

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

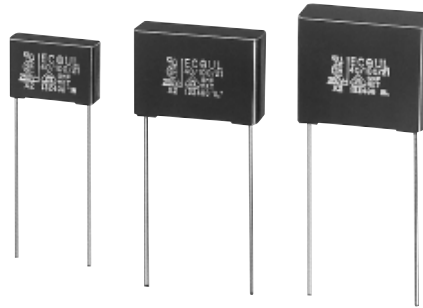
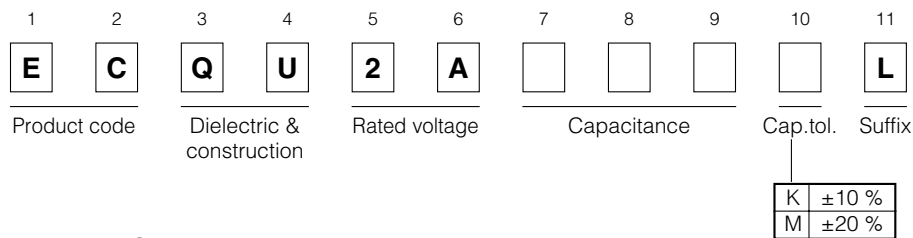
■ Features

- 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)

Marking Example

| STYLE | A side | B side | C side |
|--------------------------------|------------|--|----------------------|
| 1 0.0010 μF to 0.0068 μF | M.001 μF K | ECQUL 275 V~Y2X2 250 V~ 40/100/21□ | GMF MKT 132400 |
| 2 0.0082 μF to 0.047 μF | M.033 μF K | ECQUL 275 V~ X2 250 V~ 40/100/21□ | GMF MKT 132400 |
| 3 0.056 μF to 1.0 μF | M.068 μF K | ECQUL 40/100/21 250 V~ X2 GMF MKT 132400□ | |
| 4 1.2 μF to 2.2 μF | M.15 μF K | 1283 8X 250 V~ X2 ECQUL 40/100/21 GMF MKT 132400□ | |

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) | | | | | | |
|-------------|--------------|-----------------|------|------|------|------|---------|-----|
| | | L | T | H | F | ød | 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 |
| 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 |

Cap. tol. code

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.