

# Aluminum Electrolytic Capacitors (SMD Type)

## Surface Mount Type

Series : **S** Type : **V**



### Features

- Endurance : 85 °C 2000 h
- Vibration-proof product is available upon request. (φ8 mm and larger)
- RoHS compliant

### Specifications

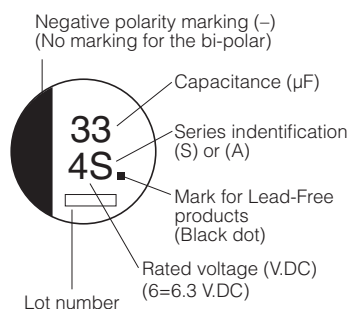
|                                    |                                                                                                                                                                                             |                                   |                                   |               |                  |                  |    |    |    |     |                             |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|---------------|------------------|------------------|----|----|----|-----|-----------------------------|
| Category temperature range         | -40 °C to +85 °C                                                                                                                                                                            |                                   |                                   |               |                  |                  |    |    |    |     |                             |
| Rated voltage range                | 4 V.DC to 100 V.DC                                                                                                                                                                          |                                   |                                   |               |                  |                  |    |    |    |     |                             |
| Capacitance range                  | 1 μF to 1500 μF                                                                                                                                                                             |                                   |                                   |               |                  |                  |    |    |    |     |                             |
| Capacitance tolerance              | ±20 % (120 Hz/+20 °C)                                                                                                                                                                       |                                   |                                   |               |                  |                  |    |    |    |     |                             |
| Leakage current                    | I ≤ 0.01 CV or 3 (μA) (Bi-Polar I ≤ 0.02 CV or 6 (μA) After 2 minutes (Whichever is greater)                                                                                                |                                   |                                   |               |                  |                  |    |    |    |     |                             |
| Dissipation factor (tan δ)         | Please see the attached characteristics list                                                                                                                                                |                                   |                                   |               |                  |                  |    |    |    |     |                             |
| Characteristics at low temperature | V.DC                                                                                                                                                                                        | 4                                 | 6.3                               | 10            | 16               | 25               | 35 | 50 | 63 | 100 | (Impedance ratio at 120 Hz) |
|                                    | Z(-25 °C)/Z(+20 °C)                                                                                                                                                                         | 7                                 | 4                                 | 3             | 2                | 2                | 2  | 2  | 3  | 3   |                             |
|                                    | Z(-40 °C)/Z(+20 °C)                                                                                                                                                                         | 15                                | 8                                 | 6             | 4                | 4                | 3  | 3  | 4  | 4   |                             |
| Endurance                          | After applying rated working voltage for 2000 hours (Bi-polar:1000 hours for each polarity) at +85 °C±2 °C and then being stabilized at +20 °C, Capacitors shall meet the following limits. |                                   |                                   |               |                  |                  |    |    |    |     |                             |
|                                    | Capacitance change                                                                                                                                                                          | Within ±20 % of the initial value |                                   |               |                  |                  |    |    |    |     |                             |
|                                    |                                                                                                                                                                                             | Size code                         |                                   | Rated voltage |                  | Cap. change      |    |    |    |     |                             |
|                                    |                                                                                                                                                                                             | B(φ4) to D, D8(φ6.3)              |                                   | 4 V.DC        |                  | 1000 hours ±30 % |    |    |    |     |                             |
|                                    |                                                                                                                                                                                             | ≤ D(φ6.3) Miniature               |                                   | 6.3 V.DC      |                  |                  |    |    |    |     |                             |
|                                    |                                                                                                                                                                                             |                                   | ≥ 10 V.DC                         |               | 1000 hours ±20 % |                  |    |    |    |     |                             |
|                                    | tan δ                                                                                                                                                                                       |                                   | ≤ 200 % of the initial limit      |               |                  |                  |    |    |    |     |                             |
| DC leakage current                 |                                                                                                                                                                                             | Within the initial limit          |                                   |               |                  |                  |    |    |    |     |                             |
| 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)  |                                   |                                   |               |                  |                  |    |    |    |     |                             |
| Resistance to soldering heat       | After reflow soldering and then being stabilized at +20 °C, capacitors shall meet the following limits.                                                                                     |                                   |                                   |               |                  |                  |    |    |    |     |                             |
|                                    | Capacitance change                                                                                                                                                                          |                                   | Within ±10 % of the initial value |               |                  |                  |    |    |    |     |                             |
|                                    | tan δ                                                                                                                                                                                       |                                   | Within the initial limit          |               |                  |                  |    |    |    |     |                             |
| AEC-Q200                           | DC leakage current                                                                                                                                                                          |                                   | Within the initial limit          |               |                  |                  |    |    |    |     |                             |
|                                    | AEC-Q200 compliant                                                                                                                                                                          |                                   |                                   |               |                  |                  |    |    |    |     |                             |

### Frequency correction factor for ripple current

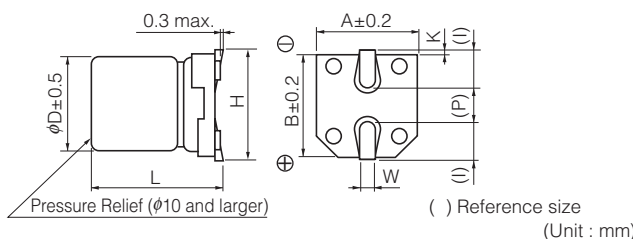
|                   |        |      |      |         |
|-------------------|--------|------|------|---------|
| Frequency (Hz)    | 50, 60 | 120  | 1 k  | 10 k to |
| Correction factor | 0.70   | 1.00 | 1.30 | 1.70    |

### Marking

Example : 4 V.DC 33 μF  
Marking color : BLACK



### Dimensions



| Size code | φD   | L                                   | A, B | H         | I   | W        | P   | K                                      |
|-----------|------|-------------------------------------|------|-----------|-----|----------|-----|----------------------------------------|
| B         | 4.0  | 5.4 <sup>+0.1</sup> <sub>-0.2</sub> | 4.3  | 5.5 max.  | 1.8 | 0.65±0.1 | 1.0 | 0.35 <sup>+0.15</sup> <sub>-0.20</sub> |
| C         | 5.0  | 5.4 <sup>+0.1</sup> <sub>-0.2</sub> | 5.3  | 6.5 max.  | 2.2 | 0.65±0.1 | 1.5 | 0.35 <sup>+0.15</sup> <sub>-0.20</sub> |
| D         | 6.3  | 5.4 <sup>+0.1</sup> <sub>-0.2</sub> | 6.6  | 7.8 max.  | 2.6 | 0.65±0.1 | 1.8 | 0.35 <sup>+0.15</sup> <sub>-0.20</sub> |
| D8        | 6.3  | 7.7±0.3                             | 6.6  | 7.8 max.  | 2.6 | 0.65±0.1 | 1.8 | 0.35 <sup>+0.15</sup> <sub>-0.20</sub> |
| E         | 8.0  | 6.2±0.3                             | 8.3  | 9.5 max.  | 3.4 | 0.65±0.1 | 2.2 | 0.35 <sup>+0.15</sup> <sub>-0.20</sub> |
| F         | 8.0  | 10.2±0.3                            | 8.3  | 10.0 max. | 3.4 | 0.90±0.2 | 3.1 | 0.70±0.20                              |
| G         | 10.0 | 10.2±0.3                            | 10.3 | 12.0 max. | 3.5 | 0.90±0.2 | 4.6 | 0.70±0.20                              |

# Aluminum Electrolytic Capacitors (SMD Type)

## Characteristics list

| Rated voltage (V.DC) | Cap. (±20 %) (μF) | Case size (mm) |      | Size* code | Specification                                |                         |                   | Part No.    | Reflow | Min. Packaging Q'ty |
|----------------------|-------------------|----------------|------|------------|----------------------------------------------|-------------------------|-------------------|-------------|--------|---------------------|
|                      |                   | φD             | L    |            | Ripple current (120 Hz) (+85 °C) (mA r.m.s.) | tan δ (120 Hz) (+20 °C) | Endurance (hours) |             |        | Taping (pcs)        |
| 4                    | 33                | 4              | 5.4  | B          | 26                                           | 0.35                    | 1000              | EEE0GA330SR | (1)    | 2000                |
|                      | 47                | 4              | 5.4  | B          | 34                                           | 0.35                    | 1000              | EEE0GA470SR | (1)    | 2000                |
|                      | 100               | 5              | 5.4  | C          | 61                                           | 0.35                    | 1000              | EEE0GA101SR | (1)    | 1000                |
|                      | 220               | 6.3            | 5.4  | D          | 82                                           | 0.35                    | 1000              | EEE0GA221SP | (1)    | 1000                |
|                      | 330               | 6.3            | 5.4  | (D)        | 80                                           | 0.50                    | 1000              | EEE0GA331WP | (1)    | 1000                |
|                      | 470               | 6.3            | 7.7  | D8         | 200                                          | 0.35                    | 1000              | EEE0GA471XP | (1)    | 900                 |
| 6.3                  | 22                | 4              | 5.4  | B          | 29                                           | 0.26                    | 2000              | EEE0JA220SR | (1)    | 2000                |
|                      | 33                | 4              | 5.4  | (B)        | 22                                           | 0.35                    | 1000              | EEE0JA330WR | (1)    | 2000                |
|                      | 47                | 4              | 5.4  | (B)        | 36                                           | 0.35                    | 1000              | EEE0JA470WR | (1)    | 2000                |
|                      |                   | 5              | 5.4  | C          | 46                                           | 0.26                    | 2000              | EEE0JA470SR | (1)    | 1000                |
|                      | 100               | 5              | 5.4  | (C)        | 47                                           | 0.35                    | 1000              | EEE0JA101WR | (1)    | 1000                |
|                      |                   | 6.3            | 5.4  | D          | 71                                           | 0.26                    | 2000              | EEE0JA101SP | (1)    | 1000                |
|                      | 220               | 6.3            | 5.4  | (D)        | 74                                           | 0.35                    | 1000              | EEE0JA221WP | (1)    | 1000                |
|                      | 330               | 6.3            | 7.7  | D8         | 188                                          | 0.26                    | 2000              | EEE0JA331XP | (1)    | 900                 |
|                      |                   | 8              | 6.2  | E          | 300                                          | 0.35                    | 2000              | EEE0JA331P  | (2)    | 1000                |
|                      | 470               | 8              | 10.2 | F          | 380                                          | 0.35                    | 2000              | EEE0JA471P  | (2)    | 500                 |
|                      | 1000              | 8              | 10.2 | (F)        | 500                                          | 0.35                    | 2000              | EEE0JA102UP | (2)    | 500                 |
|                      |                   | 10             | 10.2 | G          | 700                                          | 0.35                    | 2000              | EEE0JA102P  | (2)    | 500                 |
| 10                   | 1500              | 10             | 10.2 | G          | 750                                          | 0.35                    | 2000              | EEE0JA152P  | (2)    | 500                 |
|                      | 22                | 4              | 5.4  | (B)        | 28                                           | 0.30                    | 1000              | EEE1AA220WR | (1)    | 2000                |
|                      | 33                | 4              | 5.4  | (B)        | 29                                           | 0.30                    | 1000              | EEE1AA330WR | (1)    | 2000                |
|                      |                   | 5              | 5.4  | C          | 43                                           | 0.20                    | 2000              | EEE1AA330SR | (1)    | 1000                |
|                      | 47                | 5              | 5.4  | (C)        | 43                                           | 0.30                    | 1000              | EEE1AA470WR | (1)    | 1000                |
|                      | 100               | 5              | 5.4  | (C)        | 50                                           | 0.30                    | 1000              | EEE1AA101WR | (1)    | 1000                |
|                      |                   | 6.3            | 5.4  | D          | 70                                           | 0.26                    | 2000              | EEE1AA101SP | (1)    | 1000                |
|                      | 220               | 6.3            | 7.7  | D8         | 173                                          | 0.20                    | 2000              | EEE1AA221XP | (1)    | 900                 |
|                      |                   | 8              | 6.2  | E          | 250                                          | 0.26                    | 2000              | EEE1AA221P  | (2)    | 1000                |
|                      | 330               | 8              | 10.2 | F          | 390                                          | 0.26                    | 2000              | EEE1AA331P  | (2)    | 500                 |
|                      | 470               | 8              | 10.2 | (F)        | 390                                          | 0.26                    | 2000              | EEE1AA471UP | (2)    | 500                 |
|                      |                   | 10             | 10.2 | G          | 400                                          | 0.26                    | 2000              | EEE1AA471P  | (2)    | 500                 |
| 16                   | 1000              | 10             | 10.2 | G          | 580                                          | 0.26                    | 2000              | EEE1AA102P  | (2)    | 500                 |
|                      | 10                | 4              | 5.4  | B          | 28                                           | 0.16                    | 2000              | EEE1CA100SR | (1)    | 2000                |
|                      | 22                | 4              | 5.4  | (B)        | 28                                           | 0.26                    | 1000              | EEE1CA220WR | (1)    | 2000                |
|                      |                   | 5              | 5.4  | C          | 39                                           | 0.16                    | 2000              | EEE1CA220SR | (1)    | 1000                |
|                      | 33                | 5              | 5.4  | (C)        | 35                                           | 0.26                    | 1000              | EEE1CA330WR | (1)    | 1000                |
|                      | 47                | 5              | 5.4  | (C)        | 39                                           | 0.26                    | 1000              | EEE1CA470WR | (1)    | 1000                |
|                      |                   | 6.3            | 5.4  | D          | 70                                           | 0.16                    | 2000              | EEE1CA470SP | (1)    | 1000                |
|                      | 100               | 6.3            | 5.4  | (D)        | 70                                           | 0.26                    | 1000              | EEE1CA101WP | (1)    | 1000                |
|                      |                   | 8              | 6.2  | E          | 200                                          | 0.20                    | 2000              | EEE1CA101P  | (2)    | 1000                |
|                      | 220               | 6.3            | 7.7  | D8         | 162                                          | 0.16                    | 2000              | EEE1CA221XP | (1)    | 900                 |
|                      |                   | 8              | 10.2 | F          | 280                                          | 0.20                    | 2000              | EEE1CA221P  | (2)    | 500                 |
|                      | 330               | 8              | 10.2 | (F)        | 320                                          | 0.20                    | 2000              | EEE1CA331UP | (2)    | 500                 |
|                      |                   | 10             | 10.2 | G          | 380                                          | 0.20                    | 2000              | EEE1CA331P  | (2)    | 500                 |
|                      | 470               | 8              | 10.2 | (F)        | 350                                          | 0.20                    | 2000              | EEE1CA471UP | (2)    | 500                 |
|                      |                   | 10             | 10.2 | G          | 420                                          | 0.20                    | 2000              | EEE1CA471P  | (2)    | 500                 |

\* Size code( ) : Miniaturization product

· Please refer to the page of "Reflow Profile" and "The Taping Dimensions".

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# Aluminum Electrolytic Capacitors (SMD Type)

## Characteristics list

| Rated voltage<br>(V.DC) | Cap.<br>(±20 %) (μF) | Case size (mm) |      | Size*<br>code | Specification                                         |                                       |                      | Part No.    | Reflow | Min. Packaging Q'ty |
|-------------------------|----------------------|----------------|------|---------------|-------------------------------------------------------|---------------------------------------|----------------------|-------------|--------|---------------------|
|                         |                      | φD             | L    |               | Ripple current<br>(120 Hz)<br>(+85 °C)<br>(mA r.m.s.) | $\tan \delta$<br>(120 Hz)<br>(+20 °C) | Endurance<br>(hours) |             |        | Taping<br>(pcs)     |
| 25                      | 4.7                  | 4              | 5.4  | B             | 22                                                    | 0.14                                  | 2000                 | EEE1EA4R7SR | (1)    | 2000                |
|                         | 10                   | 4              | 5.4  | (B)           | 22                                                    | 0.20                                  | 1000                 | EEE1EA100WR | (1)    | 2000                |
|                         |                      | 5              | 5.4  | C             | 28                                                    | 0.14                                  | 2000                 | EEE1EA100SR | (1)    | 1000                |
|                         | 22                   | 5              | 5.4  | (C)           | 35                                                    | 0.20                                  | 1000                 | EEE1EA220WR | (1)    | 1000                |
|                         |                      | 6.3            | 5.4  | D             | 55                                                    | 0.14                                  | 2000                 | EEE1EA220SP | (1)    | 1000                |
|                         | 33                   | 5              | 5.4  | (C)           | 42                                                    | 0.20                                  | 1000                 | EEE1EA330WR | (1)    | 1000                |
|                         |                      | 6.3            | 5.4  | D             | 65                                                    | 0.14                                  | 2000                 | EEE1EA330SP | (1)    | 1000                |
|                         | 47                   | 6.3            | 5.4  | (D)           | 70                                                    | 0.20                                  | 1000                 | EEE1EA470WP | (1)    | 1000                |
|                         | 100                  | 6.3            | 7.7  | D8            | 143                                                   | 0.14                                  | 2000                 | EEE1EA101XP | (1)    | 900                 |
|                         |                      | 8              | 6.2  | (E)           | 91                                                    | 0.16                                  | 2000                 | EEE1EA101UP | (2)    | 1000                |
|                         |                      | 8              | 10.2 | F             | 180                                                   | 0.16                                  | 2000                 | EEE1EA101P  | (2)    | 500                 |
|                         | 220                  | 8              | 10.2 | (F)           | 230                                                   | 0.16                                  | 2000                 | EEE1EA221UP | (2)    | 500                 |
|                         |                      | 10             | 10.2 | G             | 310                                                   | 0.16                                  | 2000                 | EEE1EA221P  | (2)    | 500                 |
|                         | 330                  | 8              | 10.2 | (F)           | 270                                                   | 0.16                                  | 2000                 | EEE1EA331UP | (2)    | 500                 |
|                         |                      | 10             | 10.2 | G             | 340                                                   | 0.16                                  | 2000                 | EEE1EA331P  | (2)    | 500                 |
|                         | 470                  | 10             | 10.2 | G             | 380                                                   | 0.16                                  | 2000                 | EEE1EA471P  | (2)    | 500                 |
| 35                      | 4.7                  | 4              | 5.4  | B             | 22                                                    | 0.12                                  | 2000                 | EEE1VA4R7SR | (1)    | 2000                |
|                         | 10                   | 4              | 5.4  | (B)           | 22                                                    | 0.16                                  | 1000                 | EEE1VA100WR | (1)    | 2000                |
|                         |                      | 5              | 5.4  | C             | 30                                                    | 0.12                                  | 2000                 | EEE1VA100SR | (1)    | 1000                |
|                         | 22                   | 5              | 5.4  | (C)           | 36                                                    | 0.16                                  | 1000                 | EEE1VA220WR | (1)    | 1000                |
|                         |                      | 6.3            | 5.4  | D             | 60                                                    | 0.12                                  | 2000                 | EEE1VA220SP | (1)    | 1000                |
|                         | 33                   | 6.3            | 5.4  | (D)           | 60                                                    | 0.16                                  | 1000                 | EEE1VA330WP | (1)    | 1000                |
|                         |                      | 8              | 6.2  | E             | 130                                                   | 0.14                                  | 2000                 | EEE1VA330P  | (2)    | 1000                |
|                         | 47                   | 6.3            | 5.4  | (D)           | 70                                                    | 0.16                                  | 1000                 | EEE1VA470WP | (1)    | 1000                |
|                         |                      | 8              | 6.2  | E             | 165                                                   | 0.14                                  | 2000                 | EEE1VA470P  | (2)    | 1000                |
|                         | 100                  | 6.3            | 7.7  | D8            | 132                                                   | 0.12                                  | 2000                 | EEE1VA101XP | (1)    | 900                 |
|                         |                      | 8              | 10.2 | (F)           | 140                                                   | 0.14                                  | 2000                 | EEE1VA101UP | (2)    | 500                 |
|                         |                      | 10             | 10.2 | G             | 210                                                   | 0.14                                  | 2000                 | EEE1VA101P  | (2)    | 500                 |
|                         | 220                  | 8              | 10.2 | (F)           | 200                                                   | 0.14                                  | 2000                 | EEE1VA221UP | (2)    | 500                 |
|                         |                      | 10             | 10.2 | G             | 310                                                   | 0.14                                  | 2000                 | EEE1VA221P  | (2)    | 500                 |
|                         | 330                  | 10             | 10.2 | G             | 350                                                   | 0.14                                  | 2000                 | EEE1VA331P  | (2)    | 500                 |

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# Aluminum Electrolytic Capacitors (SMD Type)

## Characteristics list

| Rated voltage<br>(V.DC) | Cap.<br>(±20 %)<br>(μF) | Case size (mm) |      | Size*<br>code | Specification                                         |                                       |                      | Part No.    | Reflow | Min. Packaging Q'ty |
|-------------------------|-------------------------|----------------|------|---------------|-------------------------------------------------------|---------------------------------------|----------------------|-------------|--------|---------------------|
|                         |                         | φD             | L    |               | Ripple current<br>(120 Hz)<br>(+85 °C)<br>(mA r.m.s.) | $\tan \delta$<br>(120 Hz)<br>(+20 °C) | Endurance<br>(hours) |             |        | Taping<br>(pcs)     |
| 50                      | 1                       | 4              | 5.4  | B             | 10                                                    | 0.12                                  | 2000                 | EEE1HA010SR | (1)    | 2000                |
|                         | 2.2                     | 4              | 5.4  | B             | 16                                                    | 0.12                                  | 2000                 | EEE1HA2R2SR | (1)    | 2000                |
|                         | 3.3                     | 4              | 5.4  | B             | 16                                                    | 0.12                                  | 2000                 | EEE1HA3R3SR | (1)    | 2000                |
|                         | 4.7                     | 4              | 5.4  | (B)           | 18                                                    | 0.14                                  | 1000                 | EEE1HA4R7WR | (1)    | 2000                |
|                         |                         | 5              | 5.4  | C             | 23                                                    | 0.12                                  | 2000                 | EEE1HA4R7SR | (1)    | 1000                |
|                         | 10                      | 5              | 5.4  | (C)           | 27                                                    | 0.14                                  | 1000                 | EEE1HA100WR | (1)    | 1000                |
|                         |                         | 6.3            | 5.4  | D             | 35                                                    | 0.12                                  | 2000                 | EEE1HA100SP | (1)    | 1000                |
|                         | 22                      | 6.3            | 5.4  | (D)           | 40                                                    | 0.14                                  | 1000                 | EEE1HA220WP | (1)    | 1000                |
|                         |                         | 8              | 6.2  | E             | 120                                                   | 0.12                                  | 2000                 | EEE1HA220P  | (2)    | 1000                |
|                         | 33                      | 6.3            | 7.7  | D8            | 85                                                    | 0.12                                  | 2000                 | EEE1HA330XP | (1)    | 900                 |
|                         |                         | 8              | 6.2  | (E)           | 65                                                    | 0.12                                  | 2000                 | EEE1HA330UP | (2)    | 1000                |
|                         |                         | 8              | 10.2 | F             | 110                                                   | 0.12                                  | 2000                 | EEE1HA330P  | (2)    | 500                 |
|                         | 47                      | 6.3            | 7.7  | D8            | 105                                                   | 0.12                                  | 2000                 | EEE1HA470XP | (1)    | 900                 |
|                         |                         | 8              | 10.2 | (F)           | 110                                                   | 0.12                                  | 2000                 | EEE1HA470UP | (2)    | 500                 |
|                         |                         | 10             | 10.2 | G             | 130                                                   | 0.12                                  | 2000                 | EEE1HA470P  | (2)    | 500                 |
|                         | 100                     | 8              | 10.2 | (F)           | 200                                                   | 0.12                                  | 2000                 | EEE1HA101UP | (2)    | 500                 |
|                         |                         | 10             | 10.2 | G             | 250                                                   | 0.12                                  | 2000                 | EEE1HA101P  | (2)    | 500                 |
| 63                      | 220                     | 10             | 10.2 | G             | 300                                                   | 0.12                                  | 2000                 | EEE1HA221P  | (2)    | 500                 |
|                         | 22                      | 8              | 6.2  | (E)           | 40                                                    | 0.18                                  | 2000                 | EEE1JA220UP | (2)    | 1000                |
|                         |                         | 8              | 10.2 | F             | 40                                                    | 0.18                                  | 2000                 | EEE1JA220P  | (2)    | 500                 |
|                         | 33                      | 8              | 10.2 | F             | 45                                                    | 0.18                                  | 2000                 | EEE1JA330P  | (2)    | 500                 |
|                         | 47                      | 8              | 10.2 | (F)           | 45                                                    | 0.18                                  | 2000                 | EEE1JA470UP | (2)    | 500                 |
|                         |                         | 10             | 10.2 | G             | 45                                                    | 0.18                                  | 2000                 | EEE1JA470P  | (2)    | 500                 |
| 100                     | 100                     | 10             | 10.2 | G             | 60                                                    | 0.18                                  | 2000                 | EEE1JA101P  | (2)    | 500                 |
|                         | 4.7                     | 8              | 6.2  | (E)           | 50                                                    | 0.18                                  | 2000                 | EEE2AA4R7UP | (2)    | 1000                |
|                         |                         | 8              | 6.2  | (E)           | 50                                                    | 0.18                                  | 2000                 | EEE2AA100UP | (2)    | 1000                |
|                         |                         | 8              | 10.2 | F             | 85                                                    | 0.18                                  | 2000                 | EEE2AA100P  | (2)    | 500                 |
|                         | 22                      | 8              | 10.2 | (F)           | 55                                                    | 0.18                                  | 2000                 | EEE2AA220UP | (2)    | 500                 |
|                         |                         | 10             | 10.2 | G             | 85                                                    | 0.18                                  | 2000                 | EEE2AA220P  | (2)    | 500                 |
|                         | 33                      | 10             | 10.2 | G             | 90                                                    | 0.18                                  | 2000                 | EEE2AA330P  | (2)    | 500                 |

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# Aluminum Electrolytic Capacitors (SMD Type)

## Characteristics list (Bi-polar)

Endurance : 85 °C 2000 h

| Rated voltage<br>(V.DC) | Cap.<br>(±20 %) (μF) | Case size (mm) |     | Size code | Specification                                         |                                       |                      | Part No.    | Reflow | Min. Packaging Q'ty |
|-------------------------|----------------------|----------------|-----|-----------|-------------------------------------------------------|---------------------------------------|----------------------|-------------|--------|---------------------|
|                         |                      | φD             | L   |           | Ripple current<br>(120 Hz)<br>(+85 °C)<br>(mA r.m.s.) | $\tan \delta$<br>(120 Hz)<br>(+20 °C) | Endurance<br>(hours) |             |        | Taping<br>(pcs)     |
| 6.3                     | 22                   | 5              | 5.4 | C         | 29                                                    | 0.52                                  | 2000                 | EEE0JA220NR | (1)    | 1000                |
|                         | 47                   | 6.3            | 5.4 | D         | 46                                                    | 0.52                                  | 2000                 | EEE0JA470NP | (1)    | 1000                |
| 10                      | 10                   | 4              | 5.4 | B         | 25                                                    | 0.40                                  | 2000                 | EEE1AA100NR | (1)    | 2000                |
|                         | 33                   | 6.3            | 5.4 | D         | 43                                                    | 0.40                                  | 2000                 | EEE1AA330NP | (1)    | 1000                |
| 16                      | 4.7                  | 4              | 5.4 | B         | 20                                                    | 0.32                                  | 2000                 | EEE1CA4R7NR | (1)    | 2000                |
|                         | 10                   | 5              | 5.4 | C         | 25                                                    | 0.32                                  | 2000                 | EEE1CA100NR | (1)    | 1000                |
|                         | 22                   | 6.3            | 5.4 | D         | 39                                                    | 0.32                                  | 2000                 | EEE1CA220NP | (1)    | 1000                |
| 25                      | 3.3                  | 4              | 5.4 | B         | 12                                                    | 0.28                                  | 2000                 | EEE1EA3R3NR | (1)    | 2000                |
|                         | 4.7                  | 5              | 5.4 | C         | 21                                                    | 0.28                                  | 2000                 | EEE1EA4R7NR | (1)    | 1000                |
|                         | 10                   | 6.3            | 5.4 | D         | 28                                                    | 0.28                                  | 2000                 | EEE1EA100NP | (1)    | 1000                |
| 35                      | 2.2                  | 4              | 5.4 | B         | 12                                                    | 0.24                                  | 2000                 | EEE1VA2R2NR | (1)    | 2000                |
|                         | 4.7                  | 5              | 5.4 | C         | 22                                                    | 0.24                                  | 2000                 | EEE1VA4R7NR | (1)    | 1000                |
|                         | 10                   | 6.3            | 5.4 | D         | 30                                                    | 0.24                                  | 2000                 | EEE1VA100NP | (1)    | 1000                |
| 50                      | 1                    | 4              | 5.4 | B         | 10                                                    | 0.24                                  | 2000                 | EEE1HA010NR | (1)    | 2000                |
|                         | 2.2                  | 5              | 5.4 | C         | 16                                                    | 0.24                                  | 2000                 | EEE1HA2R2NR | (1)    | 1000                |
|                         | 3.3                  | 5              | 5.4 | C         | 21                                                    | 0.24                                  | 2000                 | EEENZ1H3R3R | (1)    | 1000                |
|                         | 4.7                  | 6.3            | 5.4 | D         | 31                                                    | 0.24                                  | 2000                 | EEE1HA4R7NP | (1)    | 1000                |

· Please refer to the page of "Reflow Profile" and "The Taping Dimensions".

· When requesting vibration-proof product, please put the last "V" instead to "P"

