

Surface Mount Type

GX/GX-L series

[Super low ESR products]



SP-Cap

Features

- Large capacitance (560 μF max.)
- Super Low ESR (3 $\text{m}\Omega$ max.)
- Low ESL (3-terminals : 50 % less than 2-terminals) [Suffix : L]
- High ripple current (10200 mA r.m.s. max.)
- RoHS compliance, Halogen free

Specifications

| | | |
|------------------------------------|--|--|
| Series | GX | |
| Category temp. range | -55 $^{\circ}\text{C}$ to +105 $^{\circ}\text{C}$ | |
| Rated voltage range | 2.0 V.DC to 2.5 V.DC | |
| Nominal cap. range | 330 μF to 560 μF | |
| Capacitance tolerance | $\pm 20\%$ (120 Hz / +20 $^{\circ}\text{C}$) | |
| DC leakage current | $I \leq 0.1 \text{ CV}$ (μA) 2 minutes | |
| Dissipation factor (tan δ) | ≤ 0.06 (120 Hz / +20 $^{\circ}\text{C}$) | |
| Surge voltage (V.DC) | Rated voltage $\times 1.25$ (15 $^{\circ}\text{C}$ to 35 $^{\circ}\text{C}$) | |
| Endurance | +105 $^{\circ}\text{C}$ ± 2 $^{\circ}\text{C}$, 2000 h, rated voltage applied | |
| | Capacitance change | Within $\pm 20\%$ of the initial value |
| | Dissipation factor (tan δ) | ≤ 2 times of the initial limit |
| | DC leakage current | ≤ 3 times of the initial limit |
| Damp heat (Steady state) | +60 $^{\circ}\text{C}$, 90 %, 500 h, No-applied voltage | |
| | Capacitance change of initial measured value | 2.0 V.DC to 2.5 V.DC +70 %, -20 % |
| | Dissipation factor (tan δ) | ≤ 2 times of the initial limit |
| | DC leakage current | Within the initial limit |

Marking

Capacitance (μF)

Polarity bar (Positive)

Lot No.

R. voltage code

| R. voltage code | Unit : V.DC |
|-----------------|-------------|
| d | 2.0 |
| e | 2.5 |

Dimensions (not to scale)

2 terminals

| Unit : mm | | | | | |
|-----------|-------------|--------------|--------------|-------------|-------------|
| Series | L ± 0.2 | W1 ± 0.2 | W2 ± 0.1 | H ± 0.1 | P ± 0.3 |
| GX | 7.3 | 4.3 | 2.4 | 1.9 | 1.3 |

3 terminals

| Unit : mm | | | | | | | | |
|-----------|-------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|
| Series | L ± 0.2 | W1 ± 0.2 | W2 ± 0.1 | H ± 0.1 | P1 ± 0.3 | P2 ± 0.1 | P3 ± 0.2 | P4 ± 0.2 |
| GX-L | 7.3 | 4.3 | 2.4 | 1.9 | 1.3 | 1.1 | 0.7 | 1.4 |

* Externals of figure are the reference.

Characteristics list

| Series | Rated voltage (V.DC) | Capacitance (μF) | Case size (mm) | | | Specification | | The number of terminals | | Part number | Min. Packaging Q'ty ^{*3} (pcs) | |
|--------|----------------------|------------------|----------------|-----|-----|--|-----------------------------|-------------------------|---|-------------|---|------|
| | | | L | W | H | Ripple current ^{*1} (mA r.m.s.) | ESR ^{*2} (mΩ max.) | 2 | 3 | | | |
| GX | 2.0 | 330 | 7.3 | 4.3 | 1.9 | 10200 | 3 | ○ | | EEFGX0D331R | 3500 | |
| | | | 7.3 | 4.3 | 1.9 | 10200 | 3 | ○ | | EEFGX0D471R | 3500 | |
| | | 470 | 7.3 | 4.3 | 1.9 | 10200 | 3 | | ○ | EEFGX0D471L | 3500 | |
| | | | 560 | 7.3 | 4.3 | 1.9 | 10200 | 3 | ○ | | EEFGX0D561R | 3500 |
| | | | | 7.3 | 4.3 | 1.9 | 10200 | 3 | | ○ | EEFGX0D561L | 3500 |
| | 2.5 | 330 | 7.3 | 4.3 | 1.9 | 10200 | 3 | ○ | | EEFGX0E331R | 3500 | |
| | | | 470 | 7.3 | 4.3 | 1.9 | 10200 | 3 | ○ | | EEFGX0E471R | 3500 |
| | | 7.3 | | 4.3 | 1.9 | 10200 | 3 | | ○ | EEFGX0E471L | 3500 | |

*1: Ripple current (100 kHz / +45 °C)

*2: ESR (100 kHz / +20 °C)

*3: Please contact us when 500 pcs packing is necessary.

◆ Please refer to each page in this catalog for "Reflow conditions" and "Taping specifications".

Temperature coefficient of ripple current

| Temperature | | T ≤ 45 °C | 45 °C < T ≤ 85 °C | 85 °C < T ≤ 105 °C |
|----------------------|-------------|-----------|-------------------|--------------------|
| 2.0 V.DC to 2.5 V.DC | Coefficient | 1.0 | 0.7 | 0.25 |

◆ Ripple current should be controlled so that surface temperature of capacitor does not exceed the category temperature.

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