

### Interference Suppression Capacitor Metallized Polyester

Type: **ECQUL [Class X2] [Class Y2/X2]**

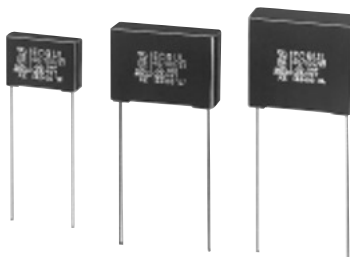
In accordance with UL/CSA and European safety regulation class X2 or class Y2/X2

#### ■ Features

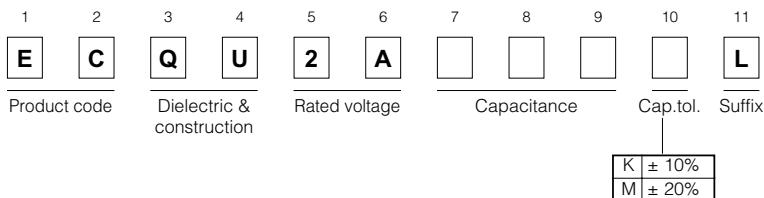
- Compact
- Flame - retardant plastic case and non - combustible resin

#### ■ Recommended Applications

- Interference suppressors



#### ■ Explanation of Part Numbers



#### ■ Applicable Standard

|     |                        |   |  |
|-----|------------------------|---|--|
| UL  | UL 1414                | Across - The - Line Capacitors<br>Antenna - Coupling and Line - By - Pass             | (0.001 to 1.0 $\mu$ F)<br>(0.001 to 1.0 $\mu$ F) |
|     | UL 1283                | Electromagnetic Interference Filters  | (1.2 to 2.2 $\mu$ F)                             |
| CSA | CSA C22.2 No.1 - 94    | Across - the - line capacitors<br>Antenna - isolation and line - by - pass capacitors | (0.001 to 1.0 $\mu$ F)<br>(0.001 to 1.0 $\mu$ F) |
|     | CSA C22.2 No.8 - M1986 | Electromagnetic Interference (EMI) Filters  | (1.2 to 2.2 $\mu$ F)                             |
| VDE | IEC384 - 14, 1993      | Class Y2/X2   | (0.001 to 0.0068 $\mu$ F)                        |
|     | EN132400               | Class X2  | (0.0082 to 2.2 $\mu$ F)                          |

\*When applying for agency, please apply not with part code but type designation and rating such as ECQUL, 0.1 $\mu$ F.

\*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 is no problem with using this capacitor in the apparatus, which will get approvals from certification bodies in Europe, SEMKO, DEMKO, NEMKO, FIMKO and SEV etc. except VDE.

#### ■ Specifications

|                       |   |
|-----------------------|---|
| Category temp. range  | - 40 to + 100°C (85°C max. on UL/CSA spec.)   |
| Rated voltage         | 275VAC (IEC384 - 14), 250VAC (UL/CSA)   |
| Capacitance range     | 0.001 to 2.2 $\mu$ F  |
| Capacitance tolerance | ± 10% (K), ± 20% (M)  |
| Dissipation factor    | 1.0% max. (20°C, 1kHz)  |
| Withstand voltage     | Between terminals: 575VAC, 1768VDC 60s<br>Between terminals: 1500VAC, 2121VDC 60s (0.001 to 0.0068 $\mu$ F)<br>Between terminals to enclosure: 2050 VAC 60s           |
| Insulation resistance | C ≤ 0.33 $\mu$ F: 15000M $\Omega$ min. (20°C 100VDC 60s)<br>C > 0.33 $\mu$ F: 5000M $\Omega$ · $\mu$ F min. (20°C 100VDC 60s)<br>2000M $\Omega$ min (20°C 500VDC 60s) |

### ■Dimensions in mm (not to scale)

| STYLE                        | A side   | B side   | C side               |
|------------------------------|--|--|----------------------|
| 1<br>0.001 to 0.0068 $\mu$ F | $\text{M} .001 \mu\text{F} \text{ K}$          | ECQUL<br>275V~Y2X2<br>40/100/21                    | GMF<br>MKT<br>132400 |
| 2<br>0.0082 to 0.047 $\mu$ F | $\text{M} .033 \mu\text{F} \text{ K}$          | ECQUL<br>275V~X2<br>40/100/21                      | GMF<br>MKT<br>132400 |
| 3<br>0.056 to 1.0 $\mu$ F    | $\text{M} .068 \mu\text{F} \text{ K}$<br>275V~ | ECQUL<br>40/100/21<br>GMF<br>MKT<br>132400         |                      |
| 4<br>1.2 to 2.2 $\mu$ F      | $\text{M} 1.5 \mu\text{F} \text{ K}$<br>275V~  | 1283<br>275V~<br>40/100/21<br>GMF<br>MKT<br>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.<br>( $\mu$ F) | Dimensions (mm) |      |      |      |          |              |     |
|-----------|--------------------|-----------------|------|------|------|----------|--------------|-----|
|           |                    | L               | T    | H    | F    | $\phi$ d | P            | Q   |
| ECQU2A102 | 0.001              | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A122 | 0.0012             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A152 | 0.0015             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A182 | 0.0018             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A222 | 0.0022             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A272 | 0.0027             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A332 | 0.0033             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A392 | 0.0039             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A472 | 0.0047             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A562 | 0.0056             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A682 | 0.0068             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A822 | 0.0082             | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A103 | 0.01               | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A123 | 0.012              | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A153 | 0.015              | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A183 | 0.018              | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A223 | 0.022              | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A273 | 0.027              | 15.0            | 5.0  | 11.5 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A333 | 0.033              | 15.0            | 6.0  | 13.0 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A393 | 0.039              | 15.0            | 6.0  | 13.0 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A473 | 0.047              | 15.0            | 6.0  | 13.0 | 12.5 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A563 | 0.056              | 17.5            | 4.5  | 11.5 | 15.0 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A683 | 0.068              | 17.5            | 4.5  | 11.5 | 15.0 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A823 | 0.082              | 17.5            | 5.5  | 12.0 | 15.0 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A104 | 0.1                | 17.5            | 5.5  | 12.0 | 15.0 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A124 | 0.12               | 17.5            | 6.5  | 14.5 | 15.0 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A154 | 0.15               | 17.5            | 6.5  | 14.5 | 15.0 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A184 | 0.18               | 17.5            | 8.0  | 16.0 | 15.0 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A224 | 0.22               | 17.5            | 8.0  | 16.0 | 15.0 | 0.60     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A274 | 0.27               | 17.5            | 9.5  | 17.5 | 15.0 | 0.80     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A334 | 0.33               | 17.5            | 9.5  | 17.5 | 15.0 | 0.80     | 0 $\pm$ 0.5  | 1.3 |
| ECQU2A394 | 0.39               | 25.5            | 8.5  | 17.5 | 22.5 | 0.80     | 0 $\pm$ 0.75 | 1.5 |
| ECQU2A474 | 0.47               | 25.5            | 8.5  | 17.5 | 22.5 | 0.80     | 0 $\pm$ 0.75 | 1.5 |
| ECQU2A564 | 0.56               | 25.5            | 10.5 | 19.5 | 22.5 | 0.80     | 0 $\pm$ 0.75 | 1.5 |
| ECQU2A684 | 0.68               | 25.5            | 10.5 | 19.5 | 22.5 | 0.80     | 0 $\pm$ 0.75 | 1.5 |
| ECQU2A824 | 0.82               | 25.5            | 12.0 | 22.0 | 22.5 | 0.80     | 0 $\pm$ 0.75 | 1.5 |
| ECQU2A105 | 1.0                | 25.5            | 12.0 | 22.0 | 22.5 | 0.80     | 0 $\pm$ 0.75 | 1.5 |
| ECQU2A125 | 1.2                | 30.5            | 16.5 | 26.0 | 27.5 | 0.80     | 0 $\pm$ 0.75 | 1.5 |
| ECQU2A155 | 1.5                | 30.5            | 16.5 | 26.0 | 27.5 | 0.80     | 0 $\pm$ 0.75 | 1.5 |
| ECQU2A185 | 1.8                | 30.5            | 19.0 | 29.5 | 27.5 | 0.80     | 0 $\pm$ 0.75 | 1.5 |
| ECQU2A225 | 2.2                | 30.5            | 19.0 | 29.5 | 27.5 | 0.80     | 0 $\pm$ 0.75 | 1.5 |

Cap. tol. code