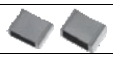
Electronic Equipment Use

Dielectric		Series	Appearance	Operating Temp✻	Rating	Structure･Feature	Application
Stacked Metallized Film Chip Capacitor	Stacked Metallized PPS Film Chip Capacitor	ECHU(X)		−55 ℃ to +125 ℃	0.00010 μF to 0.22 μF [DC] 16 V, 50 V	● Non-inductive, Stacked ● Tight C-Tol. ● Reflow soldering	● High density mounting
		ECHU(C)		−55 ℃ to +105 ℃	0.010 μF to 0.22 μF [DC] 100 V	● Non-inductive, Stacked ● Tight C-Tol. ● Reflow soldering	● High density mounting ● Resonance circuit for LCD B/L inverter unit
	Stacked Metallized PEN Film Chip Capacitor	ECWU(X)		−55 ℃ to +105 ℃	0.0010 μF to 0.010 μF [DC] 100 V	● Non-inductive ● Reflow soldering	● High density mounting
		ECWU(C)		−55 ℃ to +125 ℃	0.0010 μF to 1.0 μF [DC] 100 V to 630 V	● Non-inductive ● Reflow soldering	● Ringer circuit telephone PBX ● DC Blocking for xDSL
		ECWU(V16)		−55 ℃ to +85 ℃	0.0010 μF to 0.12 μF [DC] 250 V	● Non-inductive ● Reflow soldering	● Ringer circuit telephone PBX ● DC Blocking for xDSL
	Stacked Metallized Plastic Film Chip Capacitor	ECPU(A)		−40 ℃ to +85 ℃	0.10 μF to 1.0 μF [DC] 16 V	● Non-inductive ● Reflow soldering	● Noise suppressor ● Audio circuit
Metallized Type	Metallized Polyester Film Capacitor	ECQE(F)		−40 ℃ to +105 ℃	0.0010 μF to 10 μF [DC] 100 V to 1250 V [AC] 125 V, 250 V	● Epoxy resin coating ● Wide capacitance range	● General purpose ● Noise suppressor
		ECQE(B)		−40 ℃ to +105 ℃	0.010 μF to 4.7 μF [DC] 250 V [AC] 125 V	● Epoxy resin coating ● Miniaturization of ECQE(F) type	● General purpose ● Noise suppressor
		ECQE(T)		−40 ℃ to +105 ℃	0.010 μF to 10 μF [DC] 250 V to 630 V [AC] 125 V, 250 V	● Epoxy resin coating ● Excellent moisture resistance	● Electric circuit of high humidity equipment
	Metallized Polypropylene Film Capacitor	ECWF(L)		−40 ℃ to +105 ℃	0.010 μF to 2.4 μF [DC] 400 V, 630 V	● Epoxy resin coating ● Low D.F ● Excellent moisture resistance	● High frequncy high current circuit
		ECWF(A)		−40 ℃ to +105 ℃	0.10 μF to 6.8 μF [DC] 250 V to 630 V	● Miniaturization of ECWF(L) type ● Low D.F	● Active filtering circuit ● High frequency high current circuit
		ECWFD		−40 ℃ to +110 ℃ −40 ℃ to +105 ℃	0.1 μF to 4.7 μF [DC] 450 V 0.01 μF to 4.7 μF [DC] 630 V	● Epoxy resin coating ● Low D.F ● Miniaturization of ECWF(A) type	● Active fi ltering circuit ● High frequency high current circuit
		ECWFE		−40 ℃ to +105 ℃	0.10 μF to 4.7 μF [DC] 450 V, 630 V	● Box type ● Low D.F	● Active fi ltering circuit ● High frequency high current circuit
		ECWH(V)		−40 ℃ to +105 ℃	0.0010 μF to 0.10 μF [DC] 1000 V to 2000 V	● Epoxy resin coating ● Low D.F ● Small in size	● High frequency high current circuit
		ECWH(A)		−40 ℃ to +105 ℃	0.0010 μF to 0.047 μF [DC] 800 V, 1600 V	● Epoxy resin coating ● Low D.F ● Miniaturization of ECWH(V) type	● General resonance circuit
		ECWH(C)		−40 ℃ to +105 ℃ (+85 ℃)	0.0024 μF to 0.33 μF [DC] 630 V to 3000 V	● Epoxy resin coating ● Low D.F	● General resonance circuit ● Microwave oven ● IH resonance circuit
		TMF		−25 ℃ to +85 ℃	(Smoothing circuit) 1 μF to 10 μF [AC] 150 V to 220 V [DC] 350 V to 630 V (Resonance circuit) 0.01 μF to 4.0 μF [AC] 300 V to 2300 V [DC] 500 V to 1200 V	● Wide voltage range up to 2300 V[AC] ● High frequency and high current capability ● Low loss/Low ESR ● Long life time / High reliability ● Flame retardant	● General resonance and smoothing circuits for IH and Industry
Interference Suppressors (Safety standard approval capacitors)	Metallized Polypropylene Film Capacitor	ECQUA		−40 ℃ to +110 ℃	0.0082 μF to 10.0 μF [AC] 275 V	● Box type ● UL, CSA, ENEC Approved (Class X2)	Worldwide ● Noise suppressor for AC line
		ECQUB			0.001 μF to 1.0 μF [AC] 300 V	● Box type ● UL, CSA, ENEC Approved (Class Y2/X1)(Class X1)	
	Metallized Polyester Film Capacitor	★ECQUL		−40 ℃ to +100 ℃	0.0010 μF to 2.2 μF [AC] 275 V (250 V)	● Box type ● UL, CSA, VDE Approved (Class X2/Y2)	Worldwide ● Noise suppressor for AC line
		★ECQUG		−40 ℃ to +100 ℃	0.010 μF to 1.0 μF [AC] 300 V (250 V)	● Equipped with a safety mechanism ● UL, CSA, VDE, ENEC Approved (Class X1)	Worldwide ● Noise suppressor for AC line

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

★Not Recommended for New Design

AC Motor Use

Dielectric	Series	Appearance	Operating Temp✻	Rating	Structure･Feature	Application
Film Capacitor for AC Motor	AMF		−25 ℃ to +70 ℃	10 μF to 40 μF [AC] 180 V to 440 V	● High safety (with safety function) ● High reliability ● Small size, lightness, and low loss	● Motor and compressor (for running)
	★DMF		−25 ℃ to +70 ℃	10 μF to 60 μF [AC] 180 V to 450 V	● High safety (with safety device) ● High reliability, safety standard approval ● Small size, lightness, and low loss	● Motor and compressor (for running)
	PMF		−25 ℃ to +70 ℃	0.5 μF to 65 μF [AC] 150 V to 500 V	● High safety (with safety function) ● High reliability, safety standard approval ● Small size, lightness, and low loss	● Motor and small compressor (for running)
	★SMF		−25 ℃ to +70 ℃	1.5 μF to 9 μF [AC] 370 V to 450 V	● High safety (with safety function) ● High reliability, safety standard approval ● Small size, lightness, and low loss	● Motor and small compressor (for running)

★Not Recommended for New Design

Automotive, Industrial and Infrastructure Use

Dielectric	Series	Appearance	Operating Temp✻	Rating	Structure･Feature	Application
Metallized Polyester Film Capacitor for Noise Suppression of Automobile	ECQE		−40 ℃ to +130 ℃	0.47 μF, 2.2 μF, 4.7 μF [DC] 250 V	● Box type	● Noise suppressor for automobile
Metallized Polypropylene Film Capacitors	ECWFG		-40 ℃ to +110 ℃	1.0 μF to 12.0 μF [DC] 600 V to 1100 V	● AEC-Q200 compliant ● High safety (with safety function) ● Excellent moisture resistance ● High thermal shock resistance	● xEV charging circuit ● DC/DC, AC/DC converter (smoothing, PFC)
Metallized Polypropylene Film Capacitors	ECQUA		-40 ℃ to +110 ℃	0.1 μF to 10.0 μF [AC] 275 V, 310 V	● AEC-Q200 compliant ● High safety (with safety function) ● Excellent moisture resistance ● High thermal shock resistance	● xEV charging circuit ● AC/DC converter (Noise suppression)
DC-Link Film Capacitor	Type1		−40 ℃ to +105 ℃	581 μF [DC] 450 V	● High safety, Self-healing and Self-protecting function built in. ● No catastrophic failure upon natural end of life due to inbuilt fuse function.	● Any automotive and /or other application requiring DC Linkage
Metallized Polypropylene Film Capacitors	EZPE		−40 ℃ to +85 ℃	10 μF to 110 μF [DC] 500 V to 1300 V	● High safety (with safety function) ● Long product life, High reliability ● Low loss, Low ESR ● Flame retardant	● DC filtening ● DC link circuit
	EZPE (Low profile type)		−40 ℃ to +85 ℃	29 μF : [DC] 450 V 66 μF : [DC] 525 V 12 μF : [DC] 575 V 10 μF : [DC] 630 V	● High safety (with safety function) ● Long product life, High reliability, High moisture resistance ● Low loss, Low ESR ● Flame retardant	● Solar inverters, Micro inverters ● Wind power generation ● Industrial power supplies ● Inverter circuit in appliances (Air Conditioners etc.)
	EZPQ		−40 ℃ to +85 ℃	12 μF to 36 μF [AC] 250 V	● High safety (with safety function) ● Long product life, High reliability ● Low loss, Low ESR ● Flame retardant ● High moisture resistance	● AC Filter ● Solar inverters ● UPS ● Industrial power supplies ● Inverter circuit in appliances
			−40 ℃ to +105 ℃	1 μF to 35 μF [AC] 330 V, 380 V, 600 V		
	EZPV		−40 ℃ to +105 ℃	3 μF to 110 μF [DC] 600 V to 1100 V	● High Safety (with safety function) ● Long product life, High reliability ● Low loss, Low ESR ● Flame retardant (Case and sealing resin) ● AEC-Q200 compliant (For automotive Part No.)	● For DC filtering ● DC link circuit ● Solar inverters ● Wind power generation ● Industrial power supplies ● Inverter circuit in appliances ● On board charger

✻ Operating temp. : Including temperature-rise on unit surface.

✻ Refer to each product page for details.

Series system diagram

Surface mounting type

Stacked Metallized PPS Film Chip Capacitor

High performance

High density surface mounting

ECHU(X)

Volt. [DC] : 16 V to 50 V
Temp. : −55 ℃ to +125 ℃
Cap. : 0.00010 μF to 0.22 μF

High performance

High density surface mounting

ECHU(X)

Volt. [DC] : 100 V
Temp. : −55 ℃ to +105 ℃
Cap. : 0.010 μF to 0.22 μF

Stacked Metallized PEN Film Chip Capacitor

General- purpose

High density surface mounting

ECWU(X)

Volt. [DC] : 100 V
Temp. : −55 ℃ to +105 ℃
Cap. : 0.0010 μF to 0.010 μF

General- purpose

Ringer circuit for telephone, PBX etc

ECWU(C)

Volt. [DC] : 100 V to 630 V
Temp. : −55 ℃ to +125 ℃
Cap. : 0.0010 μF to 1.0 μF

Special application

DC Blocking for xDSL

ECWU(V16)

Volt. [DC] : 250 V
Temp. : −55 ℃ to +85 ℃
Cap. : 0.0010 μF to 0.12 μF

Stacked Metallized Plastic Film Chip Capacitor

Small in size Large capacitance

Audio circuit etc.

ECPU(A)

Volt. [DC] : 16 V
Temp. : −40 ℃ to +85 ℃
Cap. : 0.10 μF to 1.0 μF

Radial lead type

Metallized Polyester Film Capacitor

Miniaturization of ECQE(F) type

General-purpose

ECQE(B)

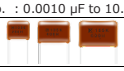
Volt. [DC] : 250 V
Volt. [AC] : 125 V
Temp. : −40 ℃ to +105 ℃
Cap. : 0.010 μF to 4.7 μF

Standard

General-purpose

ECQE(F)

Volt. [DC] : 100 V to 1250 V
Volt. [AC] : 125 V to 250 V
Temp. : −40 ℃ to +105 ℃
Cap. : 0.0010 μF to 10.0 μF

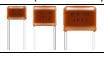


High humidity type

Lighting, Automotive etc. (85 °C, 85 % guarantee)

ECQE(T)

Volt. [DC] : 250 V to 630 V
Volt. [AC] : 125 V, 250 V
Temp. : −40 ℃ to +105 ℃
Cap. : 0.010 μF to 10.0 μF



Special application Case type

Noise suppressor for automobile

ECQE

Volt. [DC] : 250 V
Temp. : −40 ℃ to +130 ℃
Cap. : 0.47, 2.2, 4.7 μF

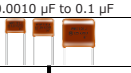
Metallized Polypropylene Film Capacitor

High voltage High current

High frequency and High current circuit

ECWH(V)

Volt. [DC] : 1000 V to 2000 V
Temp. : −40 ℃ to +105 ℃
Cap. : 0.0010 μF to 0.1 μF

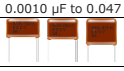


Miniaturization of ECWH(V) type

High frequency and High current circuit

ECWH(A)

Volt. [DC] : 800 V to 1600 V
Temp. : −40 ℃ to +105 ℃
Cap. : 0.0010 μF to 0.047 μF



Resonace circuit

Microwave oven IH resonance circuit

ECWH(C)

Volt. [DC] : 630 V to 3000 V
Temp. : −40 ℃ to +105 ℃
Cap. : 0.0024 μF to 0.33 μF

Middle voltage High current

High frequency and High current circuit

ECWF(L)

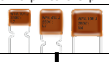
Volt. [DC] : 400 V to 630 V
Temp. : −40 ℃ to +105 ℃
Cap. : 0.010 μF to 2.4 μF

Miniaturization of ECWF(L) type

Active filtering circuit High frequency and High current circuit With safety function

ECWF(A)

Volt. [DC] : 250 V to 630 V
Temp. : −40 ℃ to +105 ℃
Cap. : 0.10 μF to 6.8 μF



Miniaturization of ECWF(A) type

Active filtering circuit High frequency With safety function

ECWFD

Volt. [DC] : 450 V, 630 V
Temp. : −40 ℃ to +110 ℃ (450 V.DC)
−40 ℃ to +105 ℃ (630 V.DC)
Cap. : 0.01 μF to 4.7 μF

Case of ECWFD･ECWF(A) type

Active filtering circuit High frequency With safety function

ECWFE

Volt. [DC] : 450 V, 630 V
Temp. : −40 ℃ to +105 ℃
Cap. : 0.1 μF to 4.7 μF

For automotive

xEV charging circuit
AEC-Q200 Compliant
With safety function

ECWFG

Volt. [DC] : 600 V to 1100 V
Temp. : −40 ℃ to +110 ℃
Cap. : 1.0 μF to 12.0 μF

Safety Standard Approval Metallized Film Capacitor

PP

For automotive

Noise suppression
AEC-Q200 Compliant
With safety function

ECQUA

Volt. [AC] : 275 V, 310 V
Temp. : −40 ℃ to +110 ℃
Cap. : 0.10 μF to 10.0 μF

UL, CSA, ENEC approved

PP

Product for Class X2 Case type

Noise suppression
With safety function

ECQUA

Volt. [AC] : 275 V
Temp. : −40 ℃ to +110 ℃
Cap. : 0.0082 μF to 10.0 μF

UL, CSA, ENEC approved

PP

Product for Class Y2/X1 Case type

Noise suppression
With safety function (Class X1)

ECQUB

Volt. [AC] : 300 V
Temp. : −40 ℃ to +110 ℃
Cap. : 0.001 μF to 1.0 μF

UL, CSA, ENEC approved

PET

Product for Class X1 Case type

Noise suppression
With safety function

★ECQUG

Product for Class X2/Y2 Case type

Noise suppression
With safety function

★ECQUL

UL, CSA, ENEC approved

★Not Recommended for New Design