

## Surface Mount Type

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

■ Features Endurance : 85°C 2000 h  
5.4 mm (≤ φ6.3) height

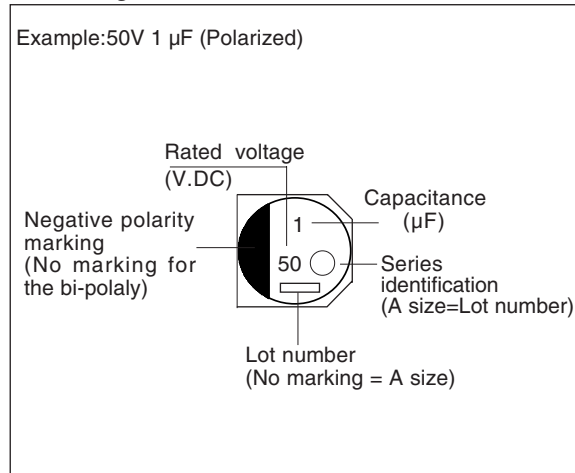
### ■ Specifications

Country of Origin  
Japan  
Malaysia (φ4,φ5,φ6.3)



|                                    |                                                                                                                                                                                      |    |                                |    |                                            |    |    |                    |    |                                   |                             |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------------------|----|--------------------------------------------|----|----|--------------------|----|-----------------------------------|-----------------------------|
| Category temp. range               | -40 to + 85°C                                                                                                                                                                        |    |                                |    |                                            |    |    |                    |    |                                   |                             |
| Rated W.V. Range                   | 4 to 100 V .DC                                                                                                                                                                       |    |                                |    |                                            |    |    |                    |    |                                   |                             |
| Nominal Cap. Range                 | 0.1 to 1500 μ F                                                                                                                                                                      |    |                                |    |                                            |    |    |                    |    |                                   |                             |
| Capacitance Tolerance              | ±20 % (120Hz/+20°C)                                                                                                                                                                  |    |                                |    |                                            |    |    |                    |    |                                   |                             |
| DC Leakage Current                 | I ≤ 0.01 CV or 3(μ A) after 2 minutes (Bi-Polar I≤ 0.02 CV or 6 (μA)) (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                 | 63 | 100                               | (Impedance ratio at 120 Hz) |
|                                    | -25 / +20 °C                                                                                                                                                                         | 7  | 4                              | 3  | 2                                          | 2  | 2  | 2                  | 3  | 3                                 |                             |
|                                    | -40 / +20 °C                                                                                                                                                                         | 15 | 8                              | 6  | 4                                          | 4  | 3  | 3                  | 4  | 4                                 |                             |
| Endurance                          | After applying rated working voltage for 2000 hours at +85±2°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 |                             |
|                                    | Size code                                                                                                                                                                            |    | Rated W.V.                     |    | Cap. change                                |    |    | DC leakage current |    | ≤ initial specified value         |                             |
|                                    | A(φ3)                                                                                                                                                                                |    | 4 to 50W.V.                    |    | ±30% initial measured value for 1000 hours |    |    |                    |    |                                   |                             |
|                                    | A(φ3) to D8(φ6.3)                                                                                                                                                                    |    | 4 W.V.                         |    |                                            |    |    |                    |    |                                   |                             |
|                                    | ≤ D(φ6.3)Minature                                                                                                                                                                    |    | 6.3 W.V.                       |    |                                            |    |    |                    |    |                                   |                             |
| ≥ 10 W.V.                          |                                                                                                                                                                                      |    | ±20%                           |    |                                            |    |    |                    |    |                                   |                             |
| 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) |    |                                |    |                                            |    |    |                    |    |                                   |                             |
|                                    | After reflow soldering ( Refer to page 184 for recommendable temperature profile.) and then being stabilized at +20°C, capacitor shall meet the following limits.                    |    |                                |    |                                            |    |    |                    |    |                                   |                             |
| Resistance to Soldering Heat       | Capacitance change                                                                                                                                                                   |    | ±10% of initial measured value |    |                                            |    |    |                    |    |                                   |                             |
|                                    | tan δ                                                                                                                                                                                |    | ≤ initial specified value      |    |                                            |    |    |                    |    |                                   |                             |
|                                    | DC leakage current                                                                                                                                                                   |    | ≤ initial specified value      |    |                                            |    |    |                    |    |                                   |                             |

### ■ Marking



### ■ Dimensions in mm (not to scale)

| Size code | D    | L    | A,B  | H       | I   | W        | P   | K                   |
|-----------|------|------|------|---------|-----|----------|-----|---------------------|
| A         | 3.0  | 5.4  | 3.3  | 4.5MAX  | 1.5 | 0.55±0.1 | 0.6 | 0.35 -0.20 to +0.15 |
| B         | 4.0  | 5.4  | 4.3  | 5.5MAX  | 1.8 | 0.65±0.1 | 1.0 | 0.35 -0.20 to +0.15 |
| C         | 5.0  | 5.4  | 5.3  | 6.5MAX  | 2.2 | 0.65±0.1 | 1.5 | 0.35 -0.20 to +0.15 |
| D         | 6.3  | 5.4  | 6.6  | 7.8MAX  | 2.6 | 0.65±0.1 | 1.8 | 0.35 -0.20 to +0.15 |
| D8        | 6.3  | 7.7  | 6.6  | 7.8MAX  | 2.6 | 0.65±0.1 | 1.8 | 0.35 -0.20 to +0.15 |
| E         | 8.0  | 6.2  | 8.3  | 9.5MAX  | 3.4 | 0.65±0.1 | 2.2 | 0.35 -0.20 to +0.15 |
| F         | 8.0  | 10.2 | 8.3  | 10.0MAX | 3.4 | 0.90±0.2 | 3.1 | 0.70±0.2            |
| G         | 10.0 | 10.2 | 10.3 | 12.0MAX | 3.5 | 0.90±0.2 | 4.6 | 0.70±0.2            |

### ■ Case size

| W.V.(V)   | 4 (0G)     |            | 6.3 (0J)   |            | 10 (1A)    |            | 16 (1C)    |            | 25 (1E)    |            | 35 (1V)    |            | 50 (1H)    |            | 63 (1J)    |            | 100 (2A)   |
|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Cap. (μF) | Polar-ized | Polar-ized | Bi - polar | Polar-ized | Bi - polar | Polar-ized | Bi - polar | Polar-ized | Bi - polar | Polar-ized | Bi - polar | Polar-ized | Bi - polar | Polar-ized | Bi - polar | Polar-ized | Polar-ized |
| 0.1       |            |            |            |            |            |            |            |            |            |            |            |            | A,B        |            |            |            |            |
| 0.22      |            |            |            |            |            |            |            |            |            |            |            |            | A,B        | B          |            |            |            |
| 0.33      |            |            |            |            |            |            |            |            |            |            |            |            | A,B        | B          |            |            |            |
| 0.47      |            |            |            |            |            |            |            |            |            |            |            |            | A,B        | B          |            |            |            |
| 1.0       |            |            |            |            |            |            |            |            |            |            |            |            | A,B        | B          |            |            |            |
| 2.2       |            |            |            |            |            |            |            |            |            |            |            |            | A,B        | B          |            |            |            |
| 3.3       |            |            |            |            |            |            |            |            |            |            |            |            | A,B        | B          |            |            |            |
| 4.7       |            |            |            |            |            |            |            |            |            |            |            |            | A,B        | B          |            |            |            |
| 10        |            |            |            |            |            |            |            |            |            |            |            |            | A,B        | B          |            |            |            |
| 22        | A          | B(A)       | C          | (B)        | B          | A,B        | C          | C(B)       | D          | C(B)       | D          | C(B)       | D          | D(C)       |            | D          | F(E)       |
| 33        | B          | (B)        |            | C(B)       | D          | (C)        | D          | (C)        |            | D(C)       |            | E(D)       |            | F(E),D8    |            | F          | G          |
| 47        | B          | C(B)       | D          | (C)        |            | D(C)       |            | (D)        |            | E(D)       |            | E(D)       |            | G(F),D8    |            | G(F)       |            |
| 100       | C          | D(C)       |            | D(C)       |            | E(D)       |            | F(E),D8    |            | G(F),D8    |            | G(F)       |            | G(F)       |            | G          |            |
| 220       | D          | (D)        |            | E,D8       |            | F,D8       |            | G(F)       |            | G(F)       |            | G          |            |            |            |            |            |
| 330       | (D)        | E,D8       |            | F          |            | G(F)       |            | G(F)       |            | G          |            |            |            |            |            |            |            |
| 470       | D8         | F          |            | G(F)       |            | G(F)       |            | G          |            |            |            |            |            |            |            |            |            |
| 1000      |            | G(F)       |            | G          |            |            |            |            |            |            |            |            |            |            |            |            |            |
| 1500      |            | G          |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |

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■ Standard Products

| W.V.<br><br>(V) | Cap.<br>(±20%)<br><br>(μF) | Case size        |                    |              | Specification                                   |                                 |                          | Part No.     | Min.Packaging<br>Q'ty |
|-----------------|----------------------------|------------------|--------------------|--------------|-------------------------------------------------|---------------------------------|--------------------------|--------------|-----------------------|
|                 |                            | Dia.<br><br>(mm) | Length<br><br>(mm) | Size<br>Code | Ripple<br>Current<br>(120Hz)<br>(+85°C)<br>(mA) | tan δ<br><br>(120Hz)<br>(+20°C) | Endurance<br><br>(hours) |              | Taping<br><br>(pcs)   |
| 4               | 22                         | 3                | 5.4                | A            | 19                                              | 0.37                            | 1000                     | ECEV0GS220SR | 2000                  |
|                 | 33                         | 4                | 5.4                | B            | 26                                              | 0.35                            | 1000                     | ECEV0GA330SR | 2000                  |
|                 | 47                         | 4                | 5.4                | B            | 34                                              | 0.35                            | 1000                     | ECEV0GA470SR | 2000                  |
|                 | 100                        | 5                | 5.4                | C            | 61                                              | 0.35                            | 1000                     | ECEV0GA101SR | 1000                  |
|                 | 220                        | 6.3              | 5.4                | D            | 82                                              | 0.35                            | 1000                     | ECEV0GA221SP | 1000                  |
|                 | 330                        | 6.3              | 5.4                | D            | 80                                              | 0.50                            | 1000                     | ECEV0GA331WP | 1000                  |
|                 | 470                        | 6.3              | 7.7                | D8           | 200                                             | 0.35                            | 2000                     | ECEV0GA471XP | 900                   |
| 6.3             | 22                         | 3                | 5.4                | A            | 20                                              | 0.35                            | 1000                     | ECEV0JS220WR | 2000                  |
|                 |                            | 4                | 5.4                | B            | 29                                              | 0.26                            | 2000                     | ECEV0JA220SR | 2000                  |
|                 | 33                         | 4                | 5.4                | B            | 22                                              | 0.35                            | 1000                     | ECEV0JA330WR | 2000                  |
|                 |                            | 47               | 4                  | 5.4          | B                                               | 36                              | 0.35                     | 1000         | ECEV0JA470WR          |
|                 | 5                          |                  | 5.4                | C            | 46                                              | 0.26                            | 2000                     | ECEV0JA470SR | 1000                  |
|                 |                            | 100              | 5                  | 5.4          | C                                               | 47                              | 0.35                     | 1000         | ECEV0JA101WR          |
|                 | 6.3                        |                  | 5.4                | D            | 71                                              | 0.26                            | 2000                     | ECEV0JA101SP | 1000                  |
|                 |                            | 220              | 6.3                | 5.4          | D                                               | 74                              | 0.35                     | 1000         | ECEV0JA221WP          |
|                 | 330                        | 6.3              | 7.7                | D8           | 188                                             | 0.26                            | 2000                     | ECEV0JA331XP | 900                   |
|                 |                            | 8                | 6.2                | E            | 300                                             | 0.35                            | 2000                     | ECEV0JA331P  | 1000                  |
|                 | 470                        | 8                | 10.2               | F            | 380                                             | 0.35                            | 2000                     | ECEV0JA471P  | 500                   |
|                 | 1000                       | 8                | 10.2               | F            | 500                                             | 0.35                            | 2000                     | ECEV0JA102UP | 500                   |
|                 |                            | 10               | 10.2               | G            | 700                                             | 0.35                            | 2000                     | ECEV0JA102P  | 500                   |
| 1500            | 10                         | 10.2             | G                  | 750          | 0.35                                            | 2000                            | ECEV0JA152P              | 500          |                       |
| 10              | 22                         | 4                | 5.4                | B            | 28                                              | 0.30                            | 1000                     | ECEV1AA220WR | 2000                  |
|                 | 33                         | 4                | 5.4                | B            | 29                                              | 0.30                            | 1000                     | ECEV1AA330WR | 2000                  |
|                 |                            | 5                | 5.4                | C            | 43                                              | 0.20                            | 2000                     | ECEV1AA330SR | 1000                  |
|                 | 47                         | 5                | 5.4                | C            | 47                                              | 0.30                            | 1000                     | ECEV1AA470WR | 1000                  |
|                 |                            | 100              | 5                  | 5.4          | C                                               | 50                              | 0.30                     | 1000         | ECEV1AA101WR          |
|                 | 6.3                        |                  | 5.4                | D            | 70                                              | 0.26                            | 2000                     | ECEV1AA101SP | 1000                  |
|                 | 220                        | 6.3              | 7.7                | D8           | 173                                             | 0.20                            | 2000                     | ECEV1AA221XP | 900                   |
|                 |                            | 8                | 6.2                | E            | 250                                             | 0.26                            | 2000                     | ECEV1AA221P  | 1000                  |
|                 | 330                        | 8                | 10.2               | F            | 390                                             | 0.26                            | 2000                     | ECEV1AA331P  | 500                   |
|                 | 470                        | 8                | 10.2               | F            | 390                                             | 0.26                            | 2000                     | ECEV1AA471UP | 500                   |
|                 |                            | 10               | 10.2               | G            | 400                                             | 0.26                            | 2000                     | ECEV1AA471P  | 500                   |
| 1000            | 10                         | 10.2             | G                  | 580          | 0.26                                            | 2000                            | ECEV1AA102P              | 500          |                       |
| 16              | 10                         | 3                | 5.4                | A            | 20                                              | 0.18                            | 1000                     | ECEV1CS100SR | 2000                  |
|                 |                            | 4                | 5.4                | B            | 28                                              | 0.16                            | 2000                     | ECEV1CA100SR | 2000                  |
|                 | 22                         | 4                | 5.4                | B            | 28                                              | 0.26                            | 1000                     | ECEV1CA220WR | 2000                  |
|                 |                            | 5                | 5.4                | C            | 39                                              | 0.16                            | 2000                     | ECEV1CA220SR | 1000                  |
|                 | 33                         | 5                | 5.4                | C            | 35                                              | 0.26                            | 1000                     | ECEV1CA330WR | 1000                  |
|                 |                            | 47               | 5                  | 5.4          | C                                               | 39                              | 0.26                     | 1000         | ECEV1CA470WR          |
|                 | 6.3                        |                  | 5.4                | D            | 70                                              | 0.16                            | 2000                     | ECEV1CA470SP | 1000                  |
|                 | 100                        | 6.3              | 5.4                | D            | 70                                              | 0.26                            | 1000                     | ECEV1CA101WP | 1000                  |
|                 |                            | 8                | 6.2                | E            | 200                                             | 0.20                            | 2000                     | ECEV1CA101P  | 1000                  |
|                 | 220                        | 6.3              | 7.7                | D8           | 162                                             | 0.16                            | 2000                     | ECEV1CA221XP | 900                   |
|                 |                            | 8                | 10.2               | F            | 280                                             | 0.20                            | 2000                     | ECEV1CA221P  | 500                   |

The taping dimension are explained on p.187 of our Catalog.

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■ Standard Products

| W.V.<br>(V) | Cap.<br>( $\pm 20\%$ )<br>( $\mu\text{F}$ ) | Case size    |                |           | Specification                                |                                     |                      | Part No.     | Min. Packaging Q'ty |
|-------------|---------------------------------------------|--------------|----------------|-----------|----------------------------------------------|-------------------------------------|----------------------|--------------|---------------------|
|             |                                             | Dia.<br>(mm) | Length<br>(mm) | Size Code | Ripple Current<br>(120Hz)<br>(+85°C)<br>(mA) | $\tan \delta$<br>(120Hz)<br>(+20°C) | Endurance<br>(hours) |              | Taping<br>(pcs)     |
| 16          | 330                                         | 8            | 10.2           | F         | 320                                          | 0.20                                | 2000                 | ECEV1CA331UP | 500                 |
|             |                                             | 10           | 10.2           | G         | 380                                          | 0.20                                | 2000                 | ECEV1CA331P  | 500                 |
|             | 470                                         | 8            | 10.2           | F         | 350                                          | 0.20                                | 2000                 | ECEV1CA471UP | 500                 |
|             |                                             | 10           | 10.2           | G         | 420                                          | 0.20                                | 2000                 | ECEV1CA471P  | 500                 |
| 25          | 4.7                                         | 3            | 5.4            | A         | 12                                           | 0.16                                | 1000                 | ECEV1ES4R7SR | 2000                |
|             |                                             | 4            | 5.4            | B         | 22                                           | 0.14                                | 2000                 | ECEV1EA4R7SR | 2000                |
|             | 10                                          | 4            | 5.4            | B         | 22                                           | 0.20                                | 1000                 | ECEV1EA100WR | 2000                |
|             |                                             | 5            | 5.4            | C         | 28                                           | 0.14                                | 2000                 | ECEV1EA100SR | 1000                |
|             | 22                                          | 5            | 5.4            | C         | 35                                           | 0.20                                | 1000                 | ECEV1EA220WR | 1000                |
|             |                                             | 6.3          | 5.4            | D         | 55                                           | 0.14                                | 2000                 | ECEV1EA220SP | 1000                |
|             | 33                                          | 5            | 5.4            | C         | 42                                           | 0.20                                | 1000                 | ECEV1EA330WR | 1000                |
|             |                                             | 6.3          | 5.4            | D         | 65                                           | 0.14                                | 2000                 | ECEV1EA330SP | 1000                |
|             | 47                                          | 6.3          | 5.4            | D         | 70                                           | 0.20                                | 1000                 | ECEV1EA470WP | 1000                |
|             | 100                                         | 6.3          | 7.7            | D8        | 143                                          | 0.14                                | 2000                 | ECEV1EA101XP | 900                 |
|             |                                             | 8            | 6.2            | E         | 91                                           | 0.16                                | 2000                 | ECEV1EA101UP | 1000                |
|             |                                             | 8            | 10.2           | F         | 180                                          | 0.16                                | 2000                 | ECEV1EA101P  | 500                 |
|             | 220                                         | 8            | 10.2           | F         | 230                                          | 0.16                                | 2000                 | ECEV1EA221UP | 500                 |
|             |                                             | 10           | 10.2           | G         | 310                                          | 0.16                                | 2000                 | ECEV1EA221P  | 500                 |
|             | 330                                         | 8            | 10.2           | F         | 270                                          | 0.16                                | 2000                 | ECEV1EA331UP | 500                 |
|             |                                             | 10           | 10.2           | G         | 340                                          | 0.16                                | 2000                 | ECEV1EA331P  | 500                 |
|             | 470                                         | 10           | 10.2           | G         | 380                                          | 0.16                                | 2000                 | ECEV1EA471P  | 500                 |
| 35          | 2.2                                         | 3            | 5.4            | A         | 8                                            | 0.14                                | 1000                 | ECEV1VS2R2SR | 2000                |
|             | 3.3                                         | 3            | 5.4            | A         | 10                                           | 0.14                                | 1000                 | ECEV1VS3R3SR | 2000                |
|             | 4.7                                         | 4            | 5.4            | B         | 22                                           | 0.12                                | 2000                 | ECEV1VA4R7SR | 2000                |
|             | 10                                          | 4            | 5.4            | B         | 22                                           | 0.16                                | 1000                 | ECEV1VA100WR | 2000                |
|             |                                             | 5            | 5.4            | C         | 30                                           | 0.12                                | 2000                 | ECEV1VA100SR | 1000                |
|             | 22                                          | 5            | 5.4            | C         | 36                                           | 0.16                                | 1000                 | ECEV1VA220WR | 1000                |
|             |                                             | 6.3          | 5.4            | D         | 60                                           | 0.12                                | 2000                 | ECEV1VA220SP | 1000                |
|             | 33                                          | 6.3          | 5.4            | D         | 60                                           | 0.16                                | 1000                 | ECEV1VA330WP | 1000                |
|             |                                             | 8            | 6.2            | E         | 130                                          | 0.14                                | 2000                 | ECEV1VA330P  | 1000                |
|             | 47                                          | 6.3          | 5.4            | D         | 70                                           | 0.16                                | 1000                 | ECEV1VA470WP | 1000                |
|             |                                             | 8            | 6.2            | E         | 165                                          | 0.14                                | 2000                 | ECEV1VA470P  | 1000                |
|             | 100                                         | 6.3          | 7.7            | D8        | 132                                          | 0.12                                | 2000                 | ECEV1VA101XP | 900                 |
|             |                                             | 8            | 10.2           | F         | 140                                          | 0.14                                | 2000                 | ECEV1VA101UP | 500                 |
|             |                                             | 10           | 10.2           | G         | 210                                          | 0.14                                | 2000                 | ECEV1VA101P  | 500                 |
|             | 220                                         | 8            | 10.2           | F         | 200                                          | 0.14                                | 2000                 | ECEV1VA221UP | 500                 |
|             |                                             | 10           | 10.2           | G         | 310                                          | 0.14                                | 2000                 | ECEV1VA221P  | 500                 |
|             | 330                                         | 10           | 10.2           | G         | 350                                          | 0.14                                | 2000                 | ECEV1VA331P  | 500                 |
| 50          | 0.1                                         | 3            | 5.4            | A         | 1                                            | 0.14                                | 1000                 | ECEV1HS0R1SR | 2000                |
|             |                                             | 4            | 5.4            | B         | 1                                            | 0.12                                | 2000                 | ECEV1HA0R1SR | 2000                |
|             | 0.22                                        | 3            | 5.4            | A         | 2                                            | 0.14                                | 1000                 | ECEV1HSR22SR | 2000                |
|             |                                             | 4            | 5.4            | B         | 2                                            | 0.12                                | 2000                 | ECEV1HAR22SR | 2000                |
|             | 0.33                                        | 3            | 5.4            | A         | 3                                            | 0.14                                | 1000                 | ECEV1HSR33SR | 2000                |
|             |                                             | 4            | 5.4            | B         | 3                                            | 0.12                                | 2000                 | ECEV1HAR33SR | 2000                |

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■ Standard Products

| W.V.<br>(V) | Cap.<br>( $\pm 20\%$ )<br>( $\mu\text{F}$ ) | Case size    |                |           | Specification                                |                                     |                      | Part No.     | Min. Packaging Q'ty |
|-------------|---------------------------------------------|--------------|----------------|-----------|----------------------------------------------|-------------------------------------|----------------------|--------------|---------------------|
|             |                                             | Dia.<br>(mm) | Length<br>(mm) | Size Code | Ripple Current<br>(120Hz)<br>(+85°C)<br>(mA) | $\tan \delta$<br>(120Hz)<br>(+20°C) | Endurance<br>(hours) |              | Taping<br>(pcs)     |
| 50          | 0.47                                        | 3            | 5.4            | A         | 5                                            | 0.14                                | 1000                 | ECEV1HSR47SR | 2000                |
|             |                                             | 4            | 5.4            | B         | 5                                            | 0.12                                | 2000                 | ECEV1HAR47SR | 2000                |
|             | 1                                           | 3            | 5.4            | A         | 8                                            | 0.14                                | 1000                 | ECEV1HS010SR | 2000                |
|             |                                             | 4            | 5.4            | B         | 10                                           | 0.12                                | 2000                 | ECEV1HA010SR | 2000                |
|             | 2.2                                         | 3            | 5.4            | A         | 10                                           | 0.14                                | 1000                 | ECEV1HS2R2SR | 2000                |
|             |                                             | 4            | 5.4            | B         | 16                                           | 0.12                                | 2000                 | ECEV1HA2R2SR | 2000                |
|             | 3.3                                         | 4            | 5.4            | B         | 16                                           | 0.12                                | 2000                 | ECEV1HA3R3SR | 2000                |
|             | 4.7                                         | 4            | 5.4            | B         | 18                                           | 0.14                                | 1000                 | ECEV1HA4R7WR | 2000                |
|             |                                             | 5            | 5.4            | C         | 23                                           | 0.12                                | 2000                 | ECEV1HA4R7SR | 1000                |
|             | 10                                          | 5            | 5.4            | C         | 27                                           | 0.14                                | 1000                 | ECEV1HA100WR | 1000                |
|             |                                             | 6.3          | 5.4            | D         | 35                                           | 0.12                                | 2000                 | ECEV1HA100SP | 1000                |
|             | 22                                          | 6.3          | 5.4            | D         | 40                                           | 0.14                                | 1000                 | ECEV1HA220WP | 1000                |
|             |                                             | 8            | 6.2            | E         | 120                                          | 0.12                                | 2000                 | ECEV1HA220P  | 1000                |
|             | 33                                          | 6.3          | 7.7            | D8        | 65                                           | 0.12                                | 2000                 | ECEV1HA330XP | 900                 |
|             |                                             | 8            | 6.2            | E         | 65                                           | 0.12                                | 2000                 | ECEV1HA330UP | 1000                |
|             |                                             | 8            | 10.2           | F         | 110                                          | 0.12                                | 2000                 | ECEV1HA330P  | 500                 |
|             | 47                                          | 6.3          | 7.7            | D8        | 105                                          | 0.12                                | 2000                 | ECEV1HA470XP | 900                 |
|             |                                             | 8            | 10.2           | F         | 110                                          | 0.12                                | 2000                 | ECEV1HA470UP | 500                 |
|             |                                             | 10           | 10.2           | G         | 130                                          | 0.12                                | 2000                 | ECEV1HA470P  | 500                 |
|             | 100                                         | 8            | 10.2           | F         | 200                                          | 0.12                                | 2000                 | ECEV1HA101UP | 500                 |
|             |                                             | 10           | 10.2           | G         | 250                                          | 0.12                                | 2000                 | ECEV1HA101P  | 500                 |
|             | 220                                         | 10           | 10.2           | G         | 300                                          | 0.12                                | 2000                 | ECEV1HA221P  | 500                 |
| 63          | 10                                          | 6.3          | 5.4            | D         | 35                                           | 0.18                                | 2000                 | ECEV1JA100SP | 1000                |
|             | 22                                          | 8            | 6.2            | E         | 35                                           | 0.18                                | 2000                 | ECEV1JA220UP | 1000                |
|             |                                             | 8            | 10.2           | F         | 40                                           | 0.18                                | 2000                 | ECEV1JA220P  | 500                 |
|             | 33                                          | 8            | 10.2           | F         | 45                                           | 0.18                                | 2000                 | ECEV1JA330P  | 500                 |
|             | 47                                          | 8            | 10.2           | F         | 45                                           | 0.18                                | 2000                 | ECEV1JA470UP | 500                 |
|             |                                             | 10           | 10.2           | G         | 50                                           | 0.18                                | 2000                 | ECEV1JA470P  | 500                 |
|             | 100                                         | 10           | 10.2           | G         | 60                                           | 0.18                                | 2000                 | ECEV1JA101P  | 500                 |
| 100         | 3.3                                         | 8            | 6.2            | E         | 50                                           | 0.18                                | 2000                 | ECEV2AA3R3P  | 1000                |
|             | 4.7                                         | 8            | 6.2            | E         | 50                                           | 0.18                                | 2000                 | ECEV2AA4R7UP | 1000                |
|             |                                             | 8            | 10.2           | F         | 80                                           | 0.18                                | 2000                 | ECEV2AA4R7P  | 500                 |
|             | 10                                          | 8            | 6.2            | E         | 50                                           | 0.18                                | 2000                 | ECEV2AA100UP | 1000                |
|             |                                             | 8            | 10.2           | F         | 85                                           | 0.18                                | 2000                 | ECEV2AA100P  | 500                 |
|             | 22                                          | 8            | 10.2           | F         | 70                                           | 0.18                                | 2000                 | ECEV2AA220UP | 500                 |
|             |                                             | 10           | 10.2           | G         | 85                                           | 0.18                                | 2000                 | ECEV2AA220P  | 500                 |
|             | 33                                          | 10           | 10.2           | G         | 90                                           | 0.18                                | 2000                 | ECEV2AA330P  | 500                 |

The taping dimension are explained on p.187 of our Catalog.

Please use it as a reference guide.

■ Standard Products(Bi-polar)

| W.V.<br>(V) | Cap.<br>(±20%)<br>(μF) | Case size    |                |              | Specification                                   |                             |                      | Part No.     | Min.Packaging<br>Qty |
|-------------|------------------------|--------------|----------------|--------------|-------------------------------------------------|-----------------------------|----------------------|--------------|----------------------|
|             |                        | Dia.<br>(mm) | Length<br>(mm) | Size<br>Code | Ripple<br>Current<br>(120Hz)<br>(+85°C)<br>(mA) | tan δ<br>(120Hz)<br>(+20°C) | Endurance<br>(hours) |              | Taping<br>(pcs)      |
| 6.3         | 22                     | 5            | 5.4            | C            | 29                                              | 0.52                        | 2000                 | ECEV0JA220NR | 1000                 |
|             | 47                     | 6.3          | 5.4            | D            | 46                                              | 0.52                        | 2000                 | ECEV0JA470NP | 1000                 |
| 10          | 10                     | 4            | 5.4            | B            | 25                                              | 0.40                        | 2000                 | ECEV1AA100NR | 2000                 |
|             | 33                     | 6.3          | 5.4            | D            | 43                                              | 0.40                        | 2000                 | ECEV1AA330NP | 1000                 |
| 16          | 4.7                    | 4            | 5.4            | B            | 20                                              | 0.32                        | 2000                 | ECEV1CA4R7NR | 2000                 |
|             | 10                     | 5            | 5.4            | C            | 25                                              | 0.32                        | 2000                 | ECEV1CA100NR | 1000                 |
|             | 22                     | 6.3          | 5.4            | D            | 39                                              | 0.32                        | 2000                 | ECEV1CA220NP | 1000                 |
| 25          | 3.3                    | 4.0          | 5.4            | B            | 12                                              | 0.28                        | 2000                 | ECEV1EA3R3NR | 2000                 |
|             | 4.7                    | 5            | 5.4            | C            | 21                                              | 0.28                        | 2000                 | ECEV1EA4R7NR | 1000                 |
|             | 10                     | 6.3          | 5.4            | D            | 28                                              | 0.28                        | 2000                 | ECEV1EA100NP | 1000                 |
| 35          | 2.2                    | 4            | 5.4            | B            | 12                                              | 0.24                        | 2000                 | ECEV1VA2R2NR | 2000                 |
|             | 4.7                    | 5            | 5.4            | C            | 22                                              | 0.24                        | 2000                 | ECEV1VA4R7NR | 1000                 |
|             | 10                     | 6.3          | 5.4            | D            | 30                                              | 0.24                        | 2000                 | ECEV1VA100NP | 1000                 |
| 50          | 0.22                   | 4            | 5.4            | B            | 2                                               | 0.24                        | 2000                 | ECEV1HAR22NR | 2000                 |
|             | 0.33                   | 4            | 5.4            | B            | 3                                               | 0.24                        | 2000                 | ECEV1HAR33NR | 2000                 |
|             | 0.47                   | 4            | 5.4            | B            | 5                                               | 0.24                        | 2000                 | ECEV1HAR47NR | 2000                 |
|             | 1                      | 4            | 5.4            | B            | 10                                              | 0.24                        | 2000                 | ECEV1HA010NR | 2000                 |
|             | 2.2                    | 5            | 5.4            | C            | 16                                              | 0.24                        | 2000                 | ECEV1HA2R2NR | 1000                 |
|             | 3.3                    | 5            | 5.4            | C            | 21                                              | 0.24                        | 2000                 | EEVNZ1H3R3R  | 1000                 |
|             | 4.7                    | 6.3          | 5.4            | D            | 31                                              | 0.24                        | 2000                 | ECEV1HA4R7NP | 1000                 |

The taping dimension are explained on p.187of our Catalog.  
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