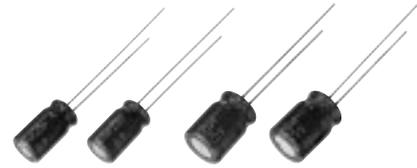


Radial Lead Type

Series: **GA(Bi-polar)** Type: **A**

■ Features

- Endurance : 105 °C 1000 h to 2000 h
- RoHS directive compliant



■ Specifications

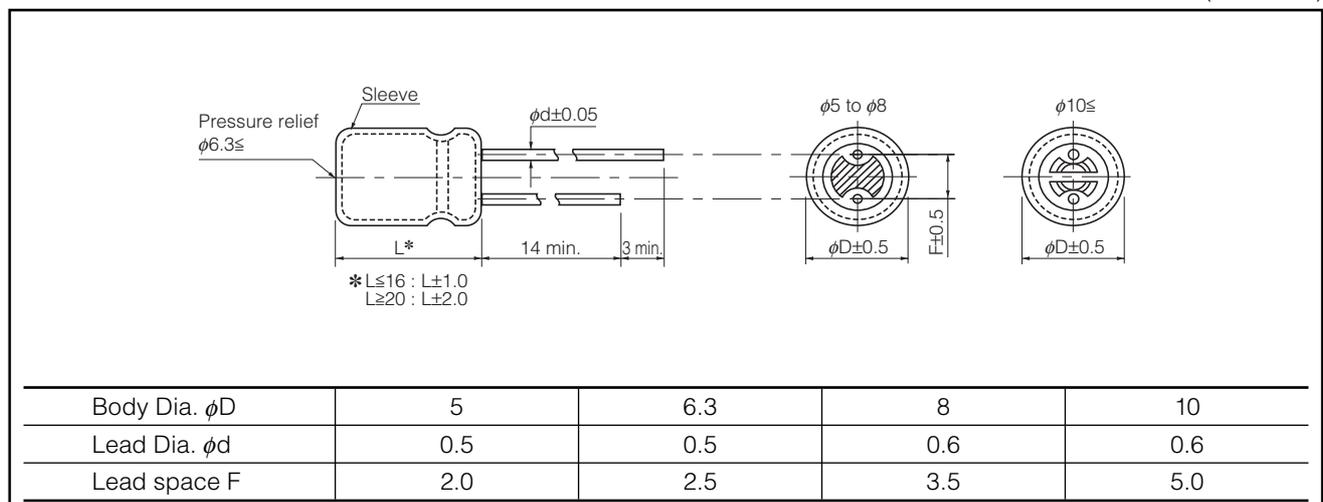
| | | | |
|-----------------------|--|------------------------------------|--|
| Category Temp. Range | -40 °C to +105 °C | | |
| Rated W.V. Range | 6.3 V.DC to 50 V.DC | | |
| Nominal Cap. Range | 0.47 μF to 330 μF | | |
| Capacitance Tolerance | ±20 % (120 Hz/+20 °C) | | |
| DC Leakage Current | I ≤ 0.03 CV +3 (μA) After 2 minutes or I ≤ 0.03 CV or 3 (μA) After 5 minutes (Whichever is greater) | | |
| tan δ | Please see the attached standard products list | | |
| Endurance | After following life test of DC working voltage at +105 °C±2 °C when the capacitors are restored to 20 °C, the capacitors shall meet the following limits. Duration φ5 to φ8 : 1000 hours (500 hours for each polarity) φ10 : 2000 hours (1000 hours for each polarity) | | |
| | Capacitance change | ± 20% of initial measured value | |
| | tan δ | ≤ 200 % of initial specified value | |
| | DC leakage current | ≤ initial specified value | |
| Shelf Life | After storage for 1000 hours at +105 °C±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment) | | |

■ Frequency correction factor for ripple current

| | Frequency (Hz) | | | |
|-------------------|----------------|------|------|---------|
| | 50, 60 | 120 | 1 k | 10 k to |
| Correction factor | 0.70 | 1.00 | 1.30 | 1.70 |

■ Dimensions in mm (not to scale)

(Unit : mm)



■ Standard Products (Bi-polar)

Endurance : 105 °C ϕ 5 to ϕ 8=1000 h (500 h for each polarity), ϕ 10=2000 h (1000 h for each polarity)

| W.V. (V) | Cap. (\pm 20 %) (μ F) | Case size | | Specification | | Lead Length | | | Part No. | Min. Packaging Q'ty | | |
|-------------|-------------------------------------|--------------|----------------|--|--------------------------------------|-------------------|------------------|----------------------|----------|-------------------------|-----------------|----------------------|
| | | Dia. (mm) | Length (mm) | Ripple Current (120 Hz) (+105 °C) (mA r.m.s.) | tan δ (120 Hz) (+20 °C) | Lead Dia. (mm) | Lead Space | | | Straight Leads (pcs) | Taping (pcs) | |
| | | | | | | | Straight (mm) | Taping *B (mm) | | | | Taping *i (mm) |
| 6.3 | 100 | 6.3 | 11.2 | 130 | 0.30 | 0.5 | 2.5 | 5.0 | 2.5 | ECA0JEN101() | 200 | 2000 |
| | 330 | 8 | 11.5 | 250 | 0.30 | 0.6 | 3.5 | 5.0 | | ECA0JEN331() | 200 | 1000 |
| 10 | 47 | 5 | 11 | 90 | 0.24 | 0.5 | 2.0 | 5.0 | 2.5 | ECA1AEN470() | 200 | 2000 |
| 16 | 10 | 5 | 11 | 40 | 0.20 | 0.5 | 2.0 | 5.0 | 2.5 | ECA1CEN100() | 200 | 2000 |
| | 22 | 5 | 11 | 60 | 0.20 | 0.5 | 2.0 | 5.0 | 2.5 | ECA1CEN220() | 200 | 2000 |
| | 33 | 5 | 11 | 80 | 0.20 | 0.5 | 2.0 | 5.0 | 2.5 | ECA1CEN330() | 200 | 2000 |
| | 47 | 6.3 | 11.2 | 100 | 0.20 | 0.5 | 2.5 | 5.0 | 2.5 | ECA1CEN470() | 200 | 2000 |
| 25 | 10 | 5 | 11 | 45 | 0.15 | 0.5 | 2.0 | 5.0 | 2.5 | ECA1EEN100() | 200 | 2000 |
| | 22 | 6.3 | 11.2 | 60 | 0.15 | 0.5 | 2.5 | 5.0 | 2.5 | ECA1EEN220() | 200 | 2000 |
| | 33 | 6.3 | 11.2 | 90 | 0.15 | 0.5 | 2.5 | 5.0 | 2.5 | ECA1EEN330() | 200 | 2000 |
| | 47 | 6.3 | 11.2 | 110 | 0.15 | 0.5 | 2.5 | 5.0 | 2.5 | ECA1EEN470() | 200 | 2000 |
| | 100 | 8 | 11.5 | 180 | 0.15 | 0.6 | 3.5 | 5.0 | | ECA1EEN101() | 200 | 1000 |
| 35 | 33 | 8 | 11.5 | 100 | 0.15 | 0.6 | 3.5 | 5.0 | | ECA1VEN330() | 200 | 1000 |
| | 100 | 10 | 16 | 230 | 0.15 | 0.6 | 5.0 | 5.0 | | ECA1VEN101() | 200 | 500 |
| 50 | 0.47 | 5 | 11 | 10 | 0.15 | 0.5 | 2.0 | 5.0 | 2.5 | ECA1HENR47() | 200 | 2000 |
| | 1 | 5 | 11 | 10 | 0.15 | 0.5 | 2.0 | 5.0 | 2.5 | ECA1HEN010() | 200 | 2000 |
| | 2.2 | 5 | 11 | 18 | 0.15 | 0.5 | 2.0 | 5.0 | 2.5 | ECA1HEN2R2() | 200 | 2000 |
| | 3.3 | 5 | 11 | 25 | 0.15 | 0.5 | 2.0 | 5.0 | 2.5 | ECA1HEN3R3() | 200 | 2000 |
| | 4.7 | 5 | 11 | 30 | 0.15 | 0.5 | 2.0 | 5.0 | 2.5 | ECA1HEN4R7() | 200 | 2000 |
| | 10 | 6.3 | 11.2 | 50 | 0.15 | 0.5 | 2.5 | 5.0 | 2.5 | ECA1HEN100() | 200 | 2000 |
| | 22 | 8 | 11.5 | 90 | 0.15 | 0.6 | 3.5 | 5.0 | | ECA1HEN220() | 200 | 1000 |
| | 33 | 8 | 11.5 | 110 | 0.15 | 0.6 | 3.5 | 5.0 | | ECA1HEN330() | 200 | 1000 |
| | 47 | 10 | 12.5 | 140 | 0.15 | 0.6 | 5.0 | 5.0 | | ECA1HEN470() | 200 | 500 |
| | 100 | 10 | 20 | 250 | 0.15 | 0.6 | 5.0 | 5.0 | | ECA1HEN101() | 200 | 500 |

- When requesting taped product, please put the letter "B" or "i" between the "()". Lead wire pitch *B=5 mm, i=2.5 mm.
- Please refer to the page of "Taping Dimensions".