

### 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

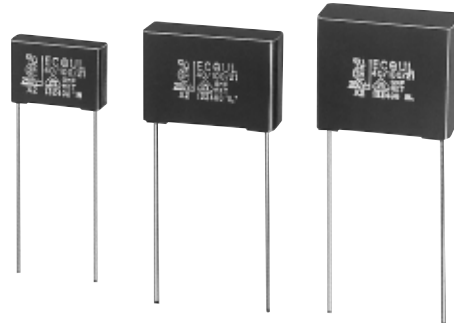
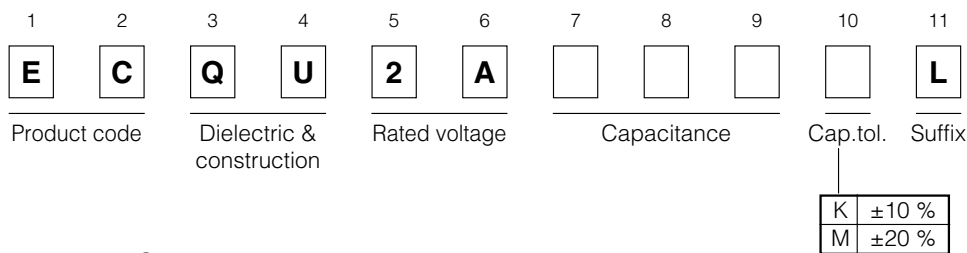
#### ■ Features

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

#### ■ Recommended Applications

- Interference suppressors

#### ■ Explanation of Part Numbers



#### ■ Applicable Standard

UL	UL 1414	Across - The - Line Capacitors Antenna - Coupling and Line - By - Pass Components	(0.0010 μF to 1.0 μF)
	UL 1283	Electromagnetic Interference Filters	(1.2 μF to 2.2 μF)
CSA	CSA C22.2 No.1	Across - the - line capacitors Antenna - isolation and line - by - pass capacitors	(0.0010 μF to 1.0 μF)
	CSA C22.2 No.8 - M1986	Electromagnetic Interference (EMI) Filters	(1.2 μF to 2.2 μF)
VDE	IEC60384 - 14 EN132400	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 UL/CSA spec.)
Rated voltage	275 VAC (IEC60384-14), 250 VAC (UL/CSA)
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)

\*  $\geq 1.2 \mu\text{F} \pm 1.0$

Marking Example

STYLE	A side	B side	C side
1 0.0010 $\mu\text{F}$ to 0.0068 $\mu\text{F}$	$\text{M} .001 \mu\text{F} \text{ K}$	ECQUL 275 V ~ Y2/X2 40/100/21 □	GMF MKT 132400
2 0.0082 $\mu\text{F}$ to 0.047 $\mu\text{F}$	$\text{M} .033 \mu\text{F} \text{ K}$	ECQUL 275 V ~ X2 40/100/21 □	GMF MKT 132400
3 0.056 $\mu\text{F}$ to 1.0 $\mu\text{F}$	$\text{M} .068 \mu\text{F} \text{ K}$	ECQUL 275 V ~ X2 40/100/21 GMF MKT 132400 □	
4 1.2 $\mu\text{F}$ to 2.2 $\mu\text{F}$	$\text{M} .15 \mu\text{F} \text{ K}$	1283 8X 250 V ~ X2 ECQUL 40/100/21 GMF MKT 132400 □	

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)						
		L	T	H	F	$\phi d$	P	Q
ECQU2A102 □ L	0.0010	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A122 □ L	0.0012	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A152 □ L	0.0015	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A182 □ L	0.0018	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A222 □ L	0.0022	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A272 □ L	0.0027	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A332 □ L	0.0033	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A392 □ L	0.0039	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A472 □ L	0.0047	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A562 □ L	0.0056	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A682 □ L	0.0068	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A822 □ L	0.0082	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A103 □ L	0.010	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A123 □ L	0.012	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A153 □ L	0.015	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A183 □ L	0.018	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A223 □ L	0.022	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A273 □ L	0.027	15.0	5.0	11.5	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A333 □ L	0.033	15.0	6.0	13.0	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A393 □ L	0.039	15.0	6.0	13.0	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A473 □ L	0.047	15.0	6.0	13.0	12.5	0.60	0 $\pm$ 0.5	1.3
ECQU2A563 □ L	0.056	17.5	4.5	11.5	15.0	0.60	0 $\pm$ 0.5	1.3
ECQU2A683 □ L	0.068	17.5	4.5	11.5	15.0	0.60	0 $\pm$ 0.5	1.3
ECQU2A823 □ L	0.082	17.5	5.5	12.0	15.0	0.60	0 $\pm$ 0.5	1.3
ECQU2A104 □ L	0.10	17.5	5.5	12.0	15.0	0.60	0 $\pm$ 0.5	1.3
ECQU2A124 □ L	0.12	17.5	6.5	14.5	15.0	0.60	0 $\pm$ 0.5	1.3
ECQU2A154 □ L	0.15	17.5	6.5	14.5	15.0	0.60	0 $\pm$ 0.5	1.3
ECQU2A184 □ L	0.18	17.5	8.0	16.0	15.0	0.60	0 $\pm$ 0.5	1.3
ECQU2A224 □ L	0.22	17.5	8.0	16.0	15.0	0.60	0 $\pm$ 0.5	1.3
ECQU2A274 □ L	0.27	17.5	9.5	17.5	15.0	0.80	0 $\pm$ 0.5	1.3
ECQU2A334 □ L	0.33	17.5	9.5	17.5	15.0	0.80	0 $\pm$ 0.5	1.3
ECQU2A394 □ L	0.39	25.5	8.5	17.5	22.5	0.80	0 $\pm$ 0.75	1.5
ECQU2A474 □ L	0.47	25.5	8.5	17.5	22.5	0.80	0 $\pm$ 0.75	1.5
ECQU2A564 □ L	0.56	25.5	10.5	19.5	22.5	0.80	0 $\pm$ 0.75	1.5
ECQU2A684 □ L	0.68	25.5	10.5	19.5	22.5	0.80	0 $\pm$ 0.75	1.5
ECQU2A824 □ L	0.82	25.5	12.0	22.0	22.5	0.80	0 $\pm$ 0.75	1.5
ECQU2A105 □ L	1.0	25.5	12.0	22.0	22.5	0.80	0 $\pm$ 0.75	1.5
ECQU2A125 □ L	1.2	30.5	16.5	26.0	27.5	0.80	0 $\pm$ 0.75	1.5
ECQU2A155 □ L	1.5	30.5	16.5	26.0	27.5	0.80	0 $\pm$ 0.75	1.5
ECQU2A185 □ L	1.8	30.5	19.0	29.5	27.5	0.80	0 $\pm$ 0.75	1.5
ECQU2A225 □ L	2.2	30.5	19.0	29.5	27.5	0.80	0 $\pm$ 0.75	1.5

□ Cap. tol. code