

### Radial Lead Type

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



#### ■ Features

- Endurance : 85 °C 2000 h
- RoHS directive compliant

#### ■ Specifications

|                       |  |                                    |  |
|-----------------------|--|------------------------------------|--|
| Category Temp. Range  | -40 °C to +85 °C   |                                    |  |
| Rated W.V. Range      | 6.3 V.DC to 50 V.DC  |                                    |  |
| Nominal Cap. Range    | 0.47 μF to 6800 μF   |                                    |  |
| Capacitance Tolerance | ±20 % (120 Hz/+20 °C)  |                                    |  |
| DC Leakage Current    | $I \leq 0.03 CV + 3$ (μA) After 5 minutes  |                                    |  |
| tan δ                 | Please see the attached standard products list.  |                                    |  |
| Endurance             | After 2000 hours application of DC working voltage (1000 hours for each polarity) at +85 °C±2 °C, when the capacitors are restored to 20 °C, the capacitors shall meet the following limits. |                                    |  |
|                       | Capacitance change   | ± 20 % of initial measured value   |  |
|                       | tan δ  | ≤ 150 % of initial specified value |  |
|                       | DC leakage current   | ≤ initial specified value          |  |
| Shelf Life            | After storage for 1000 hours at +85 °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)



Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

00 Nov. 2012

### ■ Standard Products (Bi-polar)

Endurance: 85 °C 2000 h (1000 hours for each polarity)

| W.V.<br>(V) | Cap.<br>(±20 %)<br>(μF) | Case size    |                | Specification   |                                      | Lead Length       |                  |                      |                      | Part No.       | Min. Packaging Qty      |                 |
|-------------|-------------------------|--------------|----------------|---|--------------------------------------|-------------------|------------------|----------------------|----------------------|----------------|-------------------------|-----------------|
|             |                         | Dia.<br>(mm) | Length<br>(mm) | Ripple Current<br>(120 Hz)<br>(+85 °C)<br>(mA r.m.s.) | tan δ<br>(120 Hz)<br>(+20 °C)<br>(Ω) | Lead Dia.<br>(mm) | Lead Space       |                      |                      |                | Straight Leads<br>(pcs) | Taping<br>(pcs) |
|             |                         |              |                |   |                                      |                   | Straight<br>(mm) | Taping<br>*B<br>(mm) | Taping<br>*i<br>(mm) |                |                         |                 |
| 6.3         | 330                     | 8            | 11.5           | 250   | 0.30                                 | 0.6               | 3.5              | 5.0                  |                      | ECEA0JN331U( ) | 200                     | 1000            |
|             | 470                     | 10           | 12.5           | 310   | 0.30                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA0JN471X( ) | 200                     | 500             |
|             | 1000                    | 10           | 20             | 430   | 0.30                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA0JN102U( ) | 200                     | 500             |
|             | 2200                    | 12.5         | 25             | 660   | 0.32                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA0JN222U( ) | 200                     | 500             |
|             | 3300                    | 16           | 25             | 760   | 0.34                                 | 0.8               | 7.5              | 7.5                  |                      | ECEA0JN332U( ) | 100                     | 250             |
|             | 4700                    | 16           | 31.5           | 1170  | 0.36                                 | 0.8               | 7.5              |                      |                      | ECEA0JN472U    | 100                     |                 |
|             | 6800                    | 18           | 35.5           | 1450  | 0.40                                 | 0.8               | 7.5              |                      |                      | ECEA0JN682U    | 50                      |                 |
| 10          | 47                      | 5            | 11             | 90  | 0.25                                 | 0.5               | 2.0              | 5.0                  | 2.5                  | ECEA1AN470U( ) | 200                     | 2000            |
|             | 100                     | 6.3          | 11.2           | 130   | 0.25                                 | 0.5               | 2.5              | 5.0                  | 2.5                  | ECEA1AN101X( ) | 200                     | 2000            |
|             | 220                     | 8            | 11.5           | 200   | 0.25                                 | 0.6               | 3.5              | 5.0                  |                      | ECEA1AN221U( ) | 200                     | 1000            |
|             | 330                     | 10           | 16             | 280   | 0.25                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1AN331U( ) | 200                     | 500             |
|             | 470                     | 10           | 16             | 340   | 0.25                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1AN471U( ) | 200                     | 500             |
|             | 1000                    | 12.5         | 20             | 470   | 0.25                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1AN102X( ) | 200                     | 500             |
|             | 2200                    | 16           | 25             | 690   | 0.27                                 | 0.8               | 7.5              | 7.5                  |                      | ECEA1AN222U( ) | 100                     | 250             |
|             | 3300                    | 16           | 31.5           | 1090  | 0.29                                 | 0.8               | 7.5              |                      |                      | ECEA1AN332U    | 100                     |                 |
| 4700        | 18                      | 35.5         | 1200           | 0.31  | 0.8                                  | 7.5               |                  |                      | ECEA1AN472U          | 50             |                         |                 |
| 16          | 10                      | 5            | 11             | 40  | 0.20                                 | 0.5               | 2.0              | 5.0                  | 2.5                  | ECEA1CN100U( ) | 200                     | 2000            |
|             | 22                      | 5            | 11             | 60  | 0.20                                 | 0.5               | 2.0              | 5.0                  | 2.5                  | ECEA1CN220U( ) | 200                     | 2000            |
|             | 33                      | 5            | 11             | 80  | 0.20                                 | 0.5               | 2.0              | 5.0                  | 2.5                  | ECEA1CN330U( ) | 200                     | 2000            |
|             | 47                      | 6.3          | 11.2           | 100   | 0.20                                 | 0.5               | 2.5              | 5.0                  | 2.5                  | ECEA1CN470U( ) | 200                     | 2000            |
|             | 220                     | 10           | 12.5           | 260   | 0.20                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1CN221X( ) | 200                     | 500             |
|             | 330                     | 10           | 16             | 330   | 0.20                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1CN331U( ) | 200                     | 500             |
|             | 470                     | 10           | 20             | 380   | 0.20                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1CN471U( ) | 200                     | 500             |
|             | 1000                    | 12.5         | 25             | 560   | 0.20                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1CN102U( ) | 200                     | 500             |
|             | 2200                    | 16           | 31.5           | 750   | 0.22                                 | 0.8               | 7.5              |                      |                      | ECEA1CN222U    | 100                     |                 |
|             | 3300                    | 18           | 35.5           | 900   | 0.24                                 | 0.8               | 7.5              |                      |                      | ECEA1CN332U    | 50                      |                 |
| 25          | 10                      | 5            | 11             | 45  | 0.15                                 | 0.5               | 2.0              | 5.0                  | 2.5                  | ECEA1EN100U( ) | 200                     | 2000            |
|             | 22                      | 5            | 11             | 60  | 0.15                                 | 0.5               | 2.0              | 5.0                  | 2.5                  | ECEA1EN220X( ) | 200                     | 2000            |
|             | 33                      | 6.3          | 11.2           | 90  | 0.15                                 | 0.5               | 2.5              | 5.0                  | 2.5                  | ECEA1EN330U( ) | 200                     | 2000            |
|             | 47                      | 6.3          | 11.2           | 110   | 0.15                                 | 0.5               | 2.5              | 5.0                  | 2.5                  | ECEA1EN470U( ) | 200                     | 2000            |
|             | 100                     | 8            | 11.5           | 180   | 0.15                                 | 0.6               | 3.5              | 5.0                  |                      | ECEA1EN101U( ) | 200                     | 1000            |
|             | 220                     | 10           | 16             | 320   | 0.15                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1EN221U( ) | 200                     | 500             |
|             | 330                     | 12.5         | 20             | 350   | 0.15                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1EN331U( ) | 200                     | 500             |
|             | 470                     | 12.5         | 20             | 430   | 0.15                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1EN471U( ) | 200                     | 500             |
|             | 1000                    | 16           | 25             | 680   | 0.15                                 | 0.8               | 7.5              | 7.5                  |                      | ECEA1EN102U( ) | 100                     | 250             |
|             | 2200                    | 18           | 35.5           | 900   | 0.17                                 | 0.8               | 7.5              |                      |                      | ECEA1EN222U    | 50                      |                 |
| 35          | 10                      | 5            | 11             | 43  | 0.15                                 | 0.5               | 2.0              | 5.0                  | 2.5                  | ECEA1VN100U( ) | 200                     | 2000            |
|             | 22                      | 6.3          | 11.2           | 80  | 0.15                                 | 0.5               | 2.5              | 5.0                  | 2.5                  | ECEA1VN220U( ) | 200                     | 2000            |
|             | 33                      | 8            | 11.5           | 100   | 0.15                                 | 0.6               | 3.5              | 5.0                  |                      | ECEA1VN330U( ) | 200                     | 1000            |
|             | 47                      | 8            | 11.5           | 120   | 0.15                                 | 0.6               | 3.5              | 5.0                  |                      | ECEA1VN470U( ) | 200                     | 1000            |
|             | 100                     | 10           | 16             | 230   | 0.15                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1VN101U( ) | 200                     | 500             |
|             | 220                     | 12.5         | 20             | 360   | 0.15                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1VN221U( ) | 200                     | 500             |
|             | 330                     | 12.5         | 20             | 450   | 0.15                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1VN331U( ) | 200                     | 500             |
|             | 470                     | 12.5         | 25             | 590   | 0.15                                 | 0.6               | 5.0              | 5.0                  |                      | ECEA1VN471U( ) | 200                     | 500             |

· When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch B=5 mm, 7.5 mm, i=2.5 mm.  
 · Please refer to the page of "Taping Dimensions".

### ■ Standard Products (Bi-polar)

Endurance: 85 °C 2000 h (1000 hours for each polarity)

| W.V.<br>(V) | Cap.<br>(±20 %)<br>(μF) | Case size    |                | Specification   |                                      | Lead Length       |                  |                      | Part No.    | Min. Packaging Q'ty     |                 |                      |
|-------------|-------------------------|--------------|----------------|---|--------------------------------------|-------------------|------------------|----------------------|-------------|-------------------------|-----------------|----------------------|
|             |                         | Dia.<br>(mm) | Length<br>(mm) | Ripple Current<br>(120 Hz)<br>(+85 °C)<br>(mA r.m.s.) | tan δ<br>(120 Hz)<br>(+20 °C)<br>(Ω) | Lead Dia.<br>(mm) | Lead Space       |                      |             | Straight Leads<br>(pcs) | Taping<br>(pcs) |                      |
|             |                         |              |                |   |                                      |                   | Straight<br>(mm) | Taping<br>*B<br>(mm) |             |                         |                 | Taping<br>*i<br>(mm) |
| 50          | 0.47                    | 5            | 11             | 10  | 0.15                                 | 0.5               | 2.0              | 5.0                  | 2.5         | ECEA1HNR47U( )          | 200             | 2000                 |
|             | 1                       | 5            | 11             | 10  | 0.15                                 | 0.5               | 2.0              | 5.0                  | 2.5         | ECEA1HN010U( )          | 200             | 2000                 |
|             | 2.2                     | 5            | 11             | 18  | 0.15                                 | 0.5               | 2.0              | 5.0                  | 2.5         | ECEA1HN2R2U( )          | 200             | 2000                 |
|             | 3.3                     | 5            | 11             | 25  | 0.15                                 | 0.5               | 2.0              | 5.0                  | 2.5         | ECEA1HN3R3U( )          | 200             | 2000                 |
|             | 4.7                     | 5            | 11             | 30  | 0.15                                 | 0.5               | 2.0              | 5.0                  | 2.5         | ECEA1HN4R7U( )          | 200             | 2000                 |
|             | 10                      | 6.3          | 11.2           | 50  | 0.15                                 | 0.5               | 2.5              | 5.0                  | 2.5         | ECEA1HN100U( )          | 200             | 2000                 |
|             | 22                      | 8            | 11.5           | 90  | 0.15                                 | 0.6               | 3.5              | 5.0                  |             | ECEA1HN220U( )          | 200             | 1000                 |
|             | 33                      | 8            | 11.5           | 110   | 0.15                                 | 0.6               | 3.5              | 5.0                  |             | ECEA1HN330U( )          | 200             | 1000                 |
|             | 47                      | 10           | 12.5           | 140   | 0.15                                 | 0.6               | 5.0              | 5.0                  |             | ECEA1HN470U( )          | 200             | 500                  |
|             | 100                     | 10           | 20             | 250   | 0.15                                 | 0.6               | 5.0              | 5.0                  |             | ECEA1HN101U( )          | 200             | 500                  |
|             | 220                     | 12.5         | 25             | 360   | 0.15                                 | 0.6               | 5.0              | 5.0                  |             | ECEA1HN221U( )          | 200             | 500                  |
|             | 330                     | 16           | 25             | 450   | 0.15                                 | 0.8               | 7.5              | 7.5                  |             | ECEA1HN331U( )          | 100             | 250                  |
| 470         | 16                      | 31.5         | 590            | 0.15  | 0.8                                  | 7.5               |                  |                      | ECEA1HN471U | 100                     |                 |                      |

- When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch B=5 mm, 7.5 mm, i=2.5 mm.
- Please refer to the page of "Taping Dimensions".



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.