	14.9	19.9	15.0	10.0	1.0	0.80				
ECQE4394□F( )	0.39	18.5	7.5	15.4	20.4	15.0	10.0	1.0	0.80			400	
ECQE4474□F( )	0.47	18.5	7.8	17.0	22.0	15.0	10.0	1.0	0.80				
ECQE4564□F( )	0.56	26.0	6.5	16.0	21.0	22.5	15.0	1.0	0.80		—	—	
ECQE4684□F( )	0.68	26.0	7.0	16.5	21.5	22.5	15.0	1.0	0.80				
ECQE4824□F( )	0.82	26.0	7.9	17.3	22.3	22.5	15.0	1.0	0.80				
ECQE4105□F( )	1.0	26.0	8.5	18.0	23.0	22.5	15.0	1.0	0.80				
ECQE4125□F( )	1.2	26.0	9.5	18.9	23.9	22.5	15.0	1.0	0.80				
ECQE4155□F( )	1.5	31.0	9.5	19.0	24.0	27.5	22.5	1.0	0.80				
ECQE4185□F( )	1.8	31.0	11.0	20.5	25.5	27.5	22.5	1.5	0.80				
ECQE4225□F( )	2.2	31.0	11.0	22.0	27.0	27.5	22.5	1.5	0.80				

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

style D:0.010 μF to 0.10 μF
style B:0.12 μF to 2.2 μF

● Rated voltage : 630 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	G max.	φd	Taping			Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Standard 5 mm	Odd size 5 mm	Odd size 7.5 mm	
ECQE6102□F( )	0.0010	10.0	4.5	9.5	14.5	7.5	5.0	1.0	0.60	1000	—	1000	500
ECQE6122□F( )	0.0012	10.0	4.5	10.0	15.0	7.5	5.0	1.0	0.60				
ECQE6152□F( )	0.0015	10.0	4.5	10.0	15.0	7.5	5.0	1.0	0.60				
ECQE6182□F( )	0.0018	10.0	4.5	10.0	15.0	7.5	5.0	1.0	0.60				
ECQE6222□F( )	0.0022	10.0	4.5	10.0	15.0	7.5	5.0	1.0	0.60				
ECQE6272□F( )	0.0027	10.0	4.5	10.0	15.0	7.5	5.0	1.0	0.60				
ECQE6332□F( )	0.0033	10.0	4.5	10.0	15.0	7.5	5.0	1.0	0.60				
ECQE6392□F( )	0.0039	10.0	4.5	10.0	15.0	7.5	5.0	1.0	0.60				
ECQE6472□F( )	0.0047	12.0	4.5	10.0	15.0	10.0	7.5	1.0	0.60				
ECQE6562□F( )	0.0056	12.0	4.5	10.0	15.0	10.0	7.5	1.0	0.60				
ECQE6682□F( )	0.0068	12.0	4.9	10.0	15.0	10.0	7.5	1.0	0.60				
ECQE6822□F( )	0.0082	12.0	4.5	10.0	15.0	10.0	7.5	1.0	0.60				
ECQE6103□F( )	0.010	12.0	4.5	7.5	12.5	10.0	10.0	1.0	0.60				
ECQE6123□F( )	0.012	12.0	4.5	7.8	12.8	10.0	10.0	1.0	0.60				
ECQE6153□F( )	0.015	12.0	5.0	8.2	13.2	10.0	10.0	1.0	0.60				
ECQE6183□F( )	0.018	12.0	4.9	10.0	15.0	10.0	10.0	1.0	0.60				
ECQE6223□F( )	0.022	12.0	5.3	10.5	15.5	10.0	10.0	1.0	0.60				
ECQE6273□F( )	0.027	12.0	5.5	10.9	15.9	10.0	10.0	1.0	0.60				
ECQE6333□F( )	0.033	12.0	6.0	11.9	16.9	10.0	10.0	1.0	0.60	500			
ECQE6393□F( )	0.039	12.0	6.0	13.4	18.4	10.0	10.0	1.0	0.60		1000		
ECQE6473□F( )	0.047	12.0	6.5	13.5	18.5	10.0	10.0	1.0	0.60				
ECQE6563□F( )	0.056	18.5	5.4	10.5	15.5	15.0	10.0	1.0	0.60				
ECQE6683□F( )	0.068	18.5	5.8	11.0	16.0	15.0	10.0	1.0	0.60				
ECQE6823□F( )	0.082	18.5	6.5	12.0	17.0	15.0	10.0	1.0	0.60			500	
ECQE6104□F( )	0.10	18.5	6.3	14.0	19.0	15.0	10.0	1.0	0.60		500		
ECQE6124□F( )	0.12	18.5	6.3	14.5	19.5	15.0	10.0	1.0	0.80				
ECQE6154□F( )	0.15	18.5	7.5	15.4	20.4	15.0	10.0	1.0	0.80			400	
ECQE6184□F( )	0.18	18.5	8.0	16.0	21.0	15.0	10.0	1.0	0.80				
ECQE6224□F( )	0.22	18.5	9.0	16.5	21.5	15.0	10.0	1.0	0.80		400	300	
ECQE6274□F( )	0.27	26.0	7.0	16.5	21.5	22.5	15.0	1.0	0.80	—	—	—	
ECQE6334□F( )	0.33	26.0	7.8	17.0	22.0	22.5	15.0	1.0	0.80				
ECQE6394□F( )	0.39	26.0	8.5	17.9	22.9	22.5	15.0	1.0	0.80				
ECQE6474□F( )	0.47	26.0	9.3	18.5	23.5	22.5	15.0	1.0	0.80				
ECQE6564□F( )	0.56	26.0	10.0	20.0	25.0	22.5	15.0	1.5	0.80				
ECQE6684□F( )	0.68	26.0	11.5	21.0	26.0	22.5	15.0	1.5	0.80				
ECQE6824□F( )	0.82	31.0	11.3	20.5	25.5	27.5	22.5	1.5	0.80				
ECQE6105□F( )	1.0	31.0	12.5	21.9	26.9	27.5	22.5	1.5	0.80				
ECQE6125□F( )	1.2	31.0	13.5	23.0	28.0	27.5	22.5	1.5	0.80				
ECQE6155□F( )	1.5	31.0	15.3	24.7	29.7	27.5	22.5	1.5	0.80				
ECQE6185□F( )	1.8	31.0	16.8	27.0	32.0	27.5	22.5	1.5	0.80				
ECQE6225□F( )	2.2	31.0	19.5	29.0	34.0	27.5	22.5	1.5	0.80				

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

style D:0.010 μF to 0.047 μF
style B:0.0010 μF to 0.0082 μF, 0.056 μF to 2.2 μF

■Rating, Dimensions & Quantity/Ammo Box

●Rated voltage : 1000 VDC, Note) 125 VAC, Capacitance tolerance : ±5 %(J), ±10 %(K)

Part No.	Cap. (μF)	Dimensions (mm)								Min. order Q'ty	
		L max.	T max.	H max.		F	S	G max.	ø d	Taping 7.5 mm	Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight			
ECQE10103□F( )	0.010	15.5	6.0	11.0	16.0	12.5	12.5	1.0	0.60	500	500
ECQE10123□F( )	0.012	15.5	6.0	12.0	17.0	12.5	12.5	1.0	0.60		
ECQE10153□F( )	0.015	15.5	7.0	12.5	17.5	12.5	12.5	1.0	0.60		
ECQE10183□F( )	0.018	15.5	7.5	13.0	20.0	12.5	12.5	1.0	0.80	400	
ECQE10223□F( )	0.022	15.5	7.5	15.5	22.5	12.5	12.5	1.0	0.80		
ECQE10273□F( )	0.027	21.0	6.0	13.0	18.0	17.5	12.5	1.0	0.80	500	
ECQE10333□F( )	0.033	21.0	6.5	14.0	19.0	17.5	12.5	1.0	0.80		
ECQE10393□F( )	0.039	21.0	7.0	14.5	19.5	17.5	12.5	1.0	0.80		
ECQE10473□F( )	0.047	21.0	7.5	15.5	20.5	17.5	12.5	1.0	0.80	400	
ECQE10563□F( )	0.056	21.0	7.5	17.0	22.0	17.5	12.5	1.0	0.80		
ECQE10683□F( )	0.068	21.0	8.5	18.0	23.0	17.5	12.5	1.0	0.80		
ECQE10823□F( )	0.082	21.0	9.0	18.5	23.5	17.5	12.5	1.0	0.80	300	
ECQE10104□F( )	0.10	21.0	10.0	20.0	25.0	17.5	12.5	1.0	0.80		
ECQE10124□F( )	0.12	26.0	9.0	18.5	23.5	22.5	17.5	1.0	0.80	—	
ECQE10154□F( )	0.15	26.0	10.0	20.0	25.0	22.5	17.5	1.5	0.80		
ECQE10184□F( )	0.18	26.0	10.5	22.0	27.0	22.5	17.5	1.5	0.80		
ECQE10224□F( )	0.22	26.0	12.0	23.0	28.0	22.5	17.5	1.5	0.80		

Suffix for lead crimped or taped type.

Cap. tol. code

Style D: 0.010 μF to 0.022 μF
Style B: 0.027 μF to 0.22 μF

Note) This type has two rated voltage, one is DC rated voltage another is AC rated voltage..
DC rated voltage is 1000 V, AC rated voltage is 125 V.
Making for rated voltage is「1000 V, 125 V ∿」

When capacitors use in secondary side of power source, and in case of applying voltage in altering current (50 Hz or 60 Hz sine wave) to a capacitor, please refer to the page of ''Permissible voltage (R.M.S) in altering current corresponding to DC rated voltage''.

When capacitors use in primary side of power source, the rated voltage is shown 125 VAC. Voltage to be applied to capacitors in only sine wave (50 Hz or 60 Hz).

AC rated capacitors complying with clause 1 of ''Electrical Appliance and Material Safety Law''. And not complying with clause 2 of ''Electrical Appliance and Material Safety Law'', in this case please use ECQUL type or ECQUG type

■Rating, Dimensions & Quantity/Ammo Box

●Rated voltage : 1250 VDC, Note) 125 VAC, Capacitance tolerance : ±5 %(J), ±10 %(K)

Part No.	Cap. (μF)	Dimensions (mm)								Min. order Q'ty	
		L max.	T max.	H max.		F	S	G max.	ø d	Taping 7.5 mm	Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight			
ECQE12102□F( )	0.0010	15.5	6.0	11.0	16.0	12.5	10.0	1.0	0.60	500	500
ECQE12122□F( )	0.0012	15.5	6.0	11.0	16.0	12.5	10.0	1.0	0.60		
ECQE12152□F( )	0.0015	15.5	6.0	11.0	16.0	12.5	10.0	1.0	0.60		
ECQE12182□F( )	0.0018	15.5	6.0	11.0	16.0	12.5	10.0	1.0	0.60		
ECQE12222□F( )	0.0022	15.5	6.0	11.5	16.5	12.5	10.0	1.0	0.60		
ECQE12272□F( )	0.0027	15.5	6.5	12.0	17.0	12.5	10.0	1.0	0.60		
ECQE12332□F( )	0.0033	15.5	6.0	11.5	16.5	12.5	10.0	1.0	0.60		
ECQE12392□F( )	0.0039	15.5	6.5	12.0	17.0	12.5	10.0	1.0	0.60		
ECQE12472□F( )	0.0047	15.5	7.0	12.5	17.5	12.5	10.0	1.0	0.60		
ECQE12562□F( )	0.0056	15.5	7.5	13.0	18.0	12.5	10.0	1.0	0.60	400	
ECQE12682□F( )	0.0068	15.5	7.5	15.0	20.0	12.5	10.0	1.0	0.60		
ECQE12822□F( )	0.0082	21.0	5.0	12.0	17.0	17.5	12.5	1.0	0.60	500	
ECQE12103□F( )	0.010	21.0	5.0	12.5	17.5	17.5	12.5	1.0	0.60		
ECQE12123□F( )	0.012	21.0	5.5	13.0	18.0	17.5	12.5	1.0	0.60		
ECQE12153□F( )	0.015	21.0	6.0	13.5	18.5	17.5	12.5	1.0	0.60		
ECQE12183□F( )	0.018	21.0	6.5	14.5	19.5	17.5	12.5	1.0	0.80		
ECQE12223□F( )	0.022	21.0	7.0	15.0	20.0	17.5	12.5	1.0	0.80		
ECQE12273□F( )	0.027	26.0	6.0	15.5	20.5	22.5	17.5	1.0	0.80		
ECQE12333□F( )	0.033	26.0	6.5	16.0	21.0	22.5	17.5	1.0	0.80		
ECQE12393□F( )	0.039	26.0	7.0	16.5	21.5	22.5	17.5	1.0	0.80		
ECQE12473□F( )	0.047	26.0	8.0	17.0	22.0	22.5	17.5	1.0	0.80		
ECQE12563□F( )	0.056	31.0	7.5	17.0	22.0	27.5	22.5	1.0	0.80		
ECQE12683□F( )	0.068	31.0	8.0	17.5	22.5	27.5	22.5	1.0	0.80		
ECQE12823□F( )	0.082	31.0	9.0	18.5	23.5	27.5	22.5	1.0	0.80		
ECQE12104□F( )	0.10	31.0	10.0	19.5	24.5	27.5	22.5	1.0	0.80		
ECQE12124□F( )	0.12	31.0	11.5	20.5	25.5	27.5	22.5	1.5	0.80		
ECQE12154□F( )	0.15	31.0	12.0	23.0	28.0	27.5	22.5	1.5	0.80		
ECQE12184□F( )	0.18	31.0	13.0	24.5	29.5	27.5	22.5	1.5	0.80		
ECQE12224□F( )	0.22	31.0	14.5	26.5	31.5	27.5	22.5	1.5	0.80		

Suffix for lead crimped or taped type.

Cap. tol. code

Style D: 0.0010 μF to 0.0068 μF
Style B: 0.0082 μF to 0.22 μF

Note) This type has two rated voltage, one is DC rated voltage another is AC rated voltage..
DC rated voltage is 1250 V, AC rated voltage is 125 V.
Making for rated voltage is「1250 V, 125 V ∿」

When capacitors use in secondary side of power source, and in case of applying voltage in altering current (50 Hz or 60 Hz sine wave) to a capacitor, please refer to the page of ''Permissible voltage (R.M.S) in altering current corresponding to DC rated voltage''.

When capacitors use in primary side of power source, the rated voltage is shown 125 VAC. Voltage to be applied to capacitors in only sine wave (50 Hz or 60 Hz).

AC rated capacitors complying with clause 1 of ''Electrical Appliance and Material Safety Law''. And not complying with clause 2 of ''Electrical Appliance and Material Safety Law'', in this case please use ECQUL type or ECQUG type

■Rating, Dimensions & Quantity/Ammo Box

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

Noise suppression Capacitors (Across-the-line)

Part No.	Cap. (μF)	Dimensions (mm)								Min. order Q'ty			
		L max.	T max.	H max.		F	S	G max.	φd	Taping			Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Standard 5 mm	Odd size 5 mm	Odd size 7.5 mm	
ECQE1A103□F( )	0.010	10.5	4.5	7.5	12.5	7.5	7.5	1.0	0.60	1000	—	1000	500
ECQE1A123□F( )	0.012	10.5	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE1A153□F( )	0.015	10.5	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE1A183□F( )	0.018	10.5	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE1A223□F( )	0.022	10.5	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE1A273□F( )	0.027	10.5	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE1A333□F( )	0.033	10.5	4.5	7.8	12.8	7.5	7.5	1.0	0.60				
ECQE1A393□F( )	0.039	10.5	4.5	7.8	12.8	7.5	7.5	1.0	0.60				
ECQE1A473□F( )	0.047	10.5	5.5	8.0	13.0	7.5	7.5	1.0	0.60	500			
ECQE1A563□F( )	0.056	10.5	5.9	8.5	13.5	7.5	7.5	1.0	0.60				
ECQE1A683□F( )	0.068	10.5	6.3	9.4	14.4	7.5	7.5	1.0	0.60				

style D:0.010 μF to 0.068 μF

□F( )
- Suffix for lead crimped or taped type.
- Cap. tol. code

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}

● Rated voltage : 250 VAC, Capacitance tolerance : ±5 %(J), ±10 %(K)
Noise suppression Capacitors (Across-the-line)

Part No.	Cap. (μF)	Dimensions (mm)								Min. order Q'ty		
		L max.	T max.	H max.		F	S	G max.	φd	Taping		Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Standard 5 mm	Odd size 7.5 mm	
ECQE2A103□F( )	0.010	12.5	5.5	10.8	15.8	10.0	10.0	1.0	0.60	500	1000	500
ECQE2A123□F( )	0.012	12.5	6.0	11.5	16.5	10.0	10.0	1.0	0.60			
ECQE2A153□F( )	0.015	12.5	6.3	9.9	14.9	10.0	10.0	1.0	0.60			
ECQE2A183□F( )	0.018	12.5	6.0	11.9	16.9	10.0	10.0	1.0	0.60			
ECQE2A223□F( )	0.022	12.5	6.0	11.5	16.5	10.0	10.0	1.0	0.60			
ECQE2A273□F( )	0.027	12.5	5.5	10.9	15.9	10.0	10.0	1.0	0.60			
ECQE2A333□F( )	0.033	12.5	6.0	11.9	16.9	10.0	10.0	1.0	0.60			
ECQE2A393□F( )	0.039	12.5	6.0	13.4	18.4	10.0	10.0	1.0	0.60	—		
ECQE2A473□F( )	0.047	12.5	6.5	14.4	19.4	10.0	10.0	1.0	0.60			
ECQE2A563□F( )	0.056	18.5	5.4	10.5	15.5	15.0	10.0	1.0	0.60		500	
ECQE2A683□F( )	0.068	18.5	5.8	11.0	16.0	15.0	10.0	1.0	0.60			
ECQE2A823□F( )	0.082	18.5	6.3	12.0	17.0	15.0	10.0	1.0	0.60			
ECQE2A104□F( )	0.10	18.5	6.3	14.0	19.0	15.0	10.0	1.0	0.60			
ECQE2A124□F( )	0.12	18.5	6.8	14.5	19.5	15.0	10.0	1.0	0.80			
ECQE2A154□F( )	0.15	18.5	7.5	15.4	20.4	15.0	10.0	1.0	0.80		400	
ECQE2A184□F( )	0.18	18.5	8.0	16.0	21.0	15.0	10.0	1.0	0.80			
ECQE2A224□F( )	0.22	18.5	9.0	16.9	21.9	15.0	10.0	1.0	0.80		300	
ECQE2A274□F( )	0.27	26.0	7.0	16.5	21.5	22.5	15.0	1.0	0.80	—	—	
ECQE2A334□F( )	0.33	26.0	7.8	17.0	22.0	22.5	15.0	1.0	0.80			
ECQE2A394□F( )	0.39	26.0	8.5	17.9	22.9	22.5	15.0	1.0	0.80			
ECQE2A474□F( )	0.47	26.0	9.3	18.5	23.5	22.5	15.0	1.0	0.80			
ECQE2A564P( )( )	0.56	26.0	10.0	20.0	—	22.5	—	1.0	0.80			
ECQE2A684P( )( )	0.68	26.0	11.5	21.0	—	22.5	—	1.0	0.80			
ECQE2A824P( )( )	0.82	26.0	13.0	22.5	—	22.5	—	1.0	0.80			
ECQE2A105P( )( )	1.0	31.0	12.5	21.9	—	27.5	—	1.5	0.80			
ECQE2A125P( )( )	1.2	31.0	13.5	23.0	—	27.5	—	1.5	0.80			
ECQE2A155P( )( )	1.5	31.0	15.3	24.7	—	27.5	—	1.5	0.80			
ECQE2A185P( )( )	1.8	31.0	16.8	27.0	—	27.5	—	1.5	0.80			
ECQE2A225P( )( )	2.2	31.0	19.5	29.0	—	27.5	—	1.5	0.80			

□F( )
Suffix for lead crimped or taped type.
Cap. tol. code

Style D:0.010 μF to 0.047 μF
Style B:0.056 μF to 0.47 μF

❉Please consult us about Crimed lead type of 0.56 μF to 2.2 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
250 VAC	470 V	630 V_{0-P}

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

2	250 VDC
1A	125 VAC

J	±5 %
K	±10 %

Suffix	Lead Form
Blank	Straight
B	Crimped lead
Z	Cut lead
2	Straight taping (Ammo)
3	Crimped taping (Ammo)
6	Crimped taping (Ammo)

■Explanation of Part Numbers for Odd Size Taping

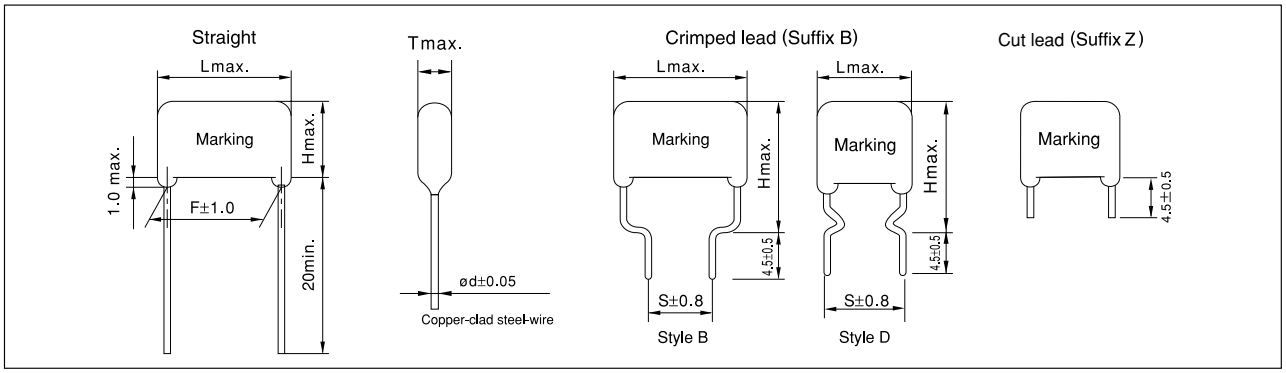
E	C	Q	E						R		B
Products code		Dielectric & construction		Rated voltage		Capacitance			Suffix	Cap. Tol.	Suffix

■Specifications

Category temp. range (Including temperature-rise on unit surface)	250 VDC	−40 ℃ to +105 ℃
	125 VAC	−40 ℃ to +105 ℃
Rated voltage	250 VDC, 125 VAC (250 VDC : Derating of rated voltage by 1.25 %/℃ at more than 85 ℃)	
Capacitance range	0.010 μF to 4.7 μF	
Capacitance tolerance	±5 %(J), ±10 %(K)	
Dissipation factor (tanδ)	tanδ≦1.0 % (20 ℃, 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 ℃, 100 VDC, 60 s) C>0.33 μF : IR≧3000 MΩ · μF (20 ℃, 100 VDC, 60 s)
	125 VAC	C≦0.47 μF : IR≧2000 MΩ (20 ℃, 500 VDC, 60 s) C>0.47 μF : IR≧3000 MΩ · μF (20 ℃, 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).

■Dimensions in mm (not to scale)

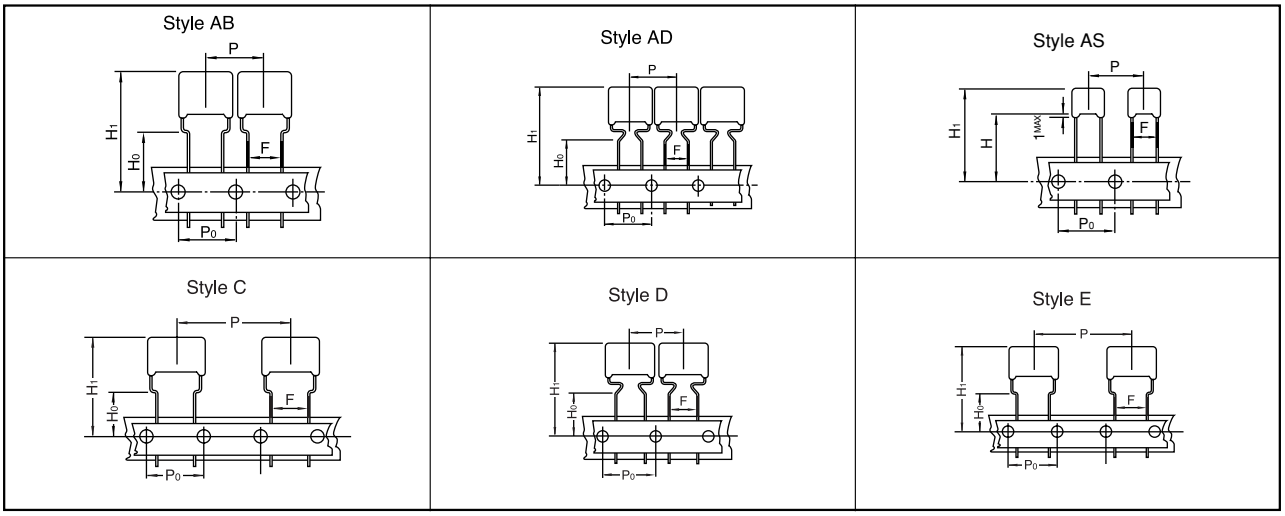


■Packaging Specifications for Bulk Package

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		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	——	——	500
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	1000			
ECQE2124□B( )	0.12	7.9	5.7	10.6	15.6	5.0	5.0	0.50	1500			
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	1500		1500	
ECQE2224□B( )	0.22	10.3	5.4	10.1	15.1	7.5	5.0	0.50			1000	
ECQE2274□B( )	0.27	10.3	5.9	10.8	15.8	7.5	5.0	0.50	1000			
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				
ECQE2684□B( )	0.68	12.3	7.3	12.7	17.7	10.0	5.0	0.60			900	
ECQE2824□B( )	0.82	15.3	6.3	13.3	18.3	12.5	5.0	0.60	——	600	500	
ECQE2105□B( )	1.0	15.3	7.0	14.0	19.0	12.5	5.0	0.60		500	400	
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		400	300	
ECQE2185□B( )	1.8	20.8	7.6	14.6	19.6	17.5	10.0	0.80		——	400	
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			300	
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			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

Metallized Film

■ 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 max.	T max.	H max.		F	S	ø d	Taping			Bulk
				Straight	Crimped lead	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				
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	2000			
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			1000	
ECQE1A224□B( )	0.22	10.3	6.1	11.0	16.0	7.5	7.5	0.50	1000			500
ECQE1A274□B( )	0.27	12.3	5.4	10.7	15.7	10.0	7.5	0.60		800		
ECQE1A334□B( )	0.33	12.3	5.9	11.2	16.2	10.0	7.5	0.60		700		
ECQE1A394□B( )	0.39	12.3	6.4	11.6	16.6	10.0	7.5	0.60		600		
ECQE1A474□B( )	0.47	12.3	7.0	12.2	17.2	10.0	7.5	0.60		500	900	
ECQE1A564□B( )	0.56	12.3	6.7	11.9	16.9	10.0	7.5	0.60		600	1000	
ECQE1A684□B( )	0.68	12.3	7.3	12.7	17.7	10.0	7.5	0.60		500	900	
ECQE1A824□B( )	0.82	15.3	6.3	13.3	18.3	12.5	7.5	0.60		600	500	
ECQE1A105□B( )	1.0	15.3	7.0	14.0	19.0	12.5	7.5	0.60		500	400	
ECQE1A125□B( )	1.2	20.8	7.1	14.1	19.1	17.5	10.0	0.80		500	400	
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		400		
ECQE1A225□B( )	2.2	20.8	9.7	17.1	22.1	17.5	10.0	0.80			300	
ECQE1A275□B( )	2.7	20.8	10.9	18.2	23.2	17.5	10.0	0.80		300		
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}

Metallized Polyester Film Capacitor

Type: ECQE(T)

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

■Features
- Self-healing property
- Excellent electrical characteristics
- Flame retardant epoxy resin coating
- Moisture resistance 85 ℃, 85 % RH for 500 hours
- RoHS directive compliant

■Recommended Applications
- General purpose usage

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	C	Q	E							T	
Product code		Dielectric & construction		Rated volt.		Capacitance			Cap. Tol.	Suffix	Suffix

2	250 VDC	1A	125 VAC
4	400 VDC	2A	250 VAC
6	630 VDC		

J	±5 %
K	±10 %

Suffix	Lead Form
Blank	Straight
B	Crimped lead
Z	Cut lead
3	Crimped taping (Ammo)
6	Crimped taping (Ammo)

●Explanation of Part Number for Odd Size Taping

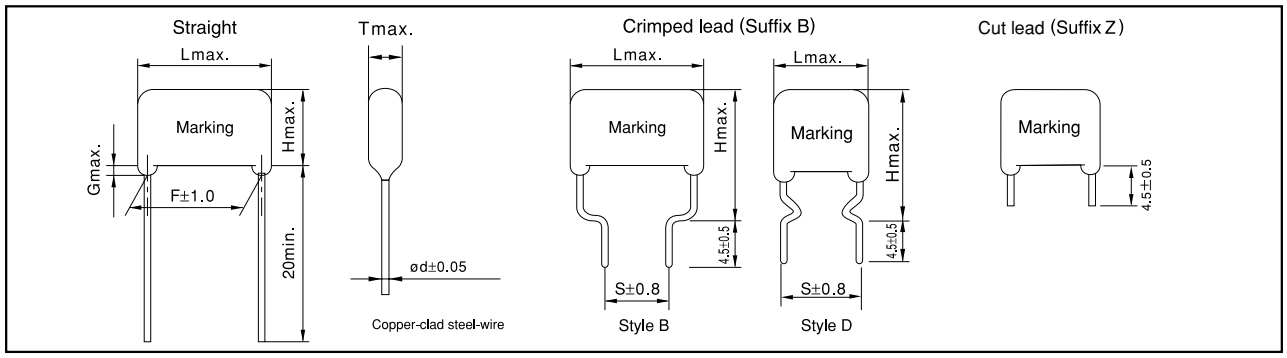
E	C	Q	E						R		T
Product code		Dielectric & construction		Rated volt.		Capacitance			Suffix	Cap. Tol.	Suffix

■Specifications

Category temp. range (Including temperature-rise on unit surface)	250 VDC,400 VDC, 630 VDC	−40 ℃ to +105 ℃
	125 VAC, 250 VAC	−40 ℃ to +105 ℃
Rated voltage	250 VDC, 400 VDC, 630 VDC (Derating of rated voltage by 1.25 %/℃ at more than 85 ℃) 125 VAC, 250 VAC	
Capacitance range	0.010 µF to 10 µF (E12)	
Capacitance tolerance	±5 %(J), ±10 %(K)	
Dissipation factor (tanδ)	tanδ≦1.0 % (20 ℃, 1 kHz)	
Withstand voltage	●Rated volt. 250 VDC to 630 VDC Between terminals : Rated volt.(VDC)×150 % 60 s	
	●Rated volt. 125 VAC, 250 VAC Between terminals : Rated volt.(VAC)×230 % 60 s Between terminals to enclosure : 1500 VAC 60 s	
Insulation resistance (IR)	250 VDC to 630 VDC: C≦0.33 µF : IR≧9000 MΩ C>0.33 µF : IR≧3000 MΩ・µF	(20 ℃, 100VDC, 60 s)
	125 VAC, 250 VAC: IR≧2000 MΩ (20 ℃, 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”.
❉ Voltage to be applied to ECQE1A (T) & ECQE2A (T) is only sine wave (50 Hz or 60 Hz).

■Dimensions in mm (not to scale)

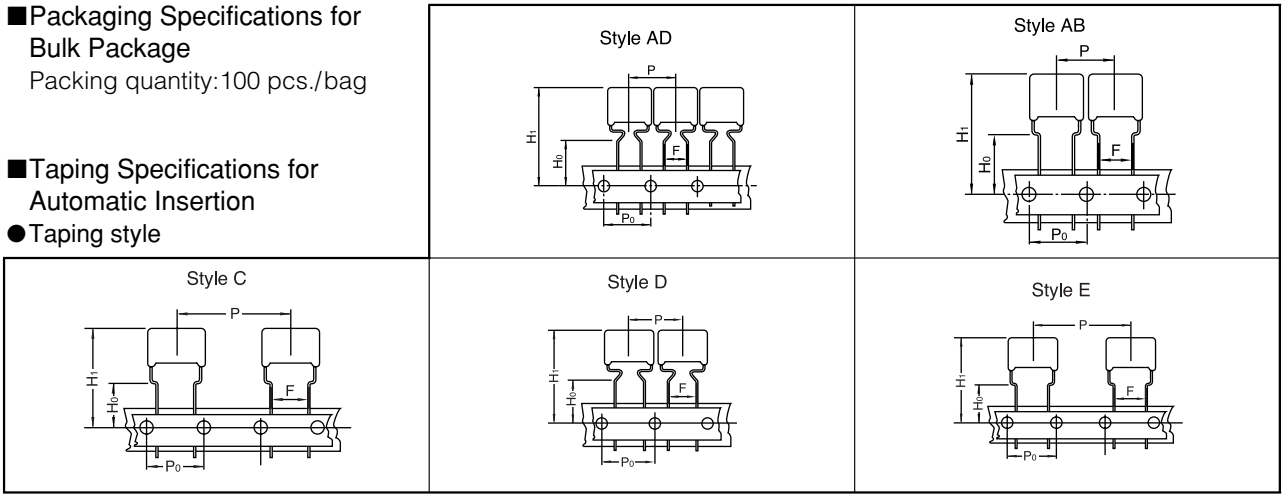


■Packaging Specifications for Bulk Package

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	AB	C	D	E		
ECQE(T)	250 VDC	0.010 to 0.15	○					Ammo	( ) T3
		0.18 to 0.33			○			Ammo	( ) T3
		0.39 to 1.5			○			Ammo	( ) T3
		0.010 to 0.33				○		Ammo	R( ) T
		0.39 to 1.5					○	Ammo	R( ) T
	400 VDC	0.010 to 0.033	○					Ammo	( ) T3
		0.039 to 0.10			○			Ammo	( ) T3
		0.12 to 0.47			○			Ammo	( ) T3
		0.010 to 0.10				○		Ammo	R( ) T
		0.12 to 0.47					○	Ammo	R( ) T
	630 VDC	0.010 to 0.047			○			Ammo	( ) T3
		0.056 to 0.22			○			Ammo	( ) T3
		0.010 to 0.047				○		Ammo	R( ) T
		0.056 to 0.22					○	Ammo	R( ) T
	125 VAC	0.27 to 0.47			○			Ammo	( ) T3
		0.010 to 0.10		○				Ammo	( ) T6
		0.12 to 0.22			○			Ammo	( ) T6
		0.010 to 0.22				○		Ammo	R( ) T
		0.27 to 0.47					○	Ammo	R( ) T
	250 VAC	0.056 to 0.22			○			Ammo	( ) T3
		0.010 to 0.047			○			Ammo	( ) T6
		0.010 to 0.047				○		Ammo	R( ) T
		0.056 to 0.22					○	Ammo	R( ) T

●Lead Spacing

Style	Lead Spacing
AD	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	G max.	φd	Taping			Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Standard 5 mm	Odd size 5 mm	Odd size 7.5 mm	
ECQE2103□T( )	0.010	10.8	4.3	7.4	12.4	7.5	7.5	1.0	0.60	1500	—	1800	500
ECQE2123□T( )	0.012	10.8	4.4	7.5	12.5	7.5	7.5	1.0	0.60			1700	
ECQE2153□T( )	0.015	10.8	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2183□T( )	0.018	10.8	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2223□T( )	0.022	10.8	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2273□T( )	0.027	10.8	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2333□T( )	0.033	10.8	4.5	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2393□T( )	0.039	10.8	4.5	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2473□T( )	0.047	10.8	4.5	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE2563□T( )	0.056	10.8	4.8	7.9	12.9	7.5	7.5	1.0	0.60			1600	
ECQE2683□T( )	0.068	10.8	4.5	7.5	12.5	7.5	7.5	1.0	0.60			1700	
ECQE2823□T( )	0.082	10.8	4.9	8.0	13.0	7.5	7.5	1.0	0.60			1500	
ECQE2104□T( )	0.10	10.8	5.8	8.4	13.4	7.5	7.5	1.0	0.60	1000		1300	
ECQE2124□T( )	0.12	10.8	6.0	9.0	14.0	7.5	7.5	1.0	0.60			1200	
ECQE2154□T( )	0.15	10.8	6.0	10.8	15.8	7.5	7.5	1.0	0.60				
ECQE2184□T( )	0.18	12.5	5.0	10.3	15.3	10.0	10.0	1.0	0.60	—	800	1400	
ECQE2224□T( )	0.22	12.5	5.5	10.5	15.5	10.0	10.0	1.0	0.60			1300	
ECQE2274□T( )	0.27	12.5	6.0	11.5	16.5	10.0	10.0	1.0	0.60		700	1200	
ECQE2334□T( )	0.33	12.5	6.5	12.0	17.0	10.0	10.0	1.0	0.60		600	1100	
ECQE2394□T( )	0.39	19.0	4.9	12.0	17.0	15.0	10.0	1.0	0.60		800	700	
ECQE2474□T( )	0.47	19.0	5.3	12.5	17.5	15.0	10.0	1.0	0.60		700	600	
ECQE2564□T( )	0.56	19.0	5.5	13.0	18.0	15.0	10.0	1.0	0.60		800		
ECQE2684□T( )	0.68	19.0	6.0	13.5	18.5	15.0	10.0	1.0	0.80		700		
ECQE2824□T( )	0.82	19.0	6.5	14.5	19.5	15.0	10.0	1.0	0.80		600	500	
ECQE2105□T( )	1.0	19.0	7.4	15.0	20.0	15.0	10.0	1.0	0.80		500	400	
ECQE2125□T( )	1.2	19.0	8.0	15.9	20.9	15.0	10.0	1.0	0.80				
ECQE2155□T( )	1.5	19.0	9.0	16.8	21.8	15.0	10.0	1.0	0.80		400		
ECQE2185□T( )	1.8	26.5	7.5	15.5	20.5	22.5	15.0	1.0	0.80		—	—	
ECQE2225□T( )	2.2	26.5	8.5	16.3	21.3	22.5	15.0	1.0	0.80				
ECQE2275□T( )	2.7	26.5	9.4	17.0	22.0	22.5	15.0	1.0	0.80				
ECQE2335□T( )	3.3	26.5	10.3	18.0	23.0	22.5	15.0	1.5	0.80				
ECQE2395□T( )	3.9	26.5	11.0	20.5	25.5	22.5	15.0	1.5	0.80				
ECQE2475□T( )	4.7	26.5	12.0	21.5	26.5	22.5	15.0	1.5	0.80				
ECQE2565□T( )	5.6	31.5	11.8	21.0	26.0	27.5	22.5	1.5	0.80				
ECQE2685□T( )	6.8	31.5	13.0	22.4	27.4	27.5	22.5	1.5	0.80				
ECQE2825□T( )	8.2	31.5	14.3	23.5	28.5	27.5	22.5	1.5	0.80				
ECQE2106□T( )	10.0	31.5	15.9	25.8	30.8	27.5	22.5	1.5	0.80				

Suffix for lead crimped or taped type

Cap. tol. code

style D:0.010 μF to 0.33 μF
style B:0.39 μF to 10.0 μF

Metallized Film

■Rating, Dimensions & Quantity/Ammo Box

●Rated voltage : 400 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	G max.	φd	Taping			Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Standard 5 mm	Odd size 5 mm	Odd size 7.5 mm	
ECQE4103□T( )	0.010	10.8	4.3	7.4	12.4	7.5	7.5	1.0	0.60	1500	—	1800	500
ECQE4123□T( )	0.012	10.8	4.4	7.5	12.5	7.5	7.5	1.0	0.60			1700	
ECQE4153□T( )	0.015	10.8	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE4183□T( )	0.018	10.8	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE4223□T( )	0.022	10.8	4.8	7.9	12.9	7.5	7.5	1.0	0.60			1600	
ECQE4273□T( )	0.027	10.8	5.5	8.0	13.0	7.5	7.5	1.0	0.60			1400	
ECQE4333□T( )	0.033	10.8	6.0	9.0	14.0	7.5	7.5	1.0	0.60	1000		1200	
ECQE4393□T( )	0.039	12.5	4.9	8.0	13.0	10.0	10.0	1.0	0.60	—	900	1500	
ECQE4473□T( )	0.047	12.5	5.0	8.3	13.3	10.0	10.0	1.0	0.60				
ECQE4563□T( )	0.056	12.5	5.0	10.0	15.0	10.0	10.0	1.0	0.60				
ECQE4683□T( )	0.068	12.5	5.4	10.5	15.5	10.0	10.0	1.0	0.60		800	1400	
ECQE4823□T( )	0.082	12.5	5.8	11.0	16.0	10.0	10.0	1.0	0.60			1300	
ECQE4104□T( )	0.10	12.5	6.3	12.0	17.0	10.0	10.0	1.0	0.60		700	1200	
ECQE4124□T( )	0.12	19.0	5.0	10.0	15.0	15.0	10.0	1.0	0.60		800	700	
ECQE4154□T( )	0.15	19.0	5.0	12.4	17.4	15.0	10.0	1.0	0.60				
ECQE4184□T( )	0.18	19.0	5.4	12.5	17.5	15.0	10.0	1.0	0.60			600	
ECQE4224□T( )	0.22	19.0	5.9	13.0	18.0	15.0	10.0	1.0	0.60		700		
ECQE4274□T( )	0.27	19.0	6.5	14.3	19.3	15.0	10.0	1.0	0.80		600	500	
ECQE4334□T( )	0.33	19.0	7.0	14.9	19.9	15.0	10.0	1.0	0.80				
ECQE4394□T( )	0.39	19.0	7.5	15.4	20.4	15.0	10.0	1.0	0.80		500	400	
ECQE4474□T( )	0.47	19.0	7.8	17.0	22.0	15.0	10.0	1.0	0.80				
ECQE4564□T( )	0.56	26.5	6.5	16.0	21.0	22.5	15.0	1.0	0.80		—	—	
ECQE4684□T( )	0.68	26.5	7.0	16.5	21.5	22.5	15.0	1.0	0.80				
ECQE4824□T( )	0.82	26.5	7.9	17.3	22.3	22.5	15.0	1.0	0.80				
ECQE4105□T( )	1.0	26.5	8.5	18.0	23.0	22.5	15.0	1.0	0.80				
ECQE4125□T( )	1.2	26.5	9.5	18.9	23.9	22.5	15.0	1.0	0.80				
ECQE4155□T( )	1.5	31.5	9.5	19.0	24.0	27.5	22.5	1.0	0.80				
ECQE4185□T( )	1.8	31.5	11.0	20.5	25.5	27.5	22.5	1.5	0.80				
ECQE4225□T( )	2.2	31.5	11.0	22.0	27.0	27.5	22.5	1.5	0.80				

style D:0.010 μF to 0.10 μF
style B:0.12 μF to 2.2 μF

●Rated voltage : 630 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	G max.	φd	Taping		Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Odd size 5 mm	Odd size 7.5 mm	
ECQE6103□T( )	0.010	12.5	4.5	7.5	12.5	10.0	10.0	1.0	0.60	900	1600	500
ECQE6123□T( )	0.012	12.5	4.5	7.8	12.8	10.0	10.0	1.0	0.60			
ECQE6153□T( )	0.015	12.5	5.0	8.2	13.2	10.0	10.0	1.0	0.60	800	1400	
ECQE6183□T( )	0.018	12.5	4.9	10.0	15.0	10.0	10.0	1.0	0.60			
ECQE6223□T( )	0.022	12.5	5.3	10.5	15.5	10.0	10.0	1.0	0.60		1300	
ECQE6273□T( )	0.027	12.5	5.5	10.9	15.9	10.0	10.0	1.0	0.60			
ECQE6333□T( )	0.033	12.5	6.0	11.9	16.9	10.0	10.0	1.0	0.60	700	1200	
ECQE6393□T( )	0.039	12.5	6.0	13.4	18.4	10.0	10.0	1.0	0.60			
ECQE6473□T( )	0.047	12.5	6.5	13.5	18.5	10.0	10.0	1.0	0.60	600	1100	
ECQE6563□T( )	0.056	19.0	5.4	10.5	15.5	15.0	10.0	1.0	0.60	800	600	
ECQE6683□T( )	0.068	19.0	5.8	11.0	16.0	15.0	10.0	1.0	0.60	700		
ECQE6823□T( )	0.082	19.0	6.5	12.0	17.0	15.0	10.0	1.0	0.60	600	500	
ECQE6104□T( )	0.10	19.0	6.3	14.0	19.0	15.0	10.0	1.0	0.60			
ECQE6124□T( )	0.12	19.0	6.3	14.5	19.5	15.0	10.0	1.0	0.80			
ECQE6154□T( )	0.15	19.0	7.5	15.4	20.4	15.0	10.0	1.0	0.80	500	400	
ECQE6184□T( )	0.18	19.0	8.0	16.0	21.0	15.0	10.0	1.0	0.80			
ECQE6224□T( )	0.22	19.0	9.0	16.5	21.5	15.0	10.0	1.0	0.80	400		
ECQE6274□T( )	0.27	26.5	7.0	16.5	21.5	22.5	15.0	1.0	0.80	—	—	
ECQE6334□T( )	0.33	26.5	7.8	17.0	22.0	22.5	15.0	1.0	0.80			
ECQE6394□T( )	0.39	26.5	8.5	17.9	22.9	22.5	15.0	1.0	0.80			
ECQE6474□T( )	0.47	26.5	9.3	18.5	23.5	22.5	15.0	1.0	0.80			
ECQE6564□T( )	0.56	26.5	10.0	20.0	25.0	22.5	15.0	1.5	0.80			
ECQE6684□T( )	0.68	26.5	11.5	21.0	26.0	22.5	15.0	1.5	0.80			
ECQE6824□T( )	0.82	31.5	11.3	20.5	25.5	27.5	22.5	1.5	0.80			
ECQE6105□T( )	1.0	31.5	12.5	21.9	26.9	27.5	22.5	1.5	0.80			
ECQE6125□T( )	1.2	31.5	13.5	23.0	28.0	27.5	22.5	1.5	0.80			
ECQE6155□T( )	1.5	31.5	15.3	24.7	29.7	27.5	22.5	1.5	0.80			
ECQE6185□T( )	1.8	31.5	16.8	27.0	32.0	27.5	22.5	1.5	0.80			
ECQE6225□T( )	2.2	31.5	19.5	29.0	34.0	27.5	22.5	1.5	0.80			

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

style D:0.010 μF to 0.047 μF
style B:0.056 μF to 2.2 μF

■Rating, Dimensions & Quantity/Ammo Box

●Rated voltage : 125 VAC, Capacitance tolerance : ±5 %(J), ±10 %(K)
Noise suppression Capacitors (Across-the-line)

Part No.	Cap. (μF)	Dimensions (mm)								Min. order Q'ty			
		L max.	T max.	H max.		F	S	G max.	φd	Taping			Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Standard 5 mm	Odd size 5 mm	Odd size 7.5 mm	
ECQE1A103□T( )	0.010	11.0	4.5	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE1A123□T( )	0.012	11.0	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE1A153□T( )	0.015	11.0	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE1A183□T( )	0.018	11.0	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE1A223□T( )	0.022	11.0	4.4	7.5	12.5	7.5	7.5	1.0	0.60	1500		1700	
ECQE1A273□T( )	0.027	11.0	4.4	7.5	12.5	7.5	7.5	1.0	0.60				
ECQE1A333□T( )	0.033	11.0	4.5	7.8	12.8	7.5	7.5	1.0	0.60		—		
ECQE1A393□T( )	0.039	11.0	4.5	7.8	12.8	7.5	7.5	1.0	0.60				
ECQE1A473□T( )	0.047	11.0	5.5	8.0	13.0	7.5	7.5	1.0	0.60			1400	
ECQE1A563□T( )	0.056	11.0	5.9	8.5	13.5	7.5	7.5	1.0	0.60			1300	
ECQE1A683□T( )	0.068	11.0	6.3	9.4	14.4	7.5	7.5	1.0	0.60	1000		1200	500
ECQE1A823□T( )	0.082	11.0	6.5	9.8	14.8	7.5	7.5	1.0	0.60				
ECQE1A104□T( )	0.10	11.0	6.5	11.8	16.8	7.5	7.5	1.0	0.60			1100	
ECQE1A124□T( )	0.12	13.0	5.9	11.5	16.5	10.0	10.0	1.0	0.60		600		
ECQE1A154□T( )	0.15	13.0	6.5	12.0	17.0	10.0	10.0	1.0	0.60			1000	
ECQE1A184□T( )	0.18	13.0	7.0	12.5	17.5	10.0	10.0	1.0	0.60		500	900	
ECQE1A224□T( )	0.22	13.0	7.5	13.4	18.4	10.0	10.0	1.0	0.60	—		800	
ECQE1A274□T( )	0.27	19.0	6.3	12.0	17.0	15.0	10.0	1.0	0.60		600	500	
ECQE1A334□T( )	0.33	19.0	6.9	12.5	17.5	15.0	10.0	1.0	0.60				
ECQE1A394□T( )	0.39	19.0	7.4	13.0	18.0	15.0	10.0	1.0	0.60		500	400	
ECQE1A474□T( )	0.47	19.0	7.5	15.3	20.3	15.0	10.0	1.0	0.60				

style D:0.010 μF to 0.22 μF
style B:0.27 μF to 0.47 μF

●Rated voltage : 250 VAC, Capacitance tolerance : ±5 %(J), ±10 %(K)
Noise suppression Capacitors (Across-the-line)

Part No.	Cap. (μF)	Dimensions (mm)								Min. order Q'ty		
		L max.	T max.	H max.		F	S	G max.	φd	Taping		Bulk
				Straight	Crimped lead	Straight	Crimped lead	Straight		Odd size 5 mm	Odd size 7.5 mm	
ECQE2A103□T( )	0.010	13.0	5.5	10.8	15.8	10.0	10.0	1.0	0.60	800	1300	
ECQE2A123□T( )	0.012	13.0	6.0	11.5	16.5	10.0	10.0	1.0	0.60	700	1200	
ECQE2A153□T( )	0.015	13.0	6.3	9.9	14.9	10.0	10.0	1.0	0.60	600	1100	
ECQE2A183□T( )	0.018	13.0	6.0	11.9	16.9	10.0	10.0	1.0	0.60	700	1200	
ECQE2A223□T( )	0.022	13.0	6.0	11.5	16.5	10.0	10.0	1.0	0.60			
ECQE2A273□T( )	0.027	13.0	5.5	10.9	15.9	10.0	10.0	1.0	0.60	800	1300	
ECQE2A333□T( )	0.033	13.0	6.0	11.9	16.9	10.0	10.0	1.0	0.60	700	1200	
ECQE2A393□T( )	0.039	13.0	6.0	13.4	18.4	10.0	10.0	1.0	0.60			
ECQE2A473□T( )	0.047	13.0	6.5	14.4	19.4	10.0	10.0	1.0	0.60	600	1100	
ECQE2A563□T( )	0.056	19.0	5.4	10.5	15.5	15.0	10.0	1.0	0.60	800	600	
ECQE2A683□T( )	0.068	19.0	5.8	11.0	16.0	15.0	10.0	1.0	0.60	700		500
ECQE2A823□T( )	0.082	19.0	6.3	12.0	17.0	15.0	10.0	1.0	0.60			
ECQE2A104□T( )	0.10	19.0	6.3	14.0	19.0	15.0	10.0	1.0	0.60	600	500	
ECQE2A124□T( )	0.12	19.0	6.8	14.5	19.5	15.0	10.0	1.0	0.80			
ECQE2A154□T( )	0.15	19.0	7.5	15.4	20.4	15.0	10.0	1.0	0.80	500	400	
ECQE2A184□T( )	0.18	19.0	8.0	16.0	21.0	15.0	10.0	1.0	0.80			
ECQE2A224□T( )	0.22	19.0	9.0	16.9	21.9	15.0	10.0	1.0	0.80	400		
ECQE2A274□T( )	0.27	26.5	7.0	16.5	21.5	22.5	15.0	1.0	0.80			
ECQE2A334□T( )	0.33	26.5	7.8	17.0	22.0	22.5	15.0	1.0	0.80	—	—	
ECQE2A394□T( )	0.39	26.5	8.5	17.9	22.9	22.5	15.0	1.0	0.80			
ECQE2A474□T( )	0.47	26.5	9.3	18.5	23.5	22.5	15.0	1.0	0.80			

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

Style D:0.010 μF to 0.047 μF
Style B:0.056 μF to 0.47 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.

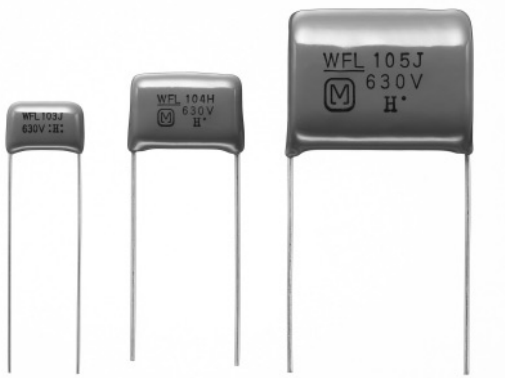
1. Capacitor shall be connected in parallel with varistor (Specified varistor voltage in table 1.)
2. Voltage applied for capacitor shall not exceed other than specified in table 1, when using these capacitors.

Table 1

Cap. Rated Voltage	Varistor voltage	Pulse voltage
125 VAC	250 V	250 V_{0-P}
250 VAC	470 V	630 V_{0-P}

Metallized Polypropylene Film Capacitor

Type: ECWF(L)



Designed for high frequency and current applications.

■Features

- Small size
- Excellent frequency characteristics
- Low loss
- 85 ℃, 85 % RH, W.V.×1.0 for 500 hours
- RoHS directive compliant

■Recommended Applications

- Lighting
- High frequency and high current circuits
  (TVs, Monitors, Power Supplies, etc.)

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11
E	C	W	F						L	
Products code		Dielectric & construction		Rated voltage	Capacitance			Cap. Tol.	Suffix	Suffix

4	400 VDC
6	630 VDC

H	±3 %
J	±5 %

Suffix	Lead Form
Blank	Straight
B	Crimped lead
C	Cut lead

●Explanation of Part Numbers for Odd Size Taping

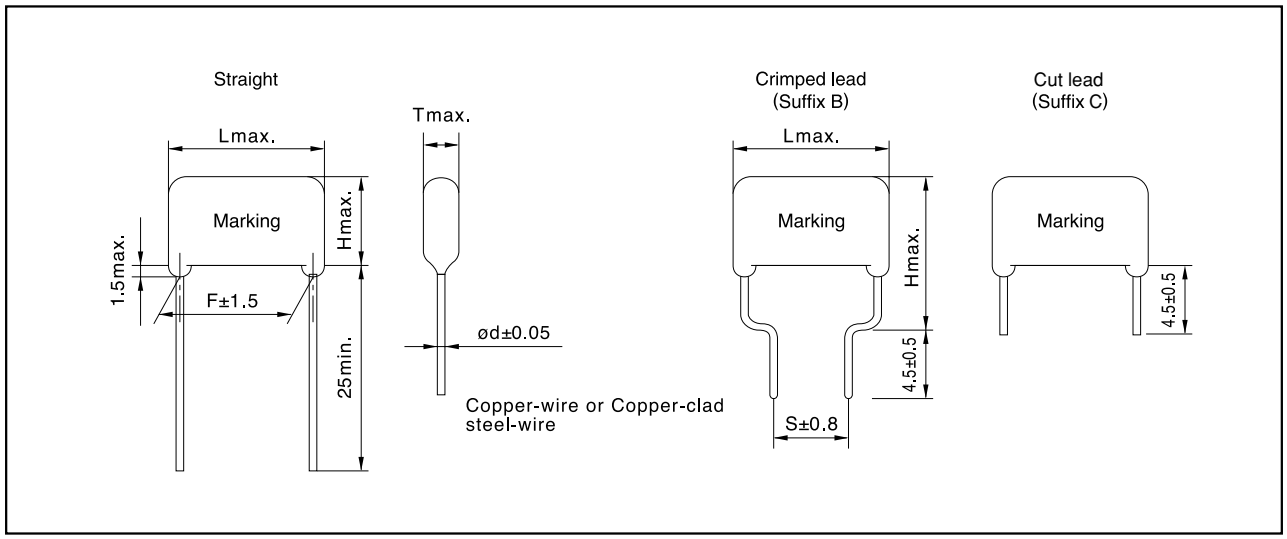
E	C	W	F					R		L
Products code		Dielectric & construction		Rated voltage	Capacitance			Suffix	Cap. Tol.	Suffix

■Specifications

Category temp. range (Including temperature-rise on unit surface)	−40 ℃ to +105 ℃	
Rated voltage	400 VDC, 630 VDC	
Capacitance range	400 VDC	0.022 uF to 2.4 uF
	630 VDC	0.010 uF to 1.3 uF
Capacitance tolerance	±3 %(H), ±5 %(J)	
Withstand voltage	Between terminals : Rated voltage(VDC)×150 % 60 s	
Dissipation factor (tanδ)	tanδ≦0.05% (20℃,1kHz) tanδ≦0.20% (20℃,10kHz)	
Insulation resistance (IR)	C≦0.33 uF : IR≧9000 MΩ (20 ℃, 100 VDC, 60 s for 400 VDC) C>0.33 uF : IR≧3000 MΩ・uF (20 ℃, 500 VDC, 60 s for 630 VDC)	

❊ 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)

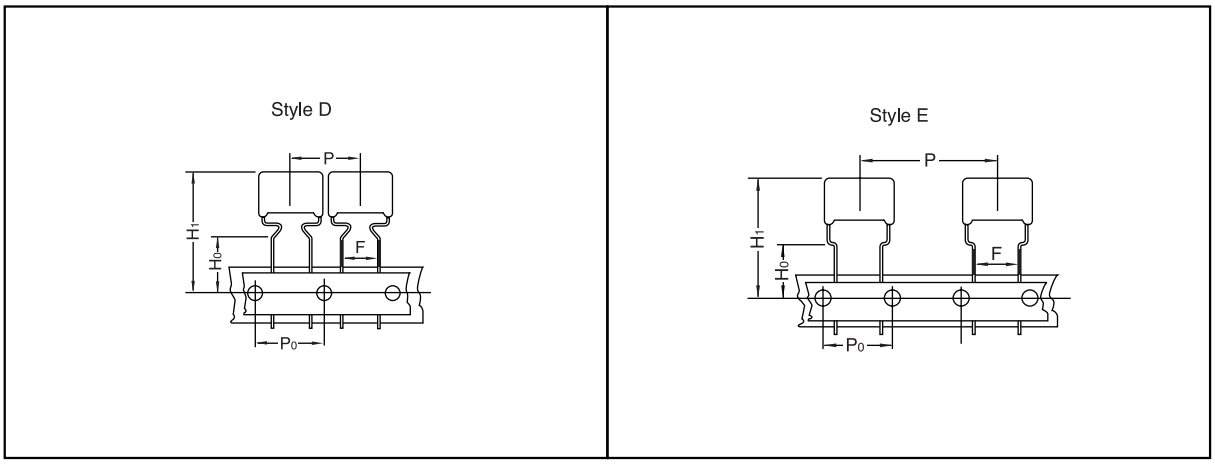


■Packaging Specification for Bulk Package

Packing quantity: 100 pcs./bag

■Taping Specifications for Automatic Insertion

●Taping style



❊Refer to the page of taping specifications.

●Packaging Specifications

Type	Rated volt.	Cap. range (μF)	Taping style						Packing	suffix
			AD	AS	B	C	D	E		
ECWF(L)	400 VDC	0.022 to 0.091					○		Ammo	R( ) L
		0.10 to 1.0						○	Ammo	R( ) L
	630 VDC	0.010 to 0.043					○		Ammo	R( ) L
		0.047 to 0.43						○	Ammo	R( ) L

●Lead Spacing

Style	Lead Spacing
D	7.5 mm
E	7.5 mm

■Rating, Dimensions& Quantity/Ammo Box

●Type ECWF(L) Rated voltage : 400 VDC

Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty	
		L max	T max	H max		F	S	ød	Taping 7.5mm	Bulk
				Straight	Crimped lead	Straight	Crimped lead			
ECWF4223□L( )	0.022	12.5	5.8	8.6	13.6	10.0	7.5	0.6	1100	500
ECWF4243□L( )	0.024	12.5	6.0	8.8	13.8	10.0	7.5	0.6		
ECWF4273□L( )	0.027	12.5	6.2	9.0	14.0	10.0	7.5	0.6	1000	
ECWF4303□L( )	0.030	12.5	6.4	9.3	14.3	10.0	7.5	0.6		
ECWF4333□L( )	0.033	12.5	6.7	9.5	14.5	10.0	7.5	0.6	900	
ECWF4363□L( )	0.036	12.5	5.7	8.4	13.4	10.0	7.5	0.6	1100	
ECWF4393□L( )	0.039	12.5	5.8	8.6	13.6	10.0	7.5	0.6		
ECWF4433□L( )	0.043	12.5	6.0	8.8	13.8	10.0	7.5	0.6		
ECWF4473□L( )	0.047	12.5	6.2	9.0	14.0	10.0	7.5	0.6	1000	
ECWF4513□L( )	0.051	12.5	6.4	9.2	14.2	10.0	7.5	0.6		
ECWF4563□L( )	0.056	12.5	6.6	9.4	14.4	10.0	7.5	0.6		
ECWF4623□L( )	0.062	13.0	6.8	9.6	14.6	10.0	7.5	0.8	900	
ECWF4683□L( )	0.068	13.0	7.0	9.9	14.9	10.0	7.5	0.8		
ECWF4753□L( )	0.075	13.0	7.3	10.1	15.1	10.0	7.5	0.8		
ECWF4823□L( )	0.082	13.0	7.5	10.4	15.4	10.0	7.5	0.8	800	
ECWF4913□L( )	0.091	13.0	7.8	10.7	15.7	10.0	7.5	0.8		
ECWF4104□L( )	0.10	15.5	6.5	11.0	16.0	12.5	7.5	0.8	500	
ECWF4114□L( )	0.11	15.5	6.8	11.3	16.3	12.5	7.5	0.8	400	
ECWF4124□L( )	0.12	15.5	7.0	11.5	16.5	12.5	7.5	0.8		
ECWF4134□L( )	0.13	15.5	7.2	11.8	16.8	12.5	7.5	0.8		
ECWF4154□L( )	0.15	15.5	7.6	12.2	17.2	12.5	7.5	0.8		
ECWF4164□L( )	0.16	15.5	7.8	12.4	17.4	12.5	7.5	0.8		
ECWF4184□L( )	0.18	15.5	8.2	12.8	17.8	12.5	7.5	0.8		
ECWF4204□L( )	0.20	15.5	8.6	13.3	18.3	12.5	7.5	0.8	300	
ECWF4224□L( )	0.22	15.5	9.0	13.6	18.6	12.5	7.5	0.8		
ECWF4244□L( )	0.24	18.0	8.3	13.0	18.0	15.0	10.0	0.8		
ECWF4274□L( )	0.27	18.0	8.8	13.4	18.4	15.0	10.0	0.8		
ECWF4304□L( )	0.30	18.0	9.2	13.9	18.9	15.0	10.0	0.8		
ECWF4334□L( )	0.33	18.0	9.6	14.3	19.3	15.0	10.0	0.8		
ECWF4364□L( )	0.36	18.0	9.9	14.7	19.7	15.0	10.0	0.8		
ECWF4394□L( )	0.39	18.0	10.3	15.1	20.1	15.0	10.0	0.8		
ECWF4434□L( )	0.43	18.0	10.7	15.6	20.6	15.0	10.0	0.8		
ECWF4474□L( )	0.47	18.0	11.2	16.1	21.1	15.0	10.0	0.8	200	
ECWF4514□L( )	0.51	20.5	10.3	16.8	21.8	17.5	12.5	0.8	300	
ECWF4564□L( )	0.56	20.5	10.7	17.3	22.3	17.5	12.5	0.8		
ECWF4624□L( )	0.62	20.5	11.3	17.9	22.9	17.5	12.5	0.8	200	
ECWF4684□L( )	0.68	20.5	11.8	18.5	23.5	17.5	12.5	0.8		
ECWF4754□L( )	0.75	20.5	12.3	19.1	24.1	17.5	12.5	0.8		
ECWF4824□L( )	0.82	23.0	11.8	18.5	23.5	20.0	12.5	0.8		
ECWF4914□L( )	0.91	23.0	12.4	19.2	24.2	20.0	12.5	0.8		
ECWF4105□L( )	1.0	23.0	13.0	19.8	24.8	20.0	12.5	0.8		
ECWF4115□L( )	1.1	23.0	13.6	20.5	25.5	20.0	12.5	0.8	—	
ECWF4125□L( )	1.2	28.0	12.3	19.1	24.1	25.0	17.5	0.8		
ECWF4135□L( )	1.3	28.0	12.8	19.6	24.6	25.0	17.5	0.8		
ECWF4155□L( )	1.5	28.0	13.7	20.7	25.7	25.0	17.5	0.8		
ECWF4165□L( )	1.6	28.0	14.2	21.2	26.2	25.0	17.5	0.8		
ECWF4185□L( )	1.8	28.0	15.2	22.2	27.2	25.0	17.5	0.8		
ECWF4205□L( )	2.0	28.0	16.0	23.1	28.1	25.0	17.5	0.8		
ECWF4225□L( )	2.2	28.0	16.8	24.0	29.0	25.0	17.5	0.8		
ECWF4245□L( )	2.4	28.0	17.5	24.8	29.8	25.0	17.5	0.8		

Suffix for lead crimped

Capacitance tolerance code

■Rating, Dimensions& Quantity/Ammo Box

●Type ECWF(L) Rated voltage : 630 VDC

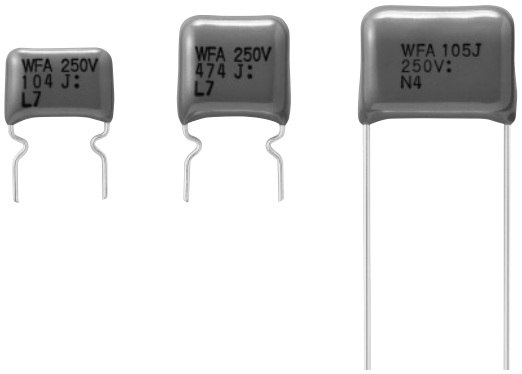
Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty	
		L max	T max	H max		F	S	ød	Taping 7.5mm	Bulk
				Straight	Crimped lead	Straight	Crimped lead			
ECWF6103□L( )	0.010	12.5	5.2	8.0	13.0	10.0	7.5	0.6	1200	500
ECWF6113□L( )	0.011	12.5	5.4	8.2	13.2	10.0	7.5	0.6		
ECWF6123□L( )	0.012	12.5	5.5	8.3	13.3	10.0	7.5	0.6		
ECWF6133□L( )	0.013	12.5	5.6	8.5	13.5	10.0	7.5	0.6	1100	
ECWF6153□L( )	0.015	12.5	5.9	8.7	13.7	10.0	7.5	0.6		
ECWF6163□L( )	0.016	12.5	6.0	8.9	13.9	10.0	7.5	0.6		
ECWF6183□L( )	0.018	12.5	6.2	9.1	14.1	10.0	7.5	0.6	1000	
ECWF6203□L( )	0.020	12.5	6.5	9.3	14.3	10.0	7.5	0.6		
ECWF6223□L( )	0.022	12.5	6.2	9.0	14.0	10.0	7.5	0.6		
ECWF6243□L( )	0.024	12.5	6.4	9.2	14.2	10.0	7.5	0.6		
ECWF6273□L( )	0.027	13.0	6.6	9.5	14.5	10.0	7.5	0.8		
ECWF6303□L( )	0.030	13.0	6.9	9.7	14.7	10.0	7.5	0.8	900	
ECWF6333□L( )	0.033	13.0	7.1	10.0	15.0	10.0	7.5	0.8		
ECWF6363□L( )	0.036	13.0	7.3	10.2	15.2	10.0	7.5	0.8		
ECWF6393□L( )	0.039	13.0	7.6	10.4	15.4	10.0	7.5	0.8	800	
ECWF6433□L( )	0.043	13.0	7.9	10.7	15.7	10.0	7.5	0.8		
ECWF6473□L( )	0.047	15.5	6.4	10.8	15.8	12.5	7.5	0.8	500	
ECWF6513□L( )	0.051	15.5	6.6	11.0	16.0	12.5	7.5	0.8		
ECWF6563□L( )	0.056	15.5	6.8	11.2	16.2	12.5	7.5	0.8	400	
ECWF6623□L( )	0.062	15.5	7.1	11.5	16.5	12.5	7.5	0.8		
ECWF6683□L( )	0.068	15.5	7.4	11.8	16.8	12.5	7.5	0.8		
ECWF6753□L( )	0.075	15.5	7.7	12.1	17.1	12.5	7.5	0.8		
ECWF6823□L( )	0.082	15.5	8.0	12.4	17.4	12.5	7.5	0.8		
ECWF6913□L( )	0.091	15.5	8.3	12.7	17.7	12.5	7.5	0.8		
ECWF6104□L( )	0.10	18.0	7.7	12.1	17.1	15.0	10.0	0.8		
ECWF6114□L( )	0.11	18.0	8.0	12.4	17.4	15.0	10.0	0.8		
ECWF6124□L( )	0.12	18.0	8.3	12.7	17.7	15.0	10.0	0.8	300	
ECWF6134□L( )	0.13	18.0	8.5	13.0	18.0	15.0	10.0	0.8		
ECWF6154□L( )	0.15	18.0	9.1	13.5	18.5	15.0	10.0	0.8		
ECWF6164□L( )	0.16	18.0	9.3	13.8	18.8	15.0	10.0	0.8		
ECWF6184□L( )	0.18	18.0	9.8	14.2	19.1	15.0	10.0	0.8		
ECWF6204□L( )	0.20	18.0	10.3	14.7	19.7	15.0	10.0	0.8		
ECWF6224□L( )	0.22	18.0	10.8	15.5	20.5	15.0	10.0	0.8		
ECWF6244□L( )	0.24	18.0	11.2	15.9	20.9	15.0	10.0	0.8	200	
ECWF6274□L( )	0.27	20.5	10.4	16.7	21.7	17.5	12.5	0.8	300	
ECWF6304□L( )	0.30	20.5	10.9	17.2	22.2	17.5	12.5	0.8		
ECWF6334□L( )	0.33	20.5	11.4	17.7	22.7	17.5	12.5	0.8	200	
ECWF6364□L( )	0.36	20.5	11.9	18.5	23.5	17.5	12.5	0.8		
ECWF6394□L( )	0.39	20.5	12.4	19.0	24.0	17.5	12.5	0.8		
ECWF6434□L( )	0.43	20.5	13.0	19.5	24.5	17.5	12.5	0.8		
ECWF6474□L( )	0.47	20.5	13.5	20.1	25.1	17.5	12.5	0.8	—	
ECWF6514□L( )	0.51	28.0	11.1	17.3	22.3	25.0	17.5	0.8		
ECWF6564□L( )	0.56	28.0	11.6	17.8	22.8	25.0	17.5	0.8		
ECWF6624□L( )	0.62	28.0	12.1	18.7	23.7	25.0	17.5	0.8		
ECWF6684□L( )	0.68	28.0	12.7	19.3	24.3	25.0	17.5	0.8		
ECWF6754□L( )	0.75	28.0	13.3	19.9	24.9	25.0	17.5	0.8		
ECWF6824□L( )	0.82	28.0	13.9	20.5	25.5	25.0	17.5	0.8		
ECWF6914□L( )	0.91	28.0	14.6	21.2	26.2	25.0	17.5	0.8		
ECWF6105□L( )	1.0	28.0	15.5	22.3	27.3	25.0	17.5	0.8		
ECWF6115□L( )	1.1	28.0	16.3	23.0	28.0	25.0	17.5	0.8		
ECWF6125□L( )	1.2	28.0	17.0	23.7	28.7	25.0	17.5	0.8		
ECWF6135□L( )	1.3	28.0	17.6	24.4	29.4	25.0	17.5	0.8		

Suffix for lead crimped

Capacitance tolerance code

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)

1	2	3	4	5	6	7	8	9	10	11
E	C	W	F						A	
Products code		Dielectric & construction		Rated voltage	Capacitance			Cap. Tol.	Suffix	Suffix

2	250 VDC	H	±3 %
		J	±5 %
2W	450 VDC	J	±5 %
		K	±10 %

Suffix	Lead form
Blank	Straight
B	Crimped Lead
Q	Crimped Lead
C	Cut lead

●250VDC,450VDC (Odd Size Taping)

E	C	W	F						R		A
Products code		Dielectric & construction		Rated voltage		Capacitance			Suffix	Cap. Tol.	Suffix

●630VDC (Bulk, Odd Size Taping)

1	2	3	4	5	6	7	8	9	10	11	12
E	C	W	F	A	2	J				J	
Products code		Dielectric & construction			Rated voltage		Capacitance			Cap. Tol.	Suffix

2J	630 VDC	J	±5 %

Suffix	Lead form
Blank	Straight
B	Crimped Lead
Q	Crimped Lead
C	Cut lead
4	Odd size taping

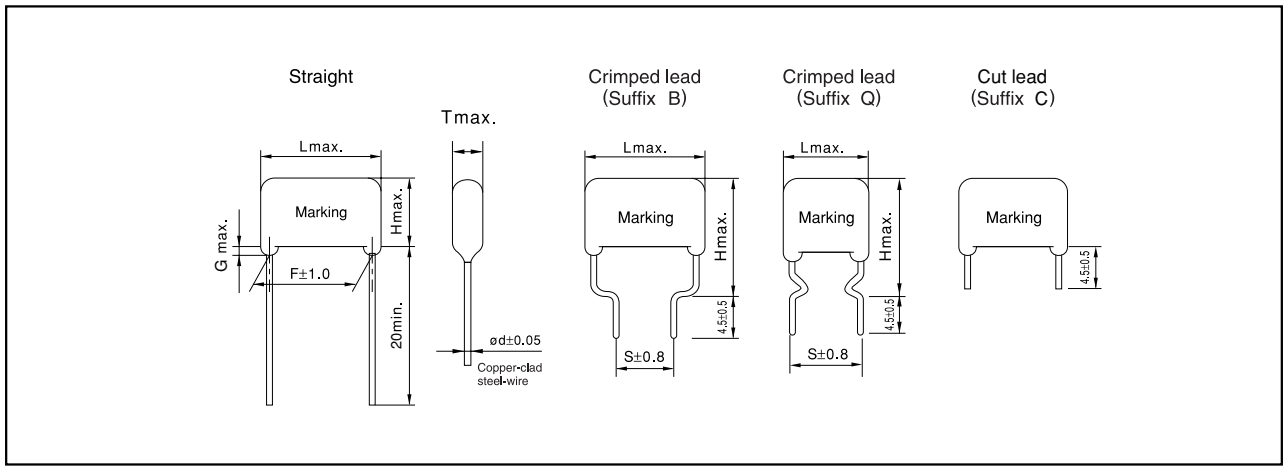
■Specifications

Category temp. range (Including temperature-rise on unit surface)	−40 ℃ to +105 ℃	
Rated voltage	250 VDC	
	450 VDC (Derating of rated voltage by 1.25%/℃ at more than 85℃) 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%/℃ at more than 85℃)	
Capacitance range	250 VDC	0.1 μF to 6.8 μF
	450 VDC	0.1 μF to 4.7 μF
	630 VDC	0.1 μF to 2.2 μF
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 (tanδ)	tanδ ≦0.1 % (20 ℃,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 ℃, 100 VDC, 60 s)
	450 VDC	C≦0.33 μF :IR≧30,000 MΩ C＞0.33 μF :IR≧10,000 MΩ・μF (20 ℃, 100 VDC, 60 s)
	630 VDC	C≦0.33 μF :IR≧9,000 MΩ C＞0.33 μF :IR≧3,000 MΩ・μF (20 ℃, 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)

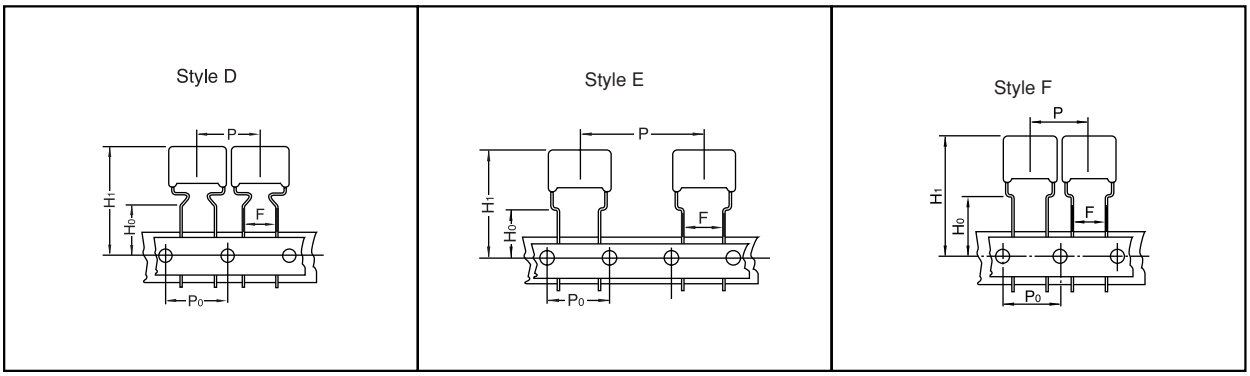


■Packaging Specification for Bulk Package

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 (μF)	Taping style							Packing	suffix
			AD	AS	B	C	D	E	F		
ECWF(A)	250 VDC	0.10 to 0.47					○			Ammo	R( ) A
		0.56 to 3.9						○			
	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
F	7.5 mm

■Rating, Dimensions& Quantity/Ammo Box

●Type ECWF(A) Rated voltage : 250 VDC

Part No.	Cap. (μF)	Dimensions (mm)										Min. order Q'ty	
		L max	T max	H max.			F	S		G max.	ød	Taping 7.5mm	Bulk
				Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)	Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)	Straight			
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		
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		
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		
ECWF2824□A( )	0.82	18.1	8.0		17.6	19.6		7.5	15.0		0.8		500
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		
ECWF2155□A( )	1.5	18.8	10.5	15.6	20.6	22.6	15.0	7.5	15.0	1.5	0.8		
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		
ECWF2275□A( )	2.7	23.8	11.4	17.2	22.2	24.2	20.0	12.5	20.0	1.5	0.8	300	
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		

Suffix for lead crimped

Capacitance tolerance code

■Rating, Dimensions& Quantity/Ammo Box

●Type ECWF(A) Rated voltage : 450 VDC

Part No.	Cap. (μF)	Dimensions (mm)										Min. order Q'ty	
		L max	T max	H max.			F	S		G max.	ød	Taping 7.5mm	Bulk
				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		
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		
ECWF2W224□A( )	0.22	13.0	6.5	—	15.6	15.6	—	7.5	10.0	1.5	0.6		
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		
ECWF2W394□A( )	0.39	13.0	8.1		17.2	17.2		7.5	10.0	1.5	0.6		
ECWF2W474□A( )	0.47	13.0	8.7		17.9	17.9		7.5	10.0	1.5	0.6	600	
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	500
ECWF2W684□A( )	0.68	18.1	7.5	12.1	17.1	19.1	15.0	7.5	15.0	1.5	0.8		
ECWF2W824□A( )	0.82	18.1	8.2	12.7	17.7	19.7	15.0	7.5	15.0	1.5	0.8		
ECWF2W105□A( )	1.0	18.1	9.3	12.6	17.6	19.6	15.0	7.5	15.0	1.5	0.8	300	
ECWF2W125□A( )	1.2	18.8	9.7	14.7	19.7	21.7	15.0	7.5	15.0	1.5	0.8		
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	200	
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		

↑ Suffix for lead crimped

↑ Capacitance tolerance code

●Type ECWF(A) Rated voltage : 630 VDC

Part No.	Cap. (μF)	Dimensions (mm)										Min. order Q'ty		
		L max	T max	H max.			F	S		G max.	ød	Taping 7.5mm	Bulk Straight	Bulk Crimped lead
				Straight	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	1000	1000
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	500		
ECWFA2J184J( )	0.18	18.2	6.5	11.7	16.7	16.7	15.0	7.5	15.0	1.5	0.6			
ECWFA2J224J( )	0.22	18.2	7.1	12.3	17.3	17.3	15.0	7.5	15.0	1.5	0.6	400		
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	300		
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			
ECWFA2J684J( )	0.68	18.1	12.0	17.1	22.1	22.1	15.0	7.5	15.0	1.5	0.6	200	800	
ECWFA2J824J( )	0.82	26.0	10.1	15.3	20.3	22.3	22.5	15.0	22.5	1.5	0.8	—		
ECWFA2J105J( )	1.0	26.0	11.1	16.2	21.2	23.2	22.5	15.0	22.5	1.5	0.8		600	600
ECWFA2J125J( )	1.2	26.0	12.1	17.2	22.2	24.2	22.5	15.0	22.5	1.5	0.8			
ECWFA2J155J( )	1.5	26.0	13.5	18.6	23.6	25.6	22.5	15.0	22.5	1.5	0.8			
ECWFA2J185J( )	1.8	26.0	14.8	19.8	24.8	26.8	22.5	15.0	22.5	1.5	0.8		500	500
ECWFA2J225J( )	2.2	26.0	16.3	21.4	26.4	28.4	22.5	15.0	22.5	1.5	0.8		400	

↑ Suffix for lead crimped

Metallized Polypropylene Film Capacitor

Type : **ECWFD**

Non-inductive construction using metalized Polypropylene film with flame retardant epoxy resin coating.

■Features

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

■Recommended Applications

- Activ filter circuits
- High frequency and high current circuits

■Explanation of Part Numbers

- Standard Product

1	2	3	4	5	6	7	8	9	10	11	12
E	C	W	F	D							
Product code		Dielectric & construction			Rated vol.		Capacitance			Cap. Tol.	Suffix

2W	450 VDC

J	±5 %
K	±10 %

Suffix	Lead Form
Blank	Straight
B	Crimped lead
Q	Crimped lead
C	Cut lead
3	Crimped taping (Ammo)
4	Odd size taping

- Short Lead Space Product (0.47 μF,0.68 μF,1.0 μF)

1	2	3	4	5	6	7	8	9	10	11	12
E	C	W	F	D							
Product code		Dielectric & construction			Rated vol.		Capacitance			Suffix 1	Suffix 2

2W	450 VDC

Suffix	Cap. Tol.
P	±5 % (J)
Q	±10 % (K)

Suffix	Lead Form
1	Straight
B	Crimped lead
Q	Crimped lead
C	Cut lead
3	Crimped taping (Ammo)
4	Odd size taping

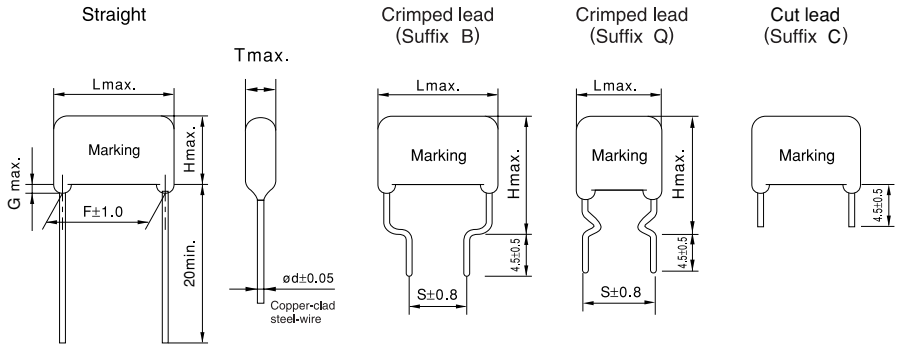
■Specifications

Category temp. range (Including temperature-rise on unit surface)	−40 ℃ to +110 ℃
Rated voltage	450 VDC (Derating of rated voltage by 0.62%/℃ at more than 85℃ 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	0.1 μF to 4.7 μF
Capacitance tolerance	±5 %(J), ±10 %(K)
Withstand voltage	Between terminals:Rated voltage (VDC)×150 % 60 s
Dissipation factor (tanδ)	tan δ ≦0.1 % (20 ℃,1 kHz)
Insulation resistance (IR)	C≦0.33 μF:IR≧30,000MΩ C>0.33 μF:IR≧10,000MΩ·μF (20 ℃,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”.

■Dimensions in mm (not to scale)

(Dimensions : mm)

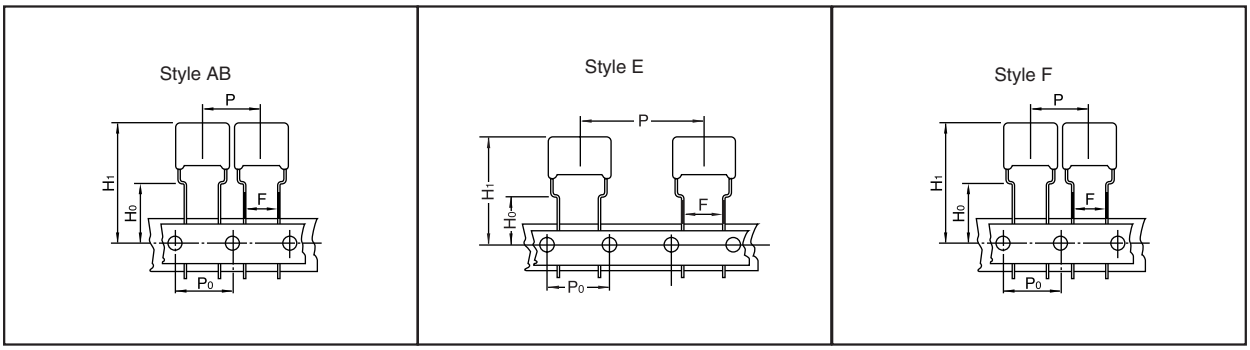


■Packaging Specification for Bulk Package

Packing quantity: 100 pcs./bag

■Taping Specifications for Automatic Insertion

●Taping style



●Packaging Specifications

Type	Rated voltage.	Cap. range (μF)	Taping style								Packing	suffix
			AD	AS	AB	B	C	D	E	F		
ECWFD	450 VDC	0.10 to 0.39			○						Ammo	3
		0.47, 0.68, 1.0			○							P3/Q3
		0.10 to 0.39								○		4
		0.47, 0.68, 1.0								○		P4/Q4
		0.47 to 2.2							○			4

❊Refer to the page of taping specifications.

●Lead Spacing

Style	Lead Spacing
AB	5.0 mm
E	7.5 mm
F	7.5 mm

■Rating, Dimensions& Quantity/Ammo Box

●Type ECWFD Rated voltage : 450 VDC

Part No.	Cap. (μF)	Dimensions (mm)										Min. order Q'ty			
		L max	T max	H max.			F	S		G max.	ϕd	Taping		Bulk	
				Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)		Crimped lead (Suffix B)	Crimped lead (Suffix Q)			5.0mm	7.5mm	Straight	Crimped lead
ECWFD2W104□( )	0.10	12.6	4.5		13.9	13.9		7.5	10.0		0.6				
ECWFD2W124□( )	0.12	12.6	4.6		14.0	14.0		7.5	10.0		0.6	1500	1400		
ECWFD2W154□( )	0.15	12.6	4.6		14.1	14.1		7.5	10.0		0.6				
ECWFD2W184□( )	0.18	12.6	4.8	—	14.3	14.3	—	7.5	10.0	—	0.6	1400	1300	—	
ECWFD2W224□( )	0.22	12.6	5.0		14.6	14.6		7.5	10.0		0.6		1200		
ECWFD2W274□( )	0.27	12.6	5.3		15.0	15.0		7.5	10.0		0.6	1300			
ECWFD2W334□( )	0.33	12.6	5.6		15.4	15.4		7.5	10.0		0.6	1200	1100		
ECWFD2W394□( )	0.39	12.6	6.0		15.7	15.7		7.5	10.0		0.6	1100	1000		
★ ECWFD2W474P( ) ECWFD2W474Q( )	0.47	12.6	6.5	11.2	16.2	16.2	10.0	7.5	10.0	1.5	0.6	1000	900		
ECWFD2W474□( )	0.47	17.5	5.8	9.0	14.0	16.0	15.0	7.5	15.0	1.5	0.8	—	500		
ECWFD2W564□( )	0.56	17.5	6.2	9.4	14.4	16.4	15.0	7.5	15.0	1.5	0.8	—			
★ ECWFD2W684P( ) ECWFD2W684Q( )	0.68	12.6	7.7	12.4	17.4	17.4	10.0	7.5	10.0	1.5	0.6	800	700		1000
ECWFD2W684□( )	0.68	17.5	6.7	9.9	14.9	16.9	15.0	7.5	15.0	1.5	0.8	—	400		
ECWFD2W824□( )	0.82	17.5	7.2	10.4	15.4	17.4	15.0	7.5	15.0	1.5	0.8	—			
★ ECWFD2W105P( ) ECWFD2W105Q( )	1.0	12.6	9.2	13.9	18.9	18.9	10.0	7.5	10.0	1.5	0.6	700	600	1000	
ECWFD2W105□( )	1.0	17.5	7.8	11.0	16.0	18.0	15.0	7.5	15.0	1.5	0.8		400		
ECWFD2W125□( )	1.2	17.5	8.5	11.6	16.6	18.6	15.0	7.5	15.0	1.5	0.8				
ECWFD2W155□( )	1.5	17.5	9.3	12.5	17.5	19.5	15.0	7.5	15.0	1.5	0.8		300		
ECWFD2W185□( )	1.8	17.5	10.1	13.3	18.3	20.3	15.0	7.5	15.0	1.5	0.8				
ECWFD2W225□( )	2.2	17.5	11.1	14.3	19.3	21.3	15.0	7.5	15.0	1.5	0.8	—	200		
ECWFD2W275□( )	2.7	25.3	9.0	13.7	18.7	20.7	22.5	15.0	22.5	1.5	0.8				
ECWFD2W335□( )	3.3	25.3	9.8	14.6	19.6	21.6	22.5	15.0	22.5	1.5	0.8		—	800	
ECWFD2W395□( )	3.9	25.3	10.7	15.4	20.4	22.4	22.5	15.0	22.5	1.5	0.8				
ECWFD2W475□( )	4.7	25.3	11.7	16.4	21.4	23.4	22.5	15.0	22.5	1.5	0.8			600	600

Suffix for lead crimped

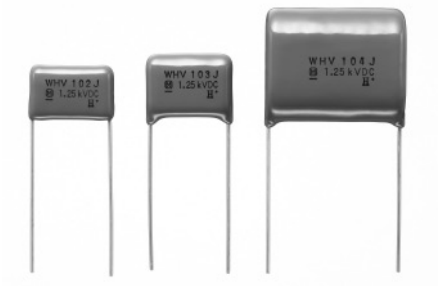
Capacitance tolerance code

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

Metallized Polypropylene Film Capacitor

Type : ECWH(V)

Designed for high frequency and pluse applications.



■Features

- Low-loss and inherent tempereature rise
- Excellent electrical characteristics
- Flame-retardant epoxy resin coating
- RoHS directive compliant

■Recommended Applications

- TV, Monitors, Electronic ballast

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	C	W	H							V	
Product code		Dielectric & construction		Rated vol.		Capacitance			Cap. Tol.	Suffix	Suffix

10	1000 VDC
12	1250 VDC
16	1600 VDC
20	2000 VDC

H	±3 %
J	±5 %

Suffix	Lead Form
Blank	Straight
B	Crimped lead
C	Cut lead

●Explanation of Part Number for Odd Size Taping

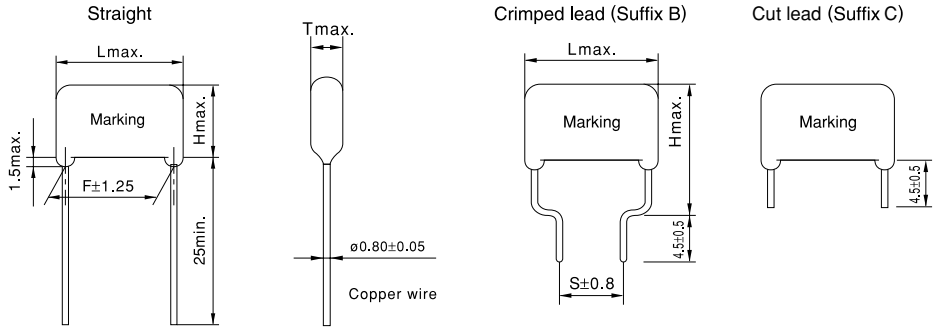
E	C	W	H						R		V
Product code		Dielectric & construction		Rated vol.		Capacitance			7.5 mm Crimped	Cap. Tol.	Suffix

■Specifications

Category temp. range (Including temperature-rise on unit surface)	−40 ℃ to + 105 ℃	
Rated voltage	1000 VDC, 1250 VDC (1000 Vp-p), 1600 VDC (1200 Vp-p), 2000 VDC (1500 Vp-p) (Derating of rated voltage by 1.25 %/℃ at more than 85 ℃)	
Capacitance range	1000 VDC	0.0075 μF to 0.10 μF
	1250 VDC	0.0036 μF to 0.10 μF
	1600 VDC	0.0013 μF to 0.056 μF
	2000 VDC	0.0010 μF to 0.015 μF
Capacitance tolerance	±3 %(H), ±5 %(J)	
Dissipation factor (tanδ)	tanδ≦0.1 % (20 ℃, 1 kHz), tanδ≦0.2 % (20 ℃, 10 kHz)	
Withstand voltage	Between terminals:Rated volt. (VDC)×150 % 60 s Between terminals to enclosure:1500 VAC 60 s	
Insulation resistance (IR)	IR≧30000 MΩ (20 ℃, 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)

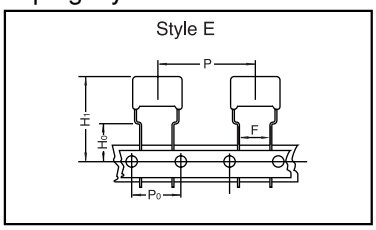


■Packaging Specifications for Bulk Package

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	B	C	D	E		
ECWH(V)	1000 VDC	0.0075 to 0.10						○	Ammo	R( ) V
	1250 VDC	0.0036 to 0.051						○	Ammo	R( ) V
	1600 VDC	0.0013 to 0.020						○	Ammo	R( ) V
	2000 VDC	0.0010 to 0.015						○	Ammo	R( ) V

❊See the column “Rating, Dimensions & Quantity Box” for packing quantity.

●Lead Spacing

Style	Lead Spacing
E	7.5 mm

■Rating & Dimensions

●Rated voltage : 1000 VDC. Capacitance tolerance : ±3 %(H), ±5 %(J)

Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty	
		L max	T max	H max.		F	S	ød	Taping 7.5 mm	Bulk
				Straight	Crimped lead	Straight	Crimped lead			
ECWH10752□V( )	0.0075	18.0	6.0	12.5	17.5	15.0	10.0	0.80	500	500
ECWH10822□V( )	0.0082	18.0	6.0	12.5	17.5	15.0	10.0	0.80		
ECWH10912□V( )	0.0091	18.0	6.0	13.0	18.0	15.0	10.0	0.80		
ECWH10103□V( )	0.010	18.0	6.5	13.0	18.0	15.0	10.0	0.80		
ECWH10113□V( )	0.011	18.0	6.5	13.5	18.5	15.0	10.0	0.80		
ECWH10123□V( )	0.012	18.0	6.5	13.5	18.5	15.0	10.0	0.80		
ECWH10133□V( )	0.013	18.0	7.0	13.5	18.5	15.0	10.0	0.80		
ECWH10153□V( )	0.015	18.0	7.0	14.0	19.0	15.0	10.0	0.80		
ECWH10163□V( )	0.016	18.0	7.5	14.0	19.0	15.0	10.0	0.80		
ECWH10183□V( )	0.018	18.0	7.5	14.5	19.5	15.0	10.0	0.80		
ECWH10203□V( )	0.020	18.0	8.0	15.0	20.0	15.0	10.0	0.80	400	
ECWH10223□V( )	0.022	18.0	8.5	15.0	20.0	15.0	10.0	0.80		
ECWH10243□V( )	0.024	18.0	8.5	15.5	20.5	15.0	10.0	0.80		
ECWH10273□V( )	0.027	18.0	9.0	16.0	21.0	15.0	10.0	0.80	300	
ECWH10303□V( )	0.030	18.0	9.5	16.5	21.5	15.0	10.0	0.80		
ECWH10333□V( )	0.033	23.0	7.5	16.0	21.0	20.0	15.0	0.80	400	
ECWH10363□V( )	0.036	23.0	7.5	16.0	21.0	20.0	15.0	0.80		
ECWH10393□V( )	0.039	23.0	8.0	16.5	21.5	20.0	15.0	0.80		
ECWH10433□V( )	0.043	23.0	8.5	16.5	21.5	20.0	15.0	0.80		
ECWH10473□V( )	0.047	23.0	8.5	17.0	22.0	20.0	15.0	0.80		
ECWH10513□V( )	0.051	23.0	9.0	17.5	22.5	20.0	15.0	0.80	300	
ECWH10563□V( )	0.056	23.0	9.5	17.5	22.5	20.0	15.0	0.80		
ECWH10623□V( )	0.062	23.0	9.5	18.0	23.0	20.0	15.0	0.80		
ECWH10683□V( )	0.068	23.0	10.0	19.0	24.0	20.0	15.0	0.80		
ECWH10753□V( )	0.075	23.0	10.5	19.5	24.5	20.0	15.0	0.80		
ECWH10823□V( )	0.082	23.0	11.0	20.0	25.0	20.0	15.0	0.80		
ECWH10913□V( )	0.091	23.0	11.5	20.5	25.5	20.0	15.0	0.80		
ECWH10104□V( )	0.10	23.0	12.0	21.0	26.0	20.0	15.0	0.80		

Suffix for lead crimped

Cap. tol. code

■Rating & Dimensions

●Rated voltage : 1250 VDC Capacitance tolerance : ±3 %(H), ±5 %(J)

Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty	
		L max	T max	H max.		F	S	ød	Taping 7.5 mm	Bulk
				Straight	Crimped lead	Straight	Crimped lead			
ECWH12362□V( )	0.0036	18.0	6.0	12.5	17.5	15.0	10.0	0.80	500	500
ECWH12392□V( )	0.0039	18.0	6.0	12.5	17.5	15.0	10.0	0.80		
ECWH12432□V( )	0.0043	18.0	6.0	13.0	18.0	15.0	10.0	0.80		
ECWH12472□V( )	0.0047	18.0	6.0	13.0	18.0	15.0	10.0	0.80		
ECWH12512□V( )	0.0051	18.0	6.5	13.0	18.0	15.0	10.0	0.80		
ECWH12562□V( )	0.0056	18.0	6.5	13.5	18.5	15.0	10.0	0.80		
ECWH12622□V( )	0.0062	18.0	6.5	13.5	18.5	15.0	10.0	0.80		
ECWH12682□V( )	0.0068	18.0	7.0	13.5	18.5	15.0	10.0	0.80		
ECWH12752□V( )	0.0075	18.0	7.0	14.0	19.0	15.0	10.0	0.80		
ECWH12822□V( )	0.0082	18.0	7.5	14.0	19.0	15.0	10.0	0.80		
ECWH12912□V( )	0.0091	18.0	7.5	14.5	19.5	15.0	10.0	0.80		
ECWH12103□V( )	0.010	18.0	8.0	15.0	20.0	15.0	10.0	0.80	400	
ECWH12113□V( )	0.011	18.0	8.5	15.0	20.0	15.0	10.0	0.80		
ECWH12123□V( )	0.012	18.0	8.5	15.5	20.5	15.0	10.0	0.80		
ECWH12133□V( )	0.013	18.0	9.0	15.5	20.5	15.0	10.0	0.80		
ECWH12153□V( )	0.015	18.0	9.5	16.0	21.0	15.0	10.0	0.80		
ECWH12163□V( )	0.016	23.0	7.5	16.0	21.0	20.0	15.0	0.80	500	
ECWH12183□V( )	0.018	23.0	7.5	16.0	21.0	20.0	15.0	0.80		
ECWH12203□V( )	0.020	23.0	8.0	16.5	21.5	20.0	15.0	0.80	400	
ECWH12223□V( )	0.022	23.0	8.5	16.5	21.5	20.0	15.0	0.80		
ECWH12243□V( )	0.024	23.0	8.5	17.0	22.0	20.0	15.0	0.80		
ECWH12273□V( )	0.027	23.0	9.0	17.5	22.5	20.0	15.0	0.80		
ECWH12303□V( )	0.030	23.0	9.5	18.0	23.0	20.0	15.0	0.80		
ECWH12333□V( )	0.033	23.0	10.0	18.5	23.5	20.0	15.0	0.80	300	
ECWH12363□V( )	0.036	23.0	10.0	19.0	24.0	20.0	15.0	0.80		
ECWH12393□V( )	0.039	23.0	10.5	19.5	24.5	20.0	15.0	0.80		
ECWH12433□V( )	0.043	23.0	11.0	20.0	25.0	20.0	15.0	0.80		
ECWH12473□V( )	0.047	23.0	11.5	20.5	25.5	20.0	15.0	0.80		
ECWH12513□V( )	0.051	23.0	12.0	21.0	26.0	20.0	15.0	0.80		
ECWH12563□V( )	0.056	28.0	11.5	20.0	25.0	25.0	17.5	0.80	—	
ECWH12623□V( )	0.062	28.0	12.0	21.0	26.0	25.0	17.5	0.80		
ECWH12683□V( )	0.068	28.0	12.5	21.5	26.5	25.0	17.5	0.80		
ECWH12753□V( )	0.075	28.0	13.5	22.0	27.0	25.0	17.5	0.80		
ECWH12823□V( )	0.082	28.0	14.0	22.5	27.5	25.0	17.5	0.80		
ECWH12913□V( )	0.091	28.0	14.5	23.0	28.0	25.0	17.5	0.80		
ECWH12104□V( )	0.10	28.0	15.5	24.0	29.0	25.0	17.5	0.80		

Suffix for lead crimped

Cap. tol. code

■Rating & Dimensions

●Rated voltage : 1600 VDC Capacitance tolerance : ±3 %(H), ±5 %(J)

Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty	
		L max	T max	H max.		F	S	ød	Taping 7.5 mm	Bulk
				Straight	Crimped lead	Straight	Crimped lead			
ECWH16132□V( )	0.0013	18.0	6.5	13.0	18.0	15.0	10.0	0.80	500	500
ECWH16152□V( )	0.0015	18.0	6.5	13.5	18.5	15.0	10.0	0.80		
ECWH16162□V( )	0.0016	18.0	7.0	13.5	18.5	15.0	10.0	0.80		
ECWH16182□V( )	0.0018	18.0	7.0	14.0	19.0	15.0	10.0	0.80		
ECWH16202□V( )	0.0020	18.0	7.0	14.0	19.0	15.0	10.0	0.80		
ECWH16222□V( )	0.0022	18.0	6.5	13.5	18.5	15.0	10.0	0.80		
ECWH16242□V( )	0.0024	18.0	7.0	13.5	18.5	15.0	10.0	0.80		
ECWH16272□V( )	0.0027	18.0	7.0	14.0	19.0	15.0	10.0	0.80		
ECWH16302□V( )	0.0030	18.0	7.5	14.0	19.0	15.0	10.0	0.80	400	
ECWH16332□V( )	0.0033	18.0	7.5	14.5	19.5	15.0	10.0	0.80		
ECWH16362□V( )	0.0036	18.0	7.0	13.5	18.5	15.0	10.0	0.80	500	
ECWH16392□V( )	0.0039	18.0	7.0	14.0	19.0	15.0	10.0	0.80		
ECWH16432□V( )	0.0043	18.0	7.0	14.0	19.0	15.0	10.0	0.80		
ECWH16472□V( )	0.0047	23.0	6.5	14.5	19.5	20.0	15.0	0.80		
ECWH16512□V( )	0.0051	23.0	6.5	15.0	20.0	20.0	15.0	0.80		
ECWH16562□V( )	0.0056	23.0	6.5	15.0	20.0	20.0	15.0	0.80		
ECWH16622□V( )	0.0062	23.0	7.0	15.0	20.0	20.0	15.0	0.80		
ECWH16682□V( )	0.0068	23.0	7.0	15.5	20.5	20.0	15.0	0.80		
ECWH16752□V( )	0.0075	23.0	7.5	15.5	20.5	20.0	15.0	0.80	400	
ECWH16822□V( )	0.0082	23.0	7.5	16.0	21.0	20.0	15.0	0.80		
ECWH16912□V( )	0.0091	23.0	8.0	16.0	21.0	20.0	15.0	0.80		
ECWH16103□V( )	0.010	23.0	8.0	16.5	21.5	20.0	15.0	0.80		
ECWH16113□V( )	0.011	23.0	8.5	17.0	22.0	20.0	15.0	0.80		
ECWH16123□V( )	0.012	23.0	9.0	17.0	22.0	20.0	15.0	0.80	300	
ECWH16133□V( )	0.013	23.0	9.0	17.5	22.5	20.0	15.0	0.80		
ECWH16153□V( )	0.015	23.0	9.5	18.0	23.0	20.0	15.0	0.80		
ECWH16163□V( )	0.016	23.0	10.0	18.5	23.5	20.0	15.0	0.80		
ECWH16183□V( )	0.018	23.0	10.5	19.5	24.5	20.0	15.0	0.80		
ECWH16203□V( )	0.020	23.0	11.0	20.0	25.0	20.0	15.0	0.80		
ECWH16223□V( )	0.022	28.0	9.5	18.0	23.0	25.0	17.5	0.80	—	
ECWH16243□V( )	0.024	28.0	10.0	18.5	23.5	25.0	17.5	0.80		
ECWH16273□V( )	0.027	28.0	10.5	19.5	24.5	25.0	17.5	0.80		
ECWH16303□V( )	0.030	28.0	11.0	20.0	25.0	25.0	17.5	0.80		
ECWH16333□V( )	0.033	28.0	11.5	20.5	25.5	25.0	17.5	0.80		
ECWH16363□V( )	0.036	28.0	12.5	21.5	26.5	25.0	17.5	0.80		
ECWH16393□V( )	0.039	28.0	13.5	22.0	27.0	25.0	17.5	0.80		
ECWH16433□V( )	0.043	28.0	14.5	22.5	27.5	25.0	17.5	0.80		
ECWH16473□V( )	0.047	28.0	15.0	23.5	28.5	25.0	17.5	0.80		
ECWH16513□V( )	0.051	28.0	15.5	24.0	29.0	25.0	17.5	0.80		
ECWH16563□V( )	0.056	28.0	16.0	24.5	29.5	25.0	17.5	0.80		

Suffix for lead crimped

Cap. tol. code

■Rating & Dimensions

●Rated voltage : 2000 VDC Capacitance tolerance : ±3 %(H), ±5 %(J)

Part No.	Cap. (μF)	Dimensions							Min. order Q'ty	
		L max	T max	H max.		F	S	ød	Taping 7.5 mm	Bulk
				Straight	Crimped lead	Straight	Crimped lead			
ECWH20102□V( )	0.0010	18.0	6.5	13.5	18.5	15.0	10.0	0.80	500	500
ECWH20112□V( )	0.0011	18.0	6.5	13.5	18.5	15.0	10.0	0.80		
ECWH20122□V( )	0.0012	18.0	7.0	13.5	18.5	15.0	10.0	0.80		
ECWH20132□V( )	0.0013	18.0	7.0	14.0	19.0	15.0	10.0	0.80		
ECWH20152□V( )	0.0015	18.0	7.5	14.0	19.0	15.0	10.0	0.80	400	
ECWH20162□V( )	0.0016	18.0	7.5	14.5	19.5	15.0	10.0	0.80		
ECWH20182□V( )	0.0018	18.0	8.0	14.5	19.5	15.0	10.0	0.80		
ECWH20202□V( )	0.0020	18.0	8.0	15.0	20.0	15.0	10.0	0.80		
ECWH20222□V( )	0.0022	18.0	8.5	15.0	20.0	15.0	10.0	0.80		
ECWH20242□V( )	0.0024	18.0	8.5	15.5	20.5	15.0	10.0	0.80		
ECWH20272□V( )	0.0027	18.0	9.0	16.0	21.0	15.0	10.0	0.80	300	
ECWH20302□V( )	0.0030	18.0	9.5	16.0	21.0	15.0	10.0	0.80		
ECWH20332□V( )	0.0033	18.0	8.5	15.5	20.5	15.0	10.0	0.80	400	
ECWH20362□V( )	0.0036	18.0	9.0	15.5	20.5	15.0	10.0	0.80	300	
ECWH20392□V( )	0.0039	18.0	9.0	16.0	21.0	15.0	10.0	0.80		
ECWH20432□V( )	0.0043	18.0	9.5	16.0	21.0	15.0	10.0	0.80		
ECWH20472□V( )	0.0047	23.0	7.0	15.5	20.5	20.0	15.0	0.80	500	
ECWH20512□V( )	0.0051	23.0	7.5	16.0	21.0	20.0	15.0	0.80	400	
ECWH20562□V( )	0.0056	23.0	7.5	16.0	21.0	20.0	15.0	0.80		
ECWH20622□V( )	0.0062	23.0	8.0	16.5	21.5	20.0	15.0	0.80		
ECWH20682□V( )	0.0068	23.0	8.5	16.5	21.5	20.0	15.0	0.80		
ECWH20752□V( )	0.0075	23.0	9.5	18.0	23.0	20.0	15.0	0.80	300	
ECWH20822□V( )	0.0082	23.0	10.0	18.0	23.0	20.0	15.0	0.80		
ECWH20912□V( )	0.0091	23.0	10.0	19.0	24.0	20.0	15.0	0.80		
ECWH20103□V( )	0.010	23.0	10.5	19.5	24.5	20.0	15.0	0.80		
ECWH20113□V( )	0.011	23.0	11.0	20.0	25.0	20.0	15.0	0.80		
ECWH20123□V( )	0.012	23.0	11.5	20.5	25.5	20.0	15.0	0.80		
ECWH20133□V( )	0.013	23.0	12.0	21.0	26.0	20.0	15.0	0.80		
ECWH20153□V( )	0.015	23.0	12.0	21.5	26.5	20.0	15.0	0.80		

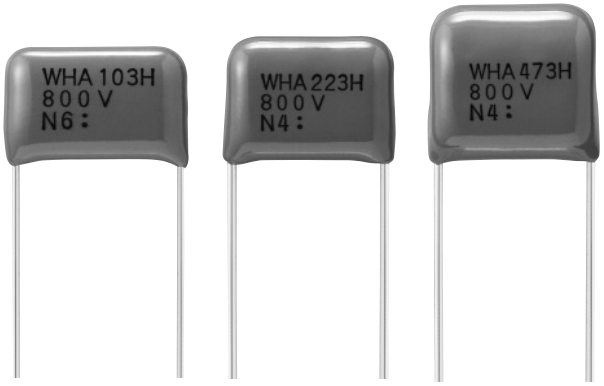
Suffix for lead crimped

Cap. tol. code

Metallized Polypropylene Film Capacitors

Type: ECWH(A)

Designed for high frequency and pluse applications.



■Features
- ●Small size
- ●Excellent electrical characteristics
- ●Low loss
- ●Low Hum Sound Noise
- ●Flame-retardant epoxy resin coating
- ●RoHS directive compliant

■Recommended Applications
- ●Resonant circuit, Electronic ballast

■Explanation of Part Numbers

●Explanation of Part Numbers (Rated voltage 800 VDC)

1	2	3	4	5	6	7	8	9	10	11
E	C	W	H	8				H	A	
Product code		Dielectric & construction		Rated voltage	Capacitance			Cap. Tol.	Suffix	Suffix

8	800VDC

H	±3 %

Suffix	Lead Form
Blank	Straight
B	Crimped lead
Q	Crimped lead
C	Cut lead

●Explanation of Part Numbers for Odd Size Taping (Rated voltage 800 VDC)

E	C	W	H	8				R	H	A
Product code		Dielectric & construction		Rated voltage	Capacitance			Suffix	Cap.tol	Suffix

●Explanation of Part Numbers (Rated voltage 1600 VDC)

1	2	3	4	5	6	7	8	9	10	11	12
E	C	W	H	A	3	C					
Product code		Dielectric & construction			Rated voltage		Capacitance			Cap. Tol.	Suffix

3C	1600VDC

H	±3 %
J	±5 %

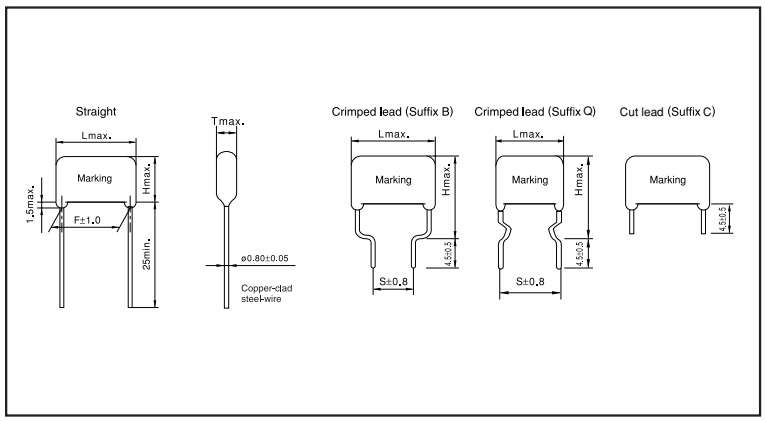
Suffix	Lead Form
Blank	Straight
B	Crimped lead
Q	Crimped lead
C	Cut lead
4	Odd size taping

■Specifications

Category temp. range (Including temperature-rise on unit surface)	−40 ℃ to +105 ℃	
Rated voltage	800 VDC	1600 VDC
Capacitance range	0.010 μF to 0.047 μF	0.0010 μF to 0.047 μF
Capacitance tolerance	±3 % (H)	±3 % (H) ,±5 % (J)
Dissipation factor (tanδ)	tanδ≦0.1 % (20℃, 1kHz)	
Withstand voltage	Between terminals : Rated volt. (VDC)×150 % 60 s	
Insulation resistance (IR)	IR≧30000 MΩ (20 ℃, 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)

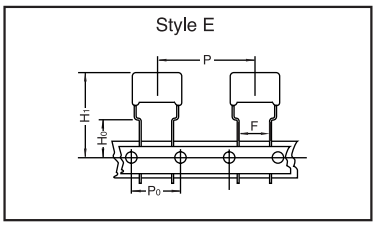


■Packaging Specifications for Bulk Package

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	B	C	D	E		
ECWH(A)	800 VDC	0.010 to 0.047						○	Ammo	RHA
ECWHA	1600 VDC	0.0010 to 0.047						○	Ammo	( )4

●Lead Spacing

Style	Lead Spacing
E	7.5 mm

■Rating & Dimensions & Quantity / Ammo Box

●Rated voltage : 800 VDC, Capacitance tolerance : ±3 %(H)

Part No.	Cap. (μF)	Dimensions (mm)									Min. order Q'ty	
		L max	T max	H max.			F	S		ød	Taping 7.5mm	Bulk
				Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)	Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)			
ECWH8103HA( )	0.010	15.4	5.4	9.8	14.8	14.8	12.5	7.5	12.5	0.6	500	500
ECWH8123HA( )	0.012	15.4	5.8	10.2	15.2	15.2	12.5	7.5	12.5	0.6		
ECWH8153HA( )	0.015	15.4	6.2	10.6	15.6	15.6	12.5	7.5	12.5	0.6		
ECWH8183HA( )	0.018	15.7	6.6	11.0	16.0	18.0	12.5	7.5	12.5	0.8		
ECWH8223HA( )	0.022	15.7	7.1	11.5	16.5	18.5	12.5	7.5	12.5	0.8	400	
ECWH8273HA( )	0.027	15.7	7.6	12.0	17.0	19.0	12.5	7.5	12.5	0.8		
ECWH8333HA( )	0.033	15.7	8.4	12.8	17.8	19.8	12.5	7.5	12.5	0.8	300	
ECWH8393HA( )	0.039	15.7	8.9	13.3	18.3	20.3	12.5	7.5	12.5	0.8		
ECWH8473HA( )	0.047	15.7	9.7	14.1	19.1	21.1	12.5	7.5	12.5	0.8		

Suffix for lead crimped taped type

Capacitance tolerance code

■Rating & Dimensions & Quantity / Ammo Box
●Rated voltage : 1600 VDC, Capacitance tolerance : ±3 %(H), ±5 %(J)

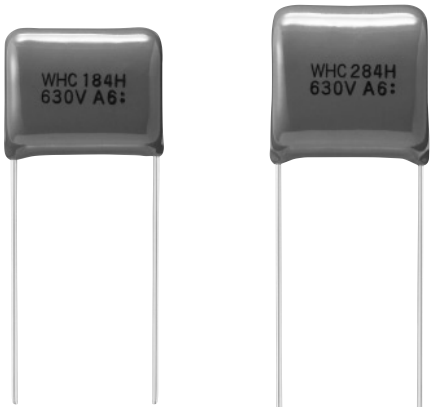
Part No.	Cap. (μF)	Dimensions (mm)									Min. order Q'ty		
		L max	T max	H max.			F	S		ød	Taping 7.5mm	Bulk Straight	Bulk Crimped lead
				Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)		Crimped lead (Suffix B)	Crimped lead (Suffix Q)				
ECWHA3C102□( )	0.0010	17.8	5.2		13.0	13.0		10.0	15.0	0.6	600		
ECWHA3C112□( )	0.0011	17.8	5.4		13.1	13.1		10.0	15.0	0.6			
ECWHA3C122□( )	0.0012	17.8	5.5		13.2	13.2		10.0	15.0	0.6	500		
ECWHA3C132□( )	0.0013	17.8	5.7		13.4	13.4		10.0	15.0	0.6			
ECWHA3C152□( )	0.0015	17.8	5.9		13.7	13.7		10.0	15.0	0.6			
ECWHA3C162□( )	0.0016	17.8	6.1		13.9	13.9		10.0	15.0	0.6			
ECWHA3C182□( )	0.0018	17.8	6.4		14.1	14.1		10.0	15.0	0.6			
ECWHA3C202□( )	0.0020	17.8	6.6		14.3	14.3		10.0	15.0	0.6	400		
ECWHA3C222□( )	0.0022	17.8	6.7	—	14.5	14.5	—	10.0	15.0	0.6		—	
ECWHA3C242□( )	0.0024	17.8	7.0		14.7	14.7		10.0	15.0	0.6			
ECWHA3C272□( )	0.0027	17.8	5.2		13.0	13.0		10.0	15.0	0.6	600		
ECWHA3C302□( )	0.0030	17.8	5.5		13.2	13.2		10.0	15.0	0.6			
ECWHA3C332□( )	0.0033	17.8	5.6		13.4	13.4		10.0	15.0	0.6			
ECWHA3C362□( )	0.0036	17.8	5.7		13.5	13.5		10.0	15.0	0.6	500		
ECWHA3C392□( )	0.0039	17.8	6.0		13.8	13.8		10.0	15.0	0.6			
ECWHA3C432□( )	0.0043	17.8	6.2		13.9	13.9		10.0	15.0	0.6			
ECWHA3C472□( )	0.0047	17.8	6.4	9.1	14.1	14.1	15.0	10.0	15.0	0.6			
ECWHA3C512□( )	0.0051	17.8	6.6	9.4	14.4	14.4	15.0	10.0	15.0	0.6	400		
ECWHA3C562□( )	0.0056	17.8	6.8	9.6	14.6	14.6	15.0	10.0	15.0	0.6			
ECWHA3C622□( )	0.0062	17.8	7.1	9.8	14.8	14.8	15.0	10.0	15.0	0.6			
ECWHA3C682□( )	0.0068	17.8	6.1	12.1	17.1	17.1	15.0	10.0	15.0	0.6	500		1000
ECWHA3C752□( )	0.0075	17.8	6.5	12.4	17.4	17.4	15.0	10.0	15.0	0.6			
ECWHA3C822□( )	0.0082	17.8	6.8	12.7	17.7	17.7	15.0	10.0	15.0	0.6	400		
ECWHA3C912□( )	0.0091	17.8	7.1	13.0	18.0	18.0	15.0	10.0	15.0	0.6		1000	
ECWHA3C103□( )	0.010	20.3	6.4	12.3	17.3	17.3	17.5	10.0	17.5	0.6	500		
ECWHA3C113□( )	0.011	20.3	6.6	12.5	17.5	17.5	17.5	10.0	17.5	0.6			
ECWHA3C123□( )	0.012	20.3	6.8	12.8	17.8	17.8	17.5	10.0	17.5	0.6			
ECWHA3C133□( )	0.013	20.3	7.1	13.0	18.0	18.0	17.5	10.0	17.5	0.6	400		
ECWHA3C153□( )	0.015	20.3	7.6	13.5	18.5	18.5	17.5	10.0	17.5	0.6			
ECWHA3C163□( )	0.016	20.3	7.9	13.8	18.8	18.8	17.5	10.0	17.5	0.6			
ECWHA3C183□( )	0.018	20.6	8.2	14.1	19.1	21.1	17.5	10.0	17.5	0.8			
ECWHA3C203□( )	0.020	20.6	8.7	14.6	19.6	21.6	17.5	10.0	17.5	0.8			
ECWHA3C223□( )	0.022	20.6	9.1	15.0	20.0	22.0	17.5	10.0	17.5	0.8	300		
ECWHA3C243□( )	0.024	20.6	9.6	15.4	20.4	22.4	17.5	10.0	17.5	0.8			
ECWHA3C273□( )	0.027	20.6	10.0	15.9	20.9	22.9	17.5	10.0	17.5	0.8			
ECWHA3C303□( )	0.030	20.6	10.7	16.5	21.5	23.5	17.5	10.0	17.5	0.8		800	
ECWHA3C333□( )	0.033	20.6	11.2	17.0	22.0	24.0	17.5	10.0	17.5	0.8			
ECWHA3C363□( )	0.036	20.6	11.7	17.5	22.5	24.5	17.5	10.0	17.5	0.8	200		
ECWHA3C393□( )	0.039	20.6	12.1	18.0	23.0	25.0	17.5	10.0	17.5	0.8			
ECWHA3C433□( )	0.043	20.6	12.8	18.6	23.6	25.6	17.5	10.0	17.5	0.8		600	
ECWHA3C473□( )	0.047	20.6	13.4	19.2	24.2	26.2	17.5	10.0	17.5	0.8			800

Suffix for lead crimped taped type
Capacitance tolerance code

Metallized Polypropylene Film Capacitor

Type: ECWH(C)

Designed for high frequency and pulse applications.



■Features
- ●Excellent electrical characteristics
- ●Low loss
- ●Flame-retardant epoxy resin coating
- ●RoHS directive compliant

■Recommended Applications
- ●General resonance circuit (630 VDC)
- ●Resonance circuits for microwave oven and IH cooker (630 VDC)
- ●Resonance circuits for microwave oven (630 VDC, 1250 VDC)
- ●General high voltage circuit (3000 VDC)

■Explanation of Part Numbers (630 VDC)

1	2	3	4	5	6	7	8	9	10	11
E	C	W	H						C	
Product code		Dielectric & construction		Rated voltage	Capacitance			Cap. Tol.	Suffix	Suffix

Rated voltage	
6	630VDC

Cap. Tol.	
H	±3 %

Suffix	Lead Form
Blank	Straight
B	Crimped lead
C	Cut lead

■Explanation of Part Number for Odd Size Taping (630 VDC)

E	C	W	H					R		C
Product code		Dielectric & construction		Rated voltage	Capacitance			Ammo 7.5mm	Cap.tol	Suffix

■Explanation of Part Numbers (1250 VDC)

1	2	3	4	5	6	7	8	9	10	11	12
E	C	W	H	C	3	B	1	0	4	J	A
Product code		Dielectric & construction			Rated voltage		Capacitance			Cap. Tol.	Suffix

Rated voltage		Cap. Tol.	
3B	1250VDC	J	±5 %

Suffix	Lead Form
A	Cut lead

■Explanation of Part Numbers (3000 VDC)

1	2	3	4	5	6	7	8	9	10	11	12
E	C	W	H	C	3	F				J	
Product code		Dielectric & construction			Rated voltage		Capacitance			Cap. Tol.	Suffix

Rated voltage		Cap. Tol.	
3F	3000VDC	J	±5 %

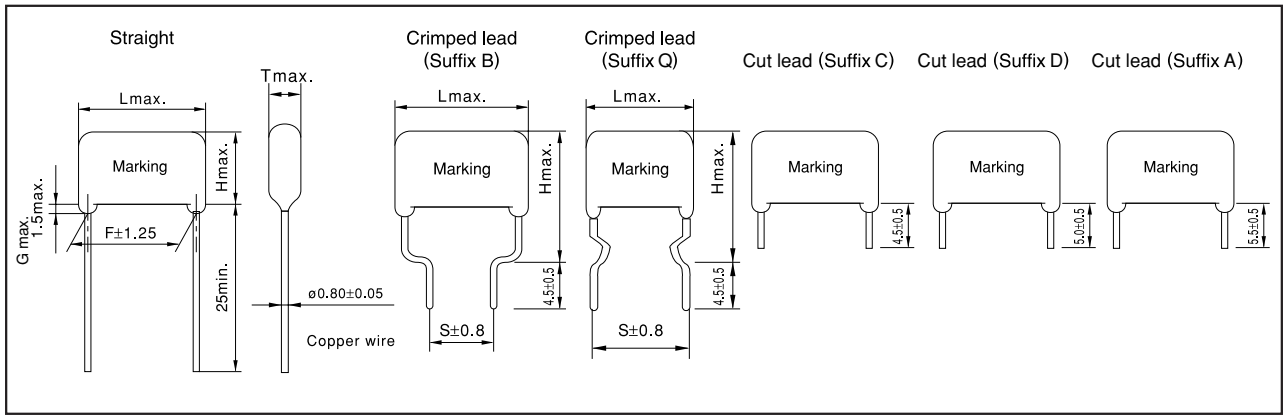
Suffix	Lead Form
Blank	Straight
Q	Crimped lead
D	Cut lead

■Specifications

Category temp. range (Including temperature-rise on unit surface)	630 VDC	−40 ℃ to 105 ℃ : General resonance circuit
		−40 ℃ to 85 ℃ : When using compulsive air cooling for a resonance circuit
	1250 VDC	−40 ℃ to 85 ℃ : When using compulsive air cooling for a resonance circuit
	3000 VDC	−40 ℃ to 85 ℃ : General high voltage circuit
Rated voltage	630 VDC, 1250 VDC, 3000 VDC	
Capacitance range	630 VDC	0.18 μF to 0.33 μF
	1250 VDC	0.10 μF
	3000 VDC	0.0024 μF to 0.01 μF
Capacitance tolerance	630 VDC	±3 %(H)
	1250 VDC	±5 %(J)
	3000 VDC	±5 %(J)
Dissipation factor (tanδ)	630 VDC	tan δ ≦0.05 % (20 ℃,1 kHz), tan δ ≦0.1 % (20 ℃,10 kHz)
	1250 VDC	
	3000 VDC	tan δ ≦0.1 % (20 ℃,1 kHz), tan δ ≦0.1 % (20 ℃,10 kHz)
Withstand voltage	Between terminals : Rated volt. (VDC)×150 % 60 s	
Insulation resistance (IR)	630 VDC	IR≧9000 MΩ (20 ℃, 500 VDC, 60 s)
	1250 VDC	
	3000 VDC	IR≧50000 MΩ (20 ℃, 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)

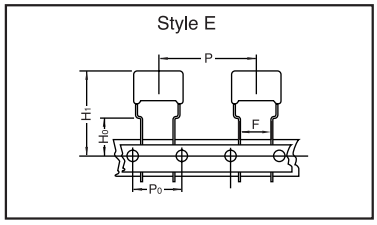


■Packaging Specifications for Bulk Package

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
			AD	AS	B	C	D	E	
ECWH(C)	630 VDC	0.18 to 0.33						○	Ammo

❊See the column “Rating, Dimensions & Quantity Box” for packing quantity.

■Lead Spacing

Style	Lead Spacing
E	7.5 mm

■Rating & Dimensions

●Rated voltage : 630 VDC Capacitance tolerance : ±3 %(H)

Part No.	Cap (μF)	Dimensions (mm)								Min. order Q'ty	
		L max	T max	H max.		F	S	G max.	φd	Taping 7.5 mm	Bulk
				Straight	Crimped lead (Suffix B)		Crimped lead (Suffix B)				
ECWH6184HC( )	0.18	20.7	11.5	16.3	21.3	17.5	10.0	1.5	0.8	250	1000
ECWH6284HC( )	0.28	20.7	14.3	19.1	24.1	17.5	10.0	1.5	0.8	200	700
ECWH6304HC( )	0.30	20.7	14.8	19.6	24.6	17.5	10.0	1.5	0.8		
ECWH6324HC( )	0.32	20.7	14.5	20.9	25.9	17.5	10.0	1.5	0.8		
ECWH6334HC( )	0.33	20.7	14.7	21.1	26.1	17.5	10.0	1.5	0.8		

●Rated voltage : 1250 VDC Capacitance tolerance : ±5 %(J)

Part No.	Cap (μF)	Dimensions (mm)						Min. order Q'ty
		L max	T max	H max.	F	G max.	φd	Bulk
ECWHC3B104JA	0.10	20.7	13.5	20.6	17.5	1.5	0.8	700

●Rated voltage : 3000 VDC Capacitance tolerance : ±5 %(J)

Part No.	Cap (μF)	Dimensions (mm)								Min. order Q'ty
		L max	T max	H max.		F	S	G max.	φd	Bulk
				Straight	Crimped lead (Suffix Q)		Crimped lead (Suffix Q)			
ECWHC3F242J( )	0.0024	25.8	6.1	10.9	17.9	22.5	23.0	1.5	0.8	1000
ECWHC3F362J( )	0.0036	25.8	7.2	11.9	18.9	22.5	23.0	1.5	0.8	
ECWHC3F392J( )	0.0039	25.8	7.5	12.2	19.2	22.5	23.0	1.5	0.8	
ECWHC3F432J( )	0.0043	25.8	6.5	11.2	18.2	22.5	23.0	1.5	0.8	
ECWHC3F562J( )	0.0056	25.8	7.3	12.0	19.0	22.5	23.0	1.5	0.8	
ECWHC3F822J( )	0.0082	25.8	7.5	15.3	22.3	22.5	23.0	1.5	0.8	
ECWHC3F103J( )	0.01	25.8	8.2	16.1	23.1	22.5	23.0	1.5	0.8	

Metallized Polypropylene Film Capacitors

Type: EZPE Series

■Features

- ●High safety, Self-healing and Self-protecting function built-in
- ●Long product life, High reliability
- ●Low loss, Low ESR
- ●Flame retardant (Case and sealing resin)
- ●RoHS directive compliant

■Recommended Applications

For DC filtering, DC link circuit

- ●Solar inverters
- ●Wind power generation
- ●Industrial power supplies
- ●Inverter circuit in appliances (Air Conditioners etc.)

■Construction

- ●Dielectric : Polypropylene film
- ●Electrodes : Metallized dielectric with segmented pattern
- ●Plastic case : UL94 V-0
- ●Sealing : UL94 V-0
- ●Terminals : Tinned wires,2-pin and 4-pin versions

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	Z	P	E							T	A

Product code | Dielectric & construction | Rated voltage | Capacitance | Pin type | Suffix | Suffix

Rated voltage	
50	500 VDC
80	800 VDC
1B	1100 VDC
1D	1300 VDC

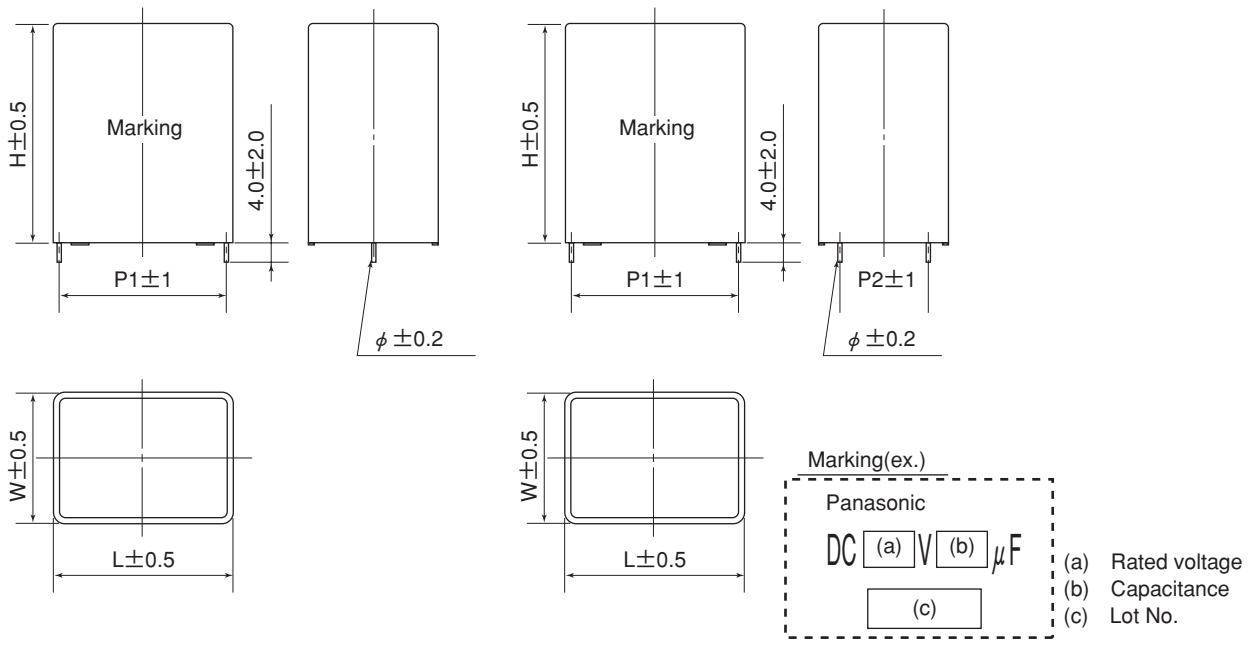
Pin type	
L	2-pin type
M	4-pin type

■Specifications

Category temperature range (T_C) (*1)	−40 ℃ to +85 ℃	
Rated voltage(V_R) (*2)	500 VDC, 800 VDC, 1100 VDC, 1300 VDC (Derating of rated voltage by more than 70 ℃ (*3))	
Rated capacitance (C_R)	500 VDC	10 µF to 110 µF
	800 VDC	10 µF to 60 µF
	1100 VDC	10 µF to 40 µF
	1300 VDC	10 µF to 25 µF
Capacitance tolerance	±10 %	
Withstanding DC voltage	Between terminals:Rated voltage. (VDC)×150 % 10 s Terminal to case:2110 VAC 10 s	
Insulation resistance (CR)	CR≧10000 Ω · F (20 ℃, 500 VDC, 60 s)	

*1:The temperature of capacitor surface (case)
*2:Use for DC voltage only
*3:Refer to the page of " DC voltage derating "

■Dimensions in mm (not to scale)



■Rating, Dimensions & Quantity / Ammo Box

●Type EZPE Rated voltage : 500 VDC at 70 ℃ (450VDC at 85 ℃)

Part No.	C_R. (μF)	Dimensions (mm)						dv/dt [V/μs]	Permissible current		ESR$_{typ}$ [mΩ] (*3)	tan δ [%] (*4)	Mass [g]	MOQ [pcs] (*5)
		W	H	L	P1	P2	ϕ		Peak Current [A_{o-p}] (*1)	RMS Current [A_{rms}] (*2)				
EZPE50106LTA	10	20	42	41.5	37.5	-	1.2	21	210	5.0	22.0	0.28	45	600
EZPE50156LTA	15	20	42	41.5	37.5	-	1.2	21	315	7.5	14.8	0.28	45	
EZPE50206LTA	20	20	42	41.5	37.5	-	1.2	21	420	9.5	11.0	0.28	44	
EZPE50256LTA	25	20	42	41.5	37.5	-	1.2	21	525	11.0	8.8	0.28	43	
EZPE50306MTA	30	20	42	41.5	37.5	10.2	1.2	21	630	12.5	7.0	0.28	43	
EZPE50356MTA	35	30	51	41.5	37.5	10.2	1.2	21	735	13.5	6.2	0.28	83	400
EZPE50406MTA	40	30	51	41.5	37.5	10.2	1.2	21	840	14.5	5.4	0.28	82	
EZPE50456MTA	45	30	51	41.5	37.5	10.2	1.2	21	945	15.2	4.9	0.28	81	
EZPE50506MTA	50	30	51	41.5	37.5	20.3	1.2	21	1050	16.0	4.4	0.28	80	
EZPE50556MTA	55	30	51	41.5	37.5	20.3	1.2	21	1155	16.3	4.1	0.28	79	
EZPE50606MTA	60	30	51	41.5	37.5	20.3	1.2	21	1260	16.5	3.9	0.28	77	
EZPE50656MTA	65	30	51	57.5	52.5	10.2	1.2	14	910	15.0	6.8	0.44	111	200
EZPE50706MTA	70	30	51	57.5	52.5	10.2	1.2	14	980	15.5	6.5	0.44	109	
EZPE50756MTA	75	30	51	57.5	52.5	20.3	1.2	14	1050	16.0	6.0	0.44	108	
EZPE50806MTA	80	30	51	57.5	52.5	20.3	1.2	14	1120	16.5	5.7	0.44	106	
EZPE50856MTA	85	35	56	57.5	52.5	20.3	1.2	14	1190	16.7	5.4	0.44	142	
EZPE50906MTA	90	35	56	57.5	52.5	20.3	1.2	14	1260	17.0	5.1	0.44	141	
EZPE50956MTA	95	35	56	57.5	52.5	20.3	1.2	14	1330	17.5	4.9	0.44	140	
EZPE50107MTA	100	35	56	57.5	52.5	20.3	1.2	14	1400	18.0	4.7	0.44	139	
EZPE50117MTA	110	35	56	57.5	52.5	20.3	1.2	14	1540	18.5	4.4	0.44	138	

*1:When rising temperature of capacitor surface by continuous peak current (included pulse current), use within limit specified for temperature of capacitor surface and self heating temperature rise.

*2:Maximum RMS current @ 70 ℃, 10 kHz
Use within limit for self heating temperature rise at capacitor surface.

*3:Typical values @ 20℃, 10 kHz ESR : less than 2.5 × ESRtyp

*4:Maximum dissipation factor @20℃, 1 kHz

*5:Minimum order quantity consists of 4 packing units.

■Rating, Dimensions & Quantity / Ammo Box

●Type EZPE Rated voltage : 800 VDC at 70 ℃ (700VDC at 85 ℃)

Part No.	CR. (μF)	Dimensions (mm)						dv/dt [V/μs]	Permissible current		ESRtyp [mΩ] (*3)	tan δ [%] (*4)	Mass [g]	MOQ [pcs] (*5)
		W	H	L	P1	P2	φ		Peak Current [Ao-p] (*1)	RMS Current [Arms] (*2)				
EZPE80106LTA	10	20	42	41.5	37.5	-	1.2	22	220	7.0	15.8	0.22	44	600
EZPE80156MTA	15	20	42	41.5	37.5	10.2	1.2	22	330	9.0	10.5	0.22	43	
EZPE80206MTA	20	30	51	41.5	37.5	10.2	1.2	22	440	11.0	7.7	0.22	82	400
EZPE80256MTA	25	30	51	41.5	37.5	10.2	1.2	22	550	13.0	6.4	0.22	80	
EZPE80306MTA	30	30	51	41.5	37.5	20.3	1.2	22	660	15.0	5.3	0.22	78	
EZPE80356MTA	35	30	51	57.5	52.5	10.2	1.2	15	525	12.0	9.7	0.33	110	200
EZPE80406MTA	40	30	51	57.5	52.5	20.3	1.2	15	600	13.0	8.3	0.33	107	
EZPE80456MTA	45	30	51	57.5	52.5	20.3	1.2	15	675	14.0	7.0	0.33	104	
EZPE80506MTA	50	35	56	57.5	52.5	20.3	1.2	15	750	15.0	6.3	0.33	140	
EZPE80556MTA	55	35	56	57.5	52.5	20.3	1.2	15	825	16.0	5.9	0.33	138	
EZPE80606MTA	60	35	56	57.5	52.5	20.3	1.2	15	900	17.0	5.6	0.33	136	

●Type EZPE Rated voltage : 1100 VDC at 70 ℃ (920VDC at 85 ℃)

Part No.	CR. (μF)	Dimensions (mm)						dv/dt [V/μs]	Permissible current		ESRtyp [mΩ] (*3)	tan δ [%] (*4)	Mass [g]	MOQ [pcs] (*5)
		W	H	L	P1	P2	φ		Peak Current [Ao-p] (*1)	RMS Current [Arms] (*2)				
EZPE1B106MTA	10	20	42	41.5	37.5	10.2	1.2	54	540	7.0	12.3	0.20	43	600
EZPE1B156MTA	15	30	51	41.5	37.5	10.2	1.2	54	810	8.5	8.2	0.20	80	400
EZPE1B206MTA	20	30	51	41.5	37.5	20.3	1.2	54	1080	10.0	6.3	0.20	76	
EZPE1B256MTA	25	30	51	57.5	52.5	10.2	1.2	35	875	8.0	10.7	0.28	107	200
EZPE1B306MTA	30	30	51	57.5	52.5	20.3	1.2	35	1050	9.0	8.5	0.28	103	
EZPE1B356MTA	35	35	56	57.5	52.5	20.3	1.2	35	1225	10.0	7.2	0.28	137	
EZPE1B406MTA	40	35	56	57.5	52.5	20.3	1.2	35	1400	11.0	6.5	0.28	134	

●Type EZPE Rated voltage : 1300 VDC at 70 ℃ (1100VDC at 85 ℃)

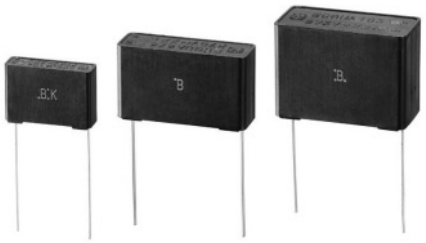
Part No.	CR. (μF)	Dimensions (mm)						dv/dt [V/μs]	Permissible current		ESRtyp [mΩ] (*3)	tan δ [%] (*4)	Mass [g]	MOQ [pcs] (*5)
		W	H	L	P1	P2	φ		Peak Current [Ao-p] (*1)	RMS Current [Arms] (*2)				
EZPE1D106MTA	10	30	51	41.5	37.5	10.2	1.2	73	730	12.0	10.0	0.17	80	400
EZPE1D156MTA	15	30	51	57.5	52.5	10.2	1.2	50	750	10.0	14.5	0.22	109	200
EZPE1D206MTA	20	30	51	57.5	52.5	20.3	1.2	50	1000	14.0	11.1	0.22	103	
EZPE1D256MTA	25	35	56	57.5	52.5	20.3	1.2	50	1250	17.0	8.5	0.22	136	

*1:When rising temperature of capacitor surface by continuous peak current (included pulse current), use within limit specified for temperature of capacitor surface and self heating temperature rise.
*2:Maximum RMS current @ 70 ℃, 10 kHz
Use within limit for self heating temperature rise at capacitor surface.
*3:Typical values @ 20℃, 10 kHz ESR : less than 2.5 × ESRtyp
*4:Maximum dissipation factor @20℃, 1 kHz
*5:Minimum order quantity consists of 4 packing units.

Metallized Polypropylene Film Capacitors

Type: ECQUA [Class X2]

In accordance with UL/CSA and European safety regulation class X2
Equipped with a safety mechanism



■Features

- ●High humidity resistance
  (THB test:85°C/85%/240VAC/1000h(C≦1.0μF))
- ●High safety (safety function installed)
- ●Compact
- ●Flame-retardant plastic case and non-combustible resin
- ●RoHS directive compliant

■Recommended Applications

- ●Interference suppressors

■ Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	C	Q	U	A	A	F					

Product code: EC
Dielectric & construction: QUA
Rated voltage: A
Capacitance: F
Cap.tol.: 8, 9, 10
Suffix: 11, 12

Cap.tol.	
K	±10 %
M	±20 %

Suffix	
Blank	Straight
A	Cut lead

■Applicable Standard

Approval		Class	Certification organization
UL	UL60384-14	Class X2	UL
CSA	CAN/CSA E60384-14	Class X2	
Europe	EN60384-14	Class X2	VDE
International	IEC60384-14	Class X2	

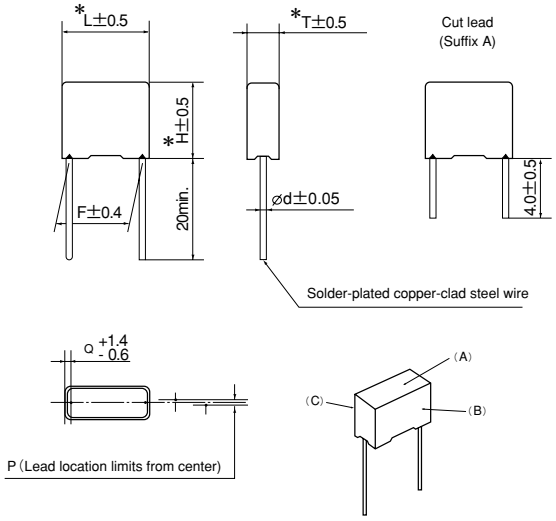
❉When applying this capacitor to European and American safety standards, please use type designation and rating such as ECQUA, 0.1 μF.
❉Approval number (File No.) of safety regulations are subject to revision without notice. Ask factory for a copy of the latest file No

■Specifications

Category temp. range	-40 ˚C to +110 ˚C
Rated voltage	275 VAC
Capacitance range	0.10 μF to 2.2 μF
Capacitance tolerance	± 10 % (K), ± 20 %(M)
Dissipation factor (tanδ)	C≦1.0 μF : tanδ≦0.1 % (20 ˚C, 1 kHz) C>1.0 μF : tanδ≦0.2 % (20 ˚C, 1 kHz)
Withstand voltage	Between terminals: 633 VAC, 1183 VDC 60 s Between terminals to enclosure:2050 VAC 60 s
Insulation resistance (IR)	C≦0.33 μF : IR≧15000 MΩ (20 ˚C, 100 VDC, 60 s) C>0.33 μF : IR≧5000 MΩ · μF (20 ˚C, 100 VDC, 60 s) C≦0.47 μF : IR≧2000 MΩ (20 ˚C, 500 VDC, 60 s)
Maximum AC voltage ❉	310 VAC

❉ Use of this capacitor is limited to AC voltage (50 Hz or 60 Hz sine wave).
❉ A faint corona discharge may occur inside of the capacitor element at rated voltage, however there is no influence on the reliability of the capacitor. (Suitable for series to the mains usage - for more details, please contact your Panasonic contact person.)
❉ Maximum AC voltage including line voltage fluctuation is 310V AC.
310VAC is not nominal continuous applied voltage, but only indicates maximum value including in the voltage of the power supply. Basic nominal voltage is considered as 240V AC.
This maximum AC voltae is specified in only ECQUA type, not specified in other types.
Please refer to individual product specification, and contact us for further questions regarding design life.

■Dimensions in mm (not to scale)



Marking Example

(A) side	(B) または (C) side
ECQUA104 10 275V～X2 c UL us	□ K

Note : only ±10 % as cap. tol. be marked as "K". Note □ Date Code.

■Rating & Dimensions

● Capacitance tolerance : ±10 %(K), ±20 %(M)

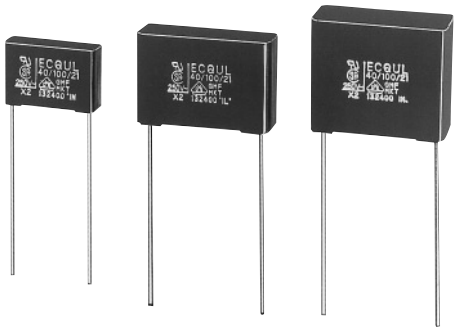
Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty	
		L	T	H	F	φd	P	Q	Straight	Cut lead
ECQUAAF104□( )	0.10	17.5	5.0	12.0	15.0	0.60	0±0.8	1.3	1000	1000
ECQUAAF154□( )	0.15	17.5	6.0	13.0	15.0	0.60	0±0.8	1.3		
ECQUAAF224□( )	0.22	17.5	7.5	14.0	15.0	0.60	0±0.8	1.3		
ECQUAAF334□( )	0.33	17.5	9.0	16.0	15.0	0.60	0±0.8	1.3		800
ECQUAAF474□( )	0.47	26.0	8.5	15.0	22.5	0.80	0±0.8	1.8	600	
ECQUAAF684□( )	0.68	26.0	10.0	17.0	22.5	0.80	0±0.8	1.8	500	500
ECQUAAF105□( )	1.0	26.0	12.0	19.0	22.5	0.80	0±0.8	1.8	300	300
ECQUAAF155□( )	1.5	31.0	12.0	22.0	27.5	0.80	0±0.8	1.8	200	200
ECQUAAF225□( )	2.2	31.0	14.5	24.5	27.5	0.80	0±0.8	1.8		

Suffix for lead form
Cap. tol. code

Metallized Polyester Film Capacitor

Type: ECQUL [Class X2] [Class Y2/X2]

In accordance with UL/CSA and European safety regulation class X2 or class Y2/X2



■Features
- ●Compact
- ●Flame-retardant plastic case and non-combustible resin
- ●RoHS directive compliant

■Recommended Applications
- ●Interference suppressors

■ Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	C	Q	U	2	A					L	
Product code		Dielectric & construction		Rated voltage		Capacitance			Cap.tol.	Suffix	Suffix

K	±10 %
M	±20 %

Blank	Straight
A	Cut lead

■Applicable Standard

Approval		Class	Capacitance range	Certification organization
UL	UL60384-14	Class Y2/X2	(0.0010 µF to 0.0068 µF)	UL
		Class X2	(0.0082 µF to 2.2 µF)	
CSA	CAN/CSA E60384-14	Class Y2/X2	(0.0010 µF to 0.0068 µF)	CSA
		Class X2	(0.0082 µF to 2.2 µF)	
	CSA C22.2 No.8-M1986	Electromagnetic Interference (EMI) Filters	(1.2 µF to 2.2 µF)	
Europe	EN60384-14	Class Y2/X2	(0.0010 µF to 0.0068 µF)	VDE
		Class X2	(0.0082 µF to 2.2 µF)	
International	IEC60384-14	Class Y2/X2	(0.0010 µF to 0.0068 µF)	
		Class X2	(0.0082 µF to 2.2 µF)	

❉When applying this capacitor to European and American safety standards, please use type designation and rating such as ECQUL, 0.1 µF.

❉Approval number (File No.) of safety regulations are subject to revision without notice. Ask factory for a copy of the latest file No

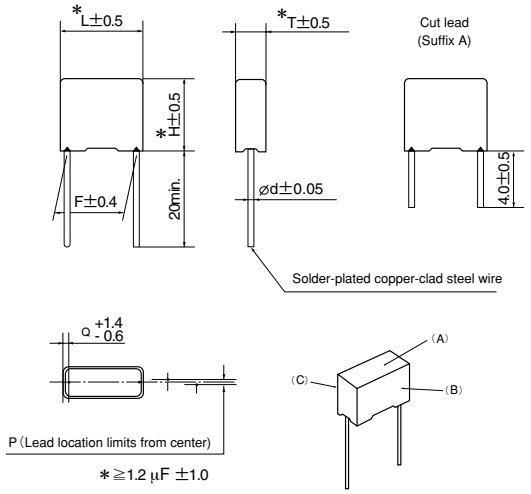
❉This capacitor is recognized for European standards by VDE only. But, there are no problems using this capacitor in a device which will get approvals from certification bodies in Europe, SEMKO, DEMKO, NEMKO, FIMKO and SEV etc. except VDE.

■Specifications

Category temp. range	-40 ˚C to +100 ˚C (85 ˚C max. on CSA C22.2 No.8 spec.)
Rated voltage	275 VAC (250 VAC on CSA C22.2 No.8 spec.)
Capacitance range	0.0010 µF to 2.2 µF
Capacitance tolerance	± 10 % (K), ± 20 %(M)
Dissipation factor (tanδ)	tanδ≦1.0 % (20 ˚C, 1 kHz)
Withstand voltage	Between terminals: 575 VAC, 1768 VDC 60 s (0.0082 µF to 2.2 µF) Between terminals: 1500 VAC, 2121 VDC 60 s (0.0010 µF to 0.0068 µF) Between terminals to enclosure:2050 VAC 60 s
Insulation resistance (IR)	C≦0.33 µF : IR≧15000 MΩ (20 ˚C, 100 VDC, 60 s) C>0.33 µF : IR≧5000 MΩ · µF (20 ˚C, 100 VDC, 60 s) IR≧2000 MΩ (20 ˚C, 500 VDC, 60 s)

❉ Use of this capacitor is limited to AC voltage (50 Hz or 60 Hz sine wave).

■Dimensions in mm (not to scale)



Marking Example

STYLE	(A) side	(B) side
1 0.0010 μF to 0.0068 μF	Ⓜ.001 μF K	ECQUL 275V～ X2/Y2 □
2 0.0082 μF to 1.0 μF	Ⓜ .0082 μF K	ECQUL 275V～ X2 □
3 1.2 μF to 2.2 μF	Ⓜ 1.5 μF K	8X 250V～ ECQUL 275V～ X2 □

Note : only ±10 % as cap. tol. be marked as"K". Note□Date Code.

■Rating & Dimensions

● Capacitance tolerance : ±10 %(K), ±20 %(M)

Part No.	Cap. (μF)	Dimensions (mm)							Min. order Q'ty
		L	T	H	F	φd	P	Q	
ECQU2A102□L( )	0.0010	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A122□L( )	0.0012	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A152□L( )	0.0015	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A182□L( )	0.0018	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A222□L( )	0.0022	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A272□L( )	0.0027	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A332□L( )	0.0033	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A392□L( )	0.0039	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A472□L( )	0.0047	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A562□L( )	0.0056	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A682□L( )	0.0068	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A822□L( )	0.0082	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A103□L( )	0.010	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A123□L( )	0.012	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A153□L( )	0.015	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A183□L( )	0.018	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A223□L( )	0.022	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A273□L( )	0.027	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU2A333□L( )	0.033	15.0	6.0	13.0	12.5	0.60	0±0.5	1.3	
ECQU2A393□L( )	0.039	15.0	6.0	13.0	12.5	0.60	0±0.5	1.3	
ECQU2A473□L( )	0.047	15.0	6.0	13.0	12.5	0.60	0±0.5	1.3	500
ECQU2A563□L( )	0.056	17.5	4.5	11.5	15.0	0.60	0±0.5	1.3	
ECQU2A683□L( )	0.068	17.5	4.5	11.5	15.0	0.60	0±0.5	1.3	
ECQU2A823□L( )	0.082	17.5	5.5	12.0	15.0	0.60	0±0.5	1.3	
ECQU2A104□L( )	0.10	17.5	5.5	12.0	15.0	0.60	0±0.5	1.3	
ECQU2A124□L( )	0.12	17.5	6.5	14.5	15.0	0.60	0±0.5	1.3	
ECQU2A154□L( )	0.15	17.5	6.5	14.5	15.0	0.60	0±0.5	1.3	
ECQU2A184□L( )	0.18	17.5	8.0	16.0	15.0	0.60	0±0.5	1.3	
ECQU2A224□L( )	0.22	17.5	8.0	16.0	15.0	0.60	0±0.5	1.3	
ECQU2A274□L( )	0.27	17.5	9.5	17.5	15.0	0.80	0±0.5	1.3	
ECQU2A334□L( )	0.33	17.5	9.5	17.5	15.0	0.80	0±0.5	1.3	
ECQU2A394□L( )	0.39	25.5	8.5	17.5	22.5	0.80	0±0.75	1.5	
ECQU2A474□L( )	0.47	25.5	8.5	17.5	22.5	0.80	0±0.75	1.5	
ECQU2A564□L( )	0.56	25.5	10.5	19.5	22.5	0.80	0±0.75	1.5	
ECQU2A684□L( )	0.68	25.5	10.5	19.5	22.5	0.80	0±0.75	1.5	
ECQU2A824□L( )	0.82	25.5	12.0	22.0	22.5	0.80	0±0.75	1.5	
ECQU2A105□L( )	1.0	25.5	12.0	22.0	22.5	0.80	0±0.75	1.5	
ECQU2A125□L( )	1.2	30.5	16.5	26.0	27.5	0.80	0±0.75	1.5	
ECQU2A155□L( )	1.5	30.5	16.5	26.0	27.5	0.80	0±0.75	1.5	
ECQU2A185□L( )	1.8	30.5	19.0	29.5	27.5	0.80	0±0.75	1.5	
ECQU2A225□L( )	2.2	30.5	19.0	29.5	27.5	0.80	0±0.75	1.5	

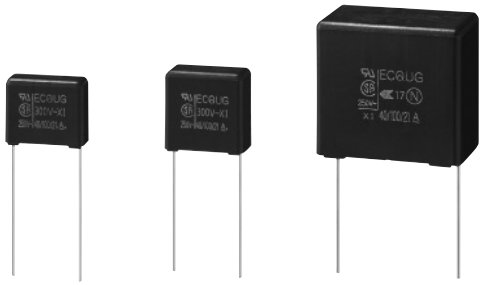
Suffix for lead form

Cap. tol. code

Metallized Polyester Film Capacitor

Type: ECQUG[Class X1]

In accordance with UL/CSA and European safety regulation class X1



■Features

- ●Equipped with a safety mechanism
- ●Flame-retardant plastic case and non combustible resin
- ●RoHS directive compliant

■Recommended Applications

- ●Interference suppressors

■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	C	Q	U	3	A				M	G	
Product code		Dielectric & construction		Rated vol.		Capacitance			Cap. Tol.	Suffix	Suffix

M	±20 %

Blank	Straight
A	Cut lead

■Applicable Standard

Approval		Class	Certification organization
UL	UL60384-14	Class X1	UL
CSA	CAN/CSA E60384-14	Class X1	CSA
Europe	EN60384-14	Class X1	NEMKO
International	IEC60384-14	Class X1	

❉When applying this capacitor to European and American safety standards, please use type designation and rating such as ECQUG, 0.1 µF.

❉Approval number (File No.) of safety regulations are subject to revision without notice. Ask factory for a copy of the latest file No..

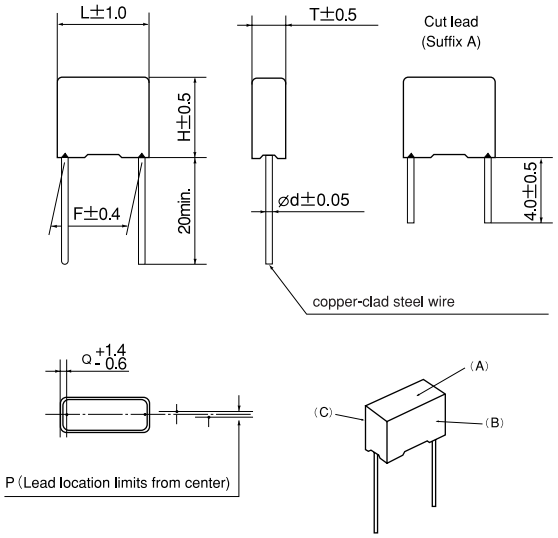
❉European standards marking are NEMKO only. But, there are no problem using this capacitor in a device which will get approvals from certification bodies in Europe, VDE, FIMKO, SEMKO, DEMKO, and SEV etc. except VDE and FIMKO.

■Specifications

Category temp. range	-40 ˚C to +100 ˚C
Rated voltage	300 VAC
Capacitance range	0.010 µF to 1.0 µF (E6)
Capacitance tolerance	±20 % (M)
Dissipation factor (tanδ)	tanδ≦1.0 % (20 ˚C, 1 kHz)
Withstand voltage	Between terminals : 575 VAC, 1768 VDC, 60 s Between terminals to enclosure : 2100 VAC, 60 s
Insulation resistance (IR)	C≦0.33 µF : IR≧15000 MΩ (20 ˚C, 100 VDC, 60 s) C>0.33 µF : IR≧5000 MΩ · µF (20 ˚C, 100 VDC, 60 s) IR≧2000 MΩ (20 ˚C, 500 VDC, 60 s)

❉ Use of this capacitor is limited to AC voltage (50 Hz or 60 Hz sine wave).

■Dimensions in mm (not to scale)



Marking Example

(A) side	(B) side
M.01 µF	ECQUG 300 V～X1 17 N □

Note □Date Code.

■Rating & Dimensions

● Capacitance tolerance : ±20 %(M)

Part No.	Cap. (µF)	Dimensions (mm)							Min. order Q'ty
		L	T	H	F	φd	P	Q	
ECQU3A103MG( )	0.010	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU3A153MG( )	0.015	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU3A223MG( )	0.022	15.0	5.0	11.5	12.5	0.60	0±0.5	1.3	
ECQU3A333MG( )	0.033	15.0	6.0	13.0	12.5	0.60	0±0.5	1.3	
ECQU3A473MG( )	0.047	15.0	6.0	13.0	12.5	0.60	0±0.5	1.3	
ECQU3A683MG( )	0.068	15.0	8.0	15.0	12.5	0.60	0±0.5	1.3	
ECQU3A104MG( )	0.10	15.0	8.0	15.0	12.5	0.60	0±0.5	1.3	500
ECQU3A154MG( )	0.15	18.0	8.0	16.5	15.0	0.80	0±0.5	1.3	
ECQU3A224MG( )	0.22	18.0	9.0	17.5	15.0	0.80	0±0.5	1.3	
ECQU3A334MG( )	0.33	26.0	9.0	18.5	22.5	0.80	0±0.5	1.5	
ECQU3A474MG( )	0.47	26.0	10.5	20.0	22.5	0.80	0±0.75	1.5	
ECQU3A684MG( )	0.68	26.0	12.5	22.0	22.5	0.80	0±0.75	1.5	
ECQU3A105MG( )	1.0	27.0	16.5	25.5	22.5	0.80	0±0.75	2.2	

Suffix for lead form
Cap. tol. code

Metallized Polyester Film Capacitor for Noise suppression of Automobile

Type : **ECQE**

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

■Features

- Excellent water-proof and corrosion-proof construction properties.
- Guaranteed operation temperture of 130 ˚C max
- Available with wide variety of terminals, including blacket and lead wire
- RoHS directive compliant

■Recommended Applications

- Noise suppression for automobile

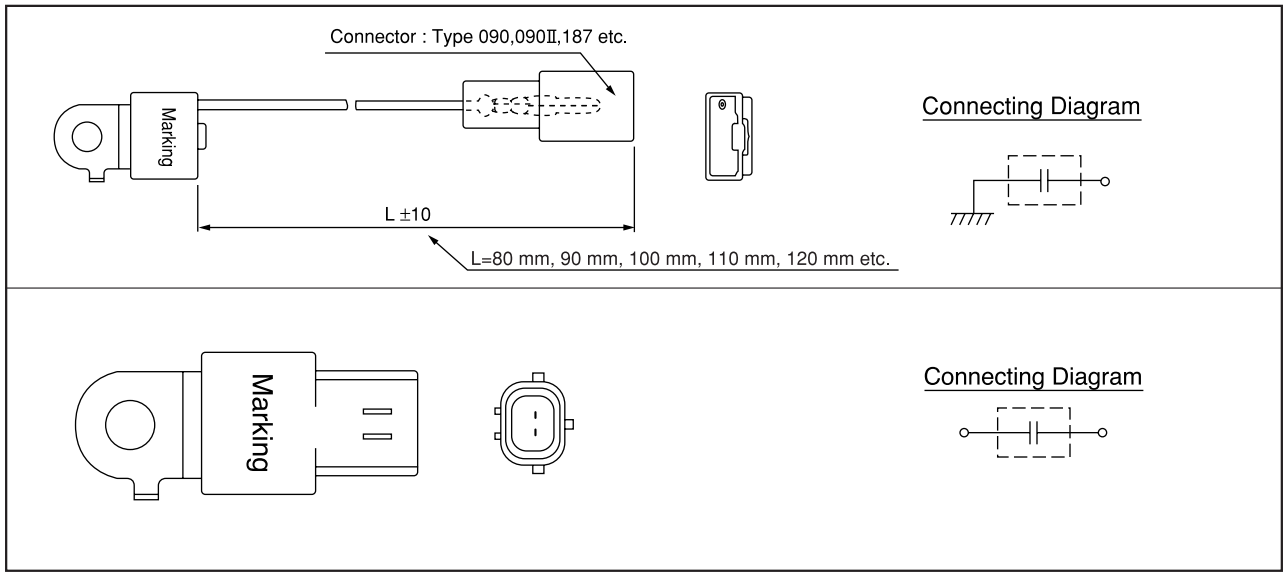
■Explanation of Part Numbers

1	2	3	4	5	6	7	8	9	10	11	12
E	C	Q	E	2	4	7	4				
Product code		Dielectric & construction		Rated voltage	Capacitance			Suffix	Suffix	Suffix	Suffix

■Specifications

Category temp. range (Including temperature-rise on unit surface)	−40 ˚C to +130 ˚C (Except cord, connector, tube and tape)
Rated voltage	250 VDC (Derating of rated voltage by 1.11 %/˚C at more than 85 ˚C)
Capacitance range	0.47 µF, 2.2 µF, 4.7 µF ❊
Capacitance tolerance	±20 % (M)
Dissipation factor (tanδ)	tanδ≦1.0 % (20 ˚C, 1 kHz)
Withstand voltage	250 VDC × 150 % for 60 s
Insulation resistance (IR)	IR≧3000 MΩ · µF (20 ˚C, 100 VDC, 60 S)

■Shape (Example)



❊Other voltage ratings, capacitance values and special dimensions are available upon request. Please consult engineering section.

Memo

For more Information please contact the respective sales office of factory

Factory

Capacitor Business Division
Automotive & Industrial Systems Company, Panasonic Corporation

25, Nishinaka, Kowata, Uji, Kyoto, 611-8585 JAPAN TEL 81-774-32-1111

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