

## Metallized Polypropylene Film Capacitors

### Type: **ECQUA [Class X2]**

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

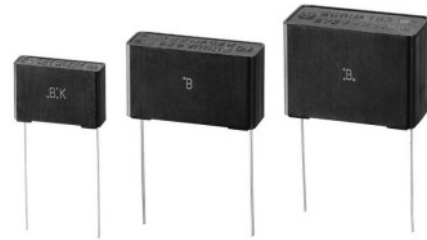
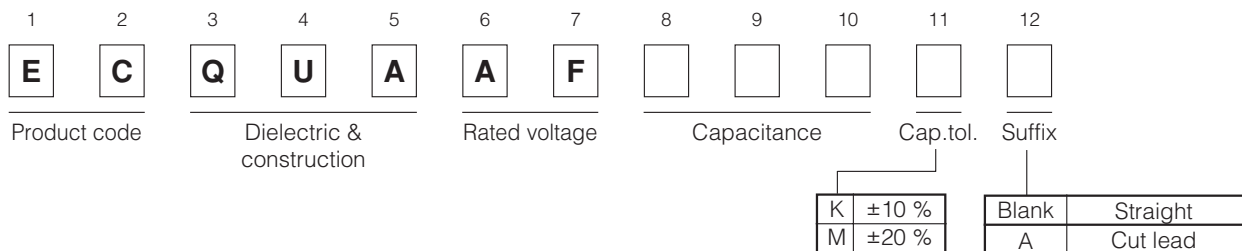
#### ■ Features

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

#### ■ Recommended Applications

- Interference suppressors

#### ■ Explanation of Part Numbers



#### ■ Applicable Standard

UL	UL 60384-14	Across-The-Line Capacitors Antenna-Coupling and Line-By-Pass Components	(0.10 μF to 2.2 μF)	Accredited by UL
CSA	CAN/CSA E60384-14	Across-the-line capacitors Antenna-isolation and line-by-pass capacitors	(0.10 μF to 2.2 μF)	
Europe	EN60384-14	Class X2	(0.10 μF to 2.2 μF)	Accredited by VDE
International	IEC60384-14	Class X2	(0.10 μF to 2.2 μF)	

\*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 (Safety standard approval)
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 voltage 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.

Design, Specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please inform us immediately for technical consultation without fail.

### ■Dimensions in mm (not to scale)

**Marking Example**

(A) side	(B) または (C) side

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

### ■Rating & Dimensions

- Capacitance tolerance :  $\pm 10\%$ (K),  $\pm 20\%$ (M)

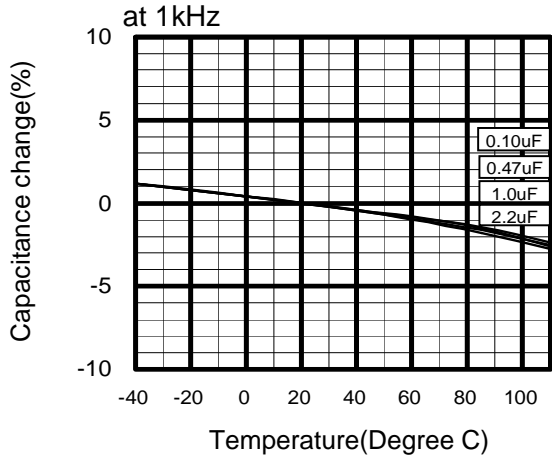
Part No.	Cap. ( $\mu\text{F}$ )	Dimensions (mm)							Min. order Q'ty	
		L	T	H	F	$\phi d$	P	Q	Straight	Cut lead
ECQUAAF104□()	0.10	17.5	5.0	12.0	15.0	0.60	$0 \pm 0.8$	1.3	1000	1000
ECQUAAF154□()	0.15	17.5	6.0	13.0	15.0	0.60	$0 \pm 0.8$	1.3		
ECQUAAF224□()	0.22	17.5	7.5	14.0	15.0	0.60	$0 \pm 0.8$	1.3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

Suffix for lead form  
 Cap. tol. code

Interference Suppressor

**ECQUA Type AC275V series (Metallized Polypropylene Film)**  
**Electrical Characteristics <Typical Data >**

**Temperature Characteristics**



**Frequency Characteristics**

