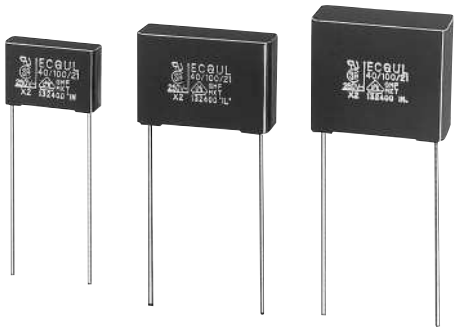
## Metallized Polyester Film Capacitor

# 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 (tan$\delta$) | tan$\delta$≦1.0 % (20 ˚C, 1 kHz) |
| Withstand voltage | Between terminals: 575 VAC, 1768 VDC 60 s (0.0082 µF to 2.2 µF)<br>Between terminals: 1500 VAC, 2121 VDC 60 s (0.0010 µF to 0.0068 µF)<br>Between terminals to enclosure:2050 VAC 60 s |
| Insulation resistance (IR) | C≦0.33 µF : IR≧15000 MΩ (20 ˚C, 100 VDC, 60 s)<br>C>0.33 µF : IR≧5000 MΩ · µF (20 ˚C, 100 VDC, 60 s)<br>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).

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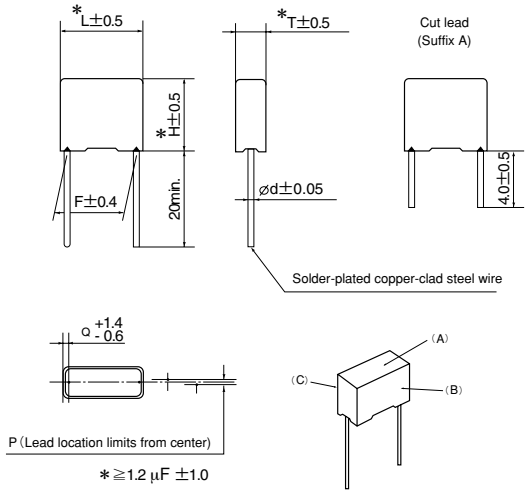
Whenever a doubt about safety arises from this product, please inform us immediately for technical consultation without fail.

■Dimensions in mm (not to scale)




Marking Example

| STYLE | (A) side | (B) side |
|---|---|---|
| 1<br>0.0010 μF to 0.0068 μF | Ⓜ.001 μF K | ECQUL 275V～ X2/Y2 □ |
| 2<br>0.0082 μF to 1.0 μF | Ⓜ .0082 μF K | ECQUL 275V～ X2 □ |
| 3<br>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

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