

### Radial Lead Type

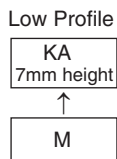
Series: KA Type : A

Country of Origin

Japan  
Malaysia  
China



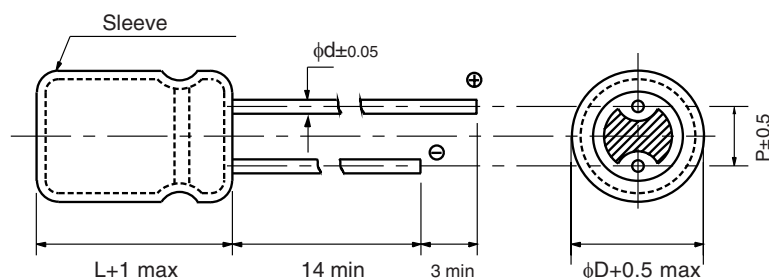
■ Features Endurance : 85°C 1000 h  
7 mm height



#### ■ Specifications

|                                    |                                                                                                                                                                                        |                                    |     |    |    |    |    |    |                             |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----|----|----|----|----|----|-----------------------------|
| Category Temp. range               | -40 to +85°C                                                                                                                                                                           |                                    |     |    |    |    |    |    |                             |
| Rated W.V. Range                   | 4 to 50 V .DC                                                                                                                                                                          |                                    |     |    |    |    |    |    |                             |
| Nominal Cap. Range                 | 0.1 to 470 μ F                                                                                                                                                                         |                                    |     |    |    |    |    |    |                             |
| Capacitance Tolerance              | ±20 % (120Hz/+20°C)                                                                                                                                                                    |                                    |     |    |    |    |    |    |                             |
| DC Leakage Current                 | I ≤ 0.01 CV or 3(μ A) after 2 minutes ( Whichever, greater)                                                                                                                            |                                    |     |    |    |    |    |    |                             |
| tan δ                              | Please see the attached standard products list                                                                                                                                         |                                    |     |    |    |    |    |    |                             |
| Characteristics at Low Temperature | W.V. (V)                                                                                                                                                                               | 4                                  | 6.3 | 10 | 16 | 25 | 35 | 50 | (Impedance ratio at 120 Hz) |
|                                    | Z(-25°C)/Z(+20°C)                                                                                                                                                                      | 7                                  | 4   | 3  | 2  | 2  | 2  | 2  |                             |
|                                    | Z(-40°C)/Z(+20°C)                                                                                                                                                                      | 15                                 | 8   | 6  | 4  | 4  | 3  | 3  |                             |
| Endurance                          | After applying rated working voltage for 1000 hours at +85°C and then being stabilized at +20°C, capacitors shall meet the following limits.                                           |                                    |     |    |    |    |    |    |                             |
|                                    | 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 +85±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance.(With voltage treatment) |                                    |     |    |    |    |    |    |                             |

#### ■ Dimensions in mm (not to scale)



|              |      |      |      |      |
|--------------|------|------|------|------|
| Body Dia.φD  | 4    | 5    | 6.3  | 8    |
| Lead Dia.φd  | 0.45 | 0.45 | 0.45 | 0.45 |
| Lead Space P | 1.5  | 2.0  | 2.5  | 3.5  |

## ■ Standard Products

| W.V.<br><br>(V) | Cap.<br>(±20%)<br><br>(μF) | Case size        |                    | Specification                                   |                             | Lead Length              |                      |                      |                      | Part No.       | Min. Packaging Q'ty            |                     |
|-----------------|----------------------------|------------------|--------------------|-------------------------------------------------|-----------------------------|--------------------------|----------------------|----------------------|----------------------|----------------|--------------------------------|---------------------|
|                 |                            | Dia.<br><br>(mm) | Length<br><br>(mm) | Ripple<br>current<br>(120Hz)<br>(+85°C)<br>(mA) | tan δ<br>(120Hz)<br>(+20°C) | Lead<br>Dia.<br><br>(mm) | Lead Space           |                      |                      |                | Straight<br>Leads<br><br>(pcs) | Taping<br><br>(pcs) |
|                 |                            |                  |                    |                                                 |                             |                          | Straight<br><br>(mm) | Taping<br>*B<br>(mm) | Taping<br>*i<br>(mm) |                |                                |                     |
| 4               | 47                         | 4                | 7                  | 34                                              | 0.35                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA0GKA470( ) | 200                            | 2000                |
|                 | 100                        | 5                | 7                  | 61                                              | 0.35                        | 0.45                     | 2.0                  | 5.0                  | 2.5                  | ECEA0GKA101( ) | 200                            | 2000                |
|                 | 220                        | 6.3              | 7                  | 82                                              | 0.35                        | 0.45                     | 2.5                  | 5.0                  | 2.5                  | ECEA0GKA221( ) | 200                            | 2000                |
|                 | 330                        | 8                | 7                  | 110                                             | 0.35                        | 0.45                     | 3.5                  |                      | 2.5                  | ECEA0GKA331( ) | 200                            | 1000                |
|                 |                            | 8                | 7                  | 110                                             | 0.35                        | 0.45                     |                      | 5.0                  |                      | ECEA0GKA331Q   |                                | 1000                |
|                 | 470                        | 8                | 7                  | 140                                             | 0.35                        | 0.45                     | 3.5                  |                      | 2.5                  | ECEA0GKA471( ) | 200                            | 1000                |
|                 |                            | 8                | 7                  | 140                                             | 0.35                        | 0.45                     |                      | 5.0                  |                      | ECEA0GKA471Q   |                                | 1000                |
| 6.3             | 47                         | 4                | 7                  | 46                                              | 0.24                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA0JKA470( ) | 200                            | 2000                |
|                 | 100                        | 5                | 7                  | 71                                              | 0.24                        | 0.45                     | 2.0                  | 5.0                  | 2.5                  | ECEA0JKA101( ) | 200                            | 2000                |
|                 | 220                        | 6.3              | 7                  | 103                                             | 0.24                        | 0.45                     | 2.5                  | 5.0                  | 2.5                  | ECEA0JKA221( ) | 200                            | 2000                |
|                 | 330                        | 8                | 7                  | 130                                             | 0.24                        | 0.45                     | 3.5                  |                      | 2.5                  | ECEA0JKA331( ) | 200                            | 1000                |
|                 |                            | 8                | 7                  | 130                                             | 0.24                        | 0.45                     |                      | 5.0                  |                      | ECEA0JKA331Q   |                                | 1000                |
| 10              | 33                         | 4                | 7                  | 43                                              | 0.20                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1AKA330( ) | 200                            | 2000                |
|                 | 100                        | 6.3              | 7                  | 80                                              | 0.20                        | 0.45                     | 2.5                  | 5.0                  | 2.5                  | ECEA1AKA101( ) | 200                            | 2000                |
|                 | 220                        | 8                | 7                  | 120                                             | 0.20                        | 0.45                     | 3.5                  |                      | 2.5                  | ECEA1AKA221( ) | 200                            | 1000                |
|                 |                            | 8                | 7                  | 120                                             | 0.20                        | 0.45                     |                      | 5.0                  |                      | ECEA1AKA221Q   |                                | 1000                |
| 16              | 10                         | 4                | 7                  | 28                                              | 0.16                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1CKA100( ) | 200                            | 2000                |
|                 | 22                         | 4                | 7                  | 39                                              | 0.16                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1CKA220( ) | 200                            | 2000                |
|                 | 33                         | 5                | 7                  | 60                                              | 0.16                        | 0.45                     | 2.0                  | 5.0                  | 2.5                  | ECEA1CKA330( ) | 200                            | 2000                |
|                 | 47                         | 5                | 7                  | 70                                              | 0.16                        | 0.45                     | 2.0                  | 5.0                  | 2.5                  | ECEA1CKA470( ) | 200                            | 2000                |
|                 | 100                        | 6.3              | 7                  | 91                                              | 0.16                        | 0.45                     | 2.5                  | 5.0                  | 2.5                  | ECEA1CKA101( ) | 200                            | 2000                |
| 25              | 10                         | 4                | 7                  | 28                                              | 0.14                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1EKA100( ) | 200                            | 2000                |
|                 | 22                         | 5                | 7                  | 55                                              | 0.14                        | 0.45                     | 2.0                  | 5.0                  | 2.5                  | ECEA1EKA220( ) | 200                            | 2000                |
|                 | 33                         | 6.3              | 7                  | 65                                              | 0.14                        | 0.45                     | 2.5                  | 5.0                  | 2.5                  | ECEA1EKA330( ) | 200                            | 2000                |
|                 | 47                         | 6.3              | 7                  | 70                                              | 0.14                        | 0.45                     | 2.5                  | 5.0                  | 2.5                  | ECEA1EKA470( ) | 200                            | 2000                |
| 35              | 10                         | 5                | 7                  | 30                                              | 0.12                        | 0.45                     | 2.0                  | 5.0                  | 2.5                  | ECEA1VKA100( ) | 200                            | 2000                |
|                 | 22                         | 6.3              | 7                  | 60                                              | 0.12                        | 0.45                     | 2.5                  | 5.0                  | 2.5                  | ECEA1VKA220( ) | 200                            | 2000                |
|                 | 33                         | 6.3              | 7                  | 65                                              | 0.12                        | 0.45                     | 2.5                  | 5.0                  | 2.5                  | ECEA1VKA330( ) | 200                            | 2000                |
|                 | 47                         | 8                | 7                  | 85                                              | 0.12                        | 0.45                     | 3.5                  |                      | 2.5                  | ECEA1VKA470( ) | 200                            | 1000                |
|                 |                            | 8                | 7                  | 85                                              | 0.12                        | 0.45                     |                      | 5.0                  |                      | ECEA1VKA470Q   |                                | 1000                |
| 50              | 0.1                        | 4                | 7                  | 1                                               | 0.10                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1HKA0R1( ) | 200                            | 2000                |
|                 | 0.22                       | 4                | 7                  | 2                                               | 0.10                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1HKAR22( ) | 200                            | 2000                |
|                 | 0.33                       | 4                | 7                  | 3                                               | 0.10                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1HKAR33( ) | 200                            | 2000                |
|                 | 0.47                       | 4                | 7                  | 5                                               | 0.10                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1HKAR47( ) | 200                            | 2000                |
|                 | 1                          | 4                | 7                  | 10                                              | 0.10                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1HKA010( ) | 200                            | 2000                |
|                 | 2.2                        | 4                | 7                  | 16                                              | 0.10                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1HKA2R2( ) | 200                            | 2000                |
|                 | 3.3                        | 4                | 7                  | 18                                              | 0.10                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1HKA3R3( ) | 200                            | 2000                |
|                 | 4.7                        | 4                | 7                  | 23                                              | 0.10                        | 0.45                     | 1.5                  | 5.0                  | 2.5                  | ECEA1HKA4R7( ) | 200                            | 2000                |
|                 | 10                         | 5                | 7                  | 35                                              | 0.10                        | 0.45                     | 2.0                  | 5.0                  | 2.5                  | ECEA1HKA100( ) | 200                            | 2000                |
|                 | 22                         | 6.3              | 7                  | 60                                              | 0.10                        | 0.45                     | 2.5                  | 5.0                  | 2.5                  | ECEA1HKA220( ) | 200                            | 2000                |
|                 | 33                         | 8                | 7                  | 75                                              | 0.10                        | 0.45                     | 3.5                  |                      | 2.5                  | ECEA1HKA330( ) | 200                            | 1000                |
|                 |                            | 8                | 7                  | 75                                              | 0.10                        | 0.45                     |                      | 5.0                  |                      | ECEA1HKA330Q   |                                | 1000                |

When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch B=5mm, i=2.5mm.

The taping dimensions are explained on p.188 of our Catalog. Please use it as a reference guide.

Endurance : 85°C 1000 h