# Panasonic

## **Plastic Film Capacitors**

## Metallized Polyester Film Capacitor Series : ECQUG [Class X1]

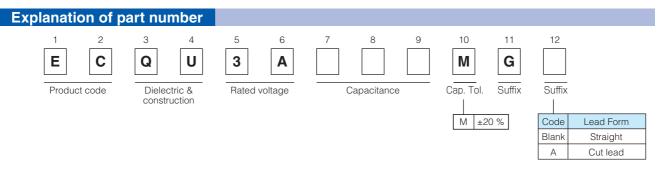
In accordance with UL/CSA and European safety regulation class X1

#### Features

- Equipped with a safety mechanism
- Flame-retardant plastic case and non combustible resin
- RoHS directive compliant

#### **Recommended applications**

Interference suppressors



#### Applicable standard

\* It is certified as type ECQUG in the following approval.

| Ар            | proval            | Class    | Certification organization |  |  |
|---------------|-------------------|----------|----------------------------|--|--|
| UL            | UL60384-14        | Class X1 | UL                         |  |  |
| CSA           | CAN/CSA E60384-14 | Class X1 | CSA                        |  |  |
| Europe        | EN60384-14        | Class X1 | VDE                        |  |  |
| International | IEC60384-14       | Class X1 | VDE                        |  |  |

\* When applying this capacitor to European and American safety standards, please use type designation and rating such as ECQUG, 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.

\* European standards marking are ENEC (VDE). But, there are no problem using this capacitor in a device which will get approvals from certification bodies in Europe, NEMKO, FIMKO, SEMKO, DEMKO, and SEV etc.

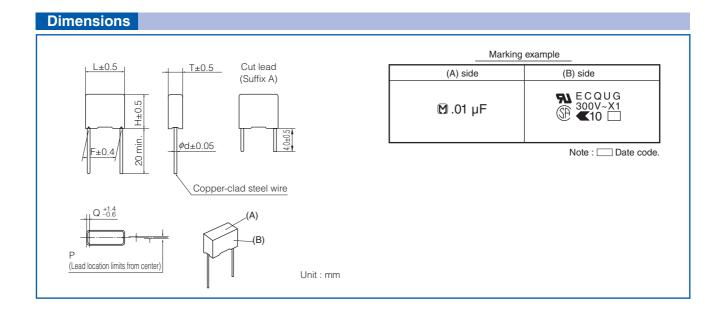
| Specifications                     |  |  |  |  |  |  |
|------------------------------------|--|--|--|--|--|--|
| Category temperature range         | −40 °C to +100 °C  |  |  |  |  |  |
| Rated voltage                      | 300 V.AC   |  |  |  |  |  |
| Rated capacitance                  | 0.010 µF to 1.0 µF (E6)  |  |  |  |  |  |
| Capacitance tolerance              | ±20 % (M)  |  |  |  |  |  |
| Dissipation factor (tan $\delta$ ) | tan $\delta \leq 1.0$ % (20 °C, 1 kHz )  |  |  |  |  |  |
| Withstand voltage                  | Between terminals : 575 V.AC, 1768 V.DC, 60 s<br>Between terminals to enclosure : 2100 V.AC, 60 s  |  |  |  |  |  |
| Insulation resistance (IR)         | $ \begin{array}{l} C \leq 0.33 \ \mu\text{F} : \mbox{IR} \geq 15000 \ M\Omega & (20 \ ^{\circ}\text{C}, \ 100 \ \text{V.DC}, \ 60 \ s) \\ C > 0.33 \ \mu\text{F} : \ \text{IR} \geq 5000 \ \text{M}\Omega \cdot \mu\text{F} \ (20 \ ^{\circ}\text{C}, \ 100 \ \text{V.DC}, \ 60 \ s) \\ \ \text{IR} \geq 2000 \ \text{M}\Omega \ (20 \ ^{\circ}\text{C}, \ 500 \ \text{V.DC}, \ 60 \ s) \\ \end{array} $ |  |  |  |  |  |

\* Use of this capacitor is limited to AC voltage (50 Hz or 60 Hz sine wave).



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### Rating · Dimensions · Quantity

#### • Capacitance tolerance : ±20 %(M)

| Part No.      | Capacitance | Dimensions (mm) |      |      |      |            | Min. order Q'ty |     |          |          |
|---------------|-------------|-----------------|------|------|------|------------|-----------------|-----|----------|----------|
|               | (μF)        | L               | Т    | Н    | F    | <i>ø</i> d | Р               | Q   | Straight | Cut lead |
| ECQU3A103MG() | 0.010       | 15.0            | 5.0  | 11.5 | 12.5 | 0.6        | 0±0.50          | 1.3 | 500      | 500      |
| ECQU3A153MG() | 0.015       | 15.0            | 5.0  | 11.5 | 12.5 | 0.6        | 0±0.50          | 1.3 |          |          |
| ECQU3A223MG() | 0.022       | 15.0            | 5.0  | 11.5 | 12.5 | 0.6        | 0±0.50          | 1.3 |          |          |
| ECQU3A333MG() | 0.033       | 15.0            | 6.0  | 13.0 | 12.5 | 0.6        | 0±0.50          | 1.3 |          |          |
| ECQU3A473MG() | 0.047       | 15.0            | 6.0  | 13.0 | 12.5 | 0.6        | 0±0.50          | 1.3 |          |          |
| ECQU3A683MG() | 0.068       | 15.0            | 8.0  | 15.0 | 12.5 | 0.6        | 0±0.50          | 1.3 |          |          |
| ECQU3A104MG() | 0.10        | 15.0            | 8.0  | 15.0 | 12.5 | 0.6        | 0±0.50          | 1.3 |          |          |
| ECQU3A154MG() | 0.15        | 18.0            | 8.0  | 16.5 | 15.0 | 0.8        | 0±0.50          | 1.3 |          |          |
| ECQU3A224MG() | 0.22        | 18.0            | 9.0  | 17.5 | 15.0 | 0.8        | 0±0.50          | 1.3 |          |          |
| ECQU3A334MG() | 0.33        | 26.0            | 9.0  | 18.5 | 22.5 | 0.8        | 0±0.50          | 1.5 |          |          |
| ECQU3A474MG() | 0.47        | 26.0            | 10.5 | 20.0 | 22.5 | 0.8        | 0±0.75          | 1.5 |          |          |
| ECQU3A684MG() | 0.68        | 26.0            | 12.5 | 22.0 | 22.5 | 0.8        | 0±0.75          | 1.5 | - 300    | 400      |
| ECQU3A105MG() | 1.0         | 27.0            | 16.5 | 25.5 | 22.5 | 0.8        | 0±0.75          | 2.2 |          | 300      |

\* (): Suffix for lead form

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