



**THE DATASHEET OF  
SK3R3M450ST**



# Type SK 85 °C Radial Leaded Aluminum Electrolytic Capacitors

## 2000 Hour Long Life, General Purpose Aluminum Electrolytic

Type SK is a radial leaded aluminum electrolytic capacitor with a +85 °C, 2000 hour long life rating. The SK is a high CV rated product and is ideal for general purpose applications such as stereo radio, TV, computers and other consumer electronic products.



### Highlights

- +85 °C
- 2000 hours - long life
- High CV
- Available in T&R and ammo pack

### Specifications

| Capacitance Range                               | 0.47 to 15,000 µF  |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
|---|--|---------------|--------------------|-------|----|----|------|-------|---------|---------|----------------|---------|--------------|-----|-----|------------------|------|-----|-----|-----|-------------------|------|-----|-----|-----|---------------------|-------------------|--------|------|--------|------|--------|------|
| Capacitance Tolerance                           | ±20%   |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| Rated Voltage                                   | 6.3 to 450 Vdc   |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| Operating Temperature Range                     | -40 °C to +85 °C; 6.3 to 100 Vdc<br>-25 °C to +85 °C; 160 to 450 Vdc   |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| DC Leakage Current                              | 6.3 to 100 Vdc; $I = \leq .01CV$ or 3 µA Max<br>Whichever is greater after 2 minutes application of DC working voltage at 20 °C<br>$\geq 100$ Vdc; $I = \leq .03CV$ or 10 µA Max<br>Whichever is greater after 2 minutes application of DC working voltage at 20 °C<br>C = Capacitance in (µF)<br>V = Rated voltage<br>I = Leakage current in µA   |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| Dissipation Factor @ 120 Hz, +20 °C             | <table border="1"> <tr> <td><b>WV (V)</b></td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> <td>160-250</td> <td>350-450</td> </tr> <tr> <td><b>DF(%)</b></td> <td>24</td> <td>20</td> <td>16</td> <td>14</td> <td>12</td> <td>10</td> <td>10</td> <td>10</td> <td>20</td> <td>24</td> </tr> </table>   | <b>WV (V)</b> | 6.3                | 10    | 16 | 25 | 35   | 50    | 63      | 100     | 160-250        | 350-450 | <b>DF(%)</b> | 24  | 20  | 16               | 14   | 12  | 10  | 10  | 10                | 20   | 24  |     |     |                     |                   |        |      |        |      |        |      |
| <b>WV (V)</b>                                   | 6.3  | 10            | 16                 | 25    | 35 | 50 | 63   | 100   | 160-250 | 350-450 |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| <b>DF(%)</b>                                    | 24   | 20            | 16                 | 14    | 12 | 10 | 10   | 10    | 20      | 24      |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| Ripple Multipliers for Voltage and Temperature: | <table border="1"> <thead> <tr> <th rowspan="2">Rated WVDC</th> <th colspan="4">Ripple Multipliers</th> </tr> <tr> <th>60Hz</th> <th>120Hz</th> <th>1kHz</th> <th>10kHz</th> </tr> </thead> <tbody> <tr> <td><b>6 to 25</b></td> <td>0.80</td> <td>1.0</td> <td>1.1</td> <td>1.2</td> </tr> <tr> <td><b>35 to 100</b></td> <td>0.75</td> <td>1.0</td> <td>1.3</td> <td>1.4</td> </tr> <tr> <td><b>160 to 250</b></td> <td>0.70</td> <td>1.0</td> <td>1.4</td> <td>1.6</td> </tr> </tbody> </table> <p>For capacitance values &gt; 1000 µF, the DF (%) value is increased 2% for every additional 1000 µF</p> <table border="1"> <thead> <tr> <th>Ambient Temperature</th> <th>Ripple Multiplier</th> </tr> </thead> <tbody> <tr> <td>+85 °C</td> <td>1.00</td> </tr> <tr> <td>+75 °C</td> <td>1.14</td> </tr> <tr> <td>+65 °C</td> <td>1.25</td> </tr> </tbody> </table> | Rated WVDC    | Ripple Multipliers |       |    |    | 60Hz | 120Hz | 1kHz    | 10kHz   | <b>6 to 25</b> | 0.80    | 1.0          | 1.1 | 1.2 | <b>35 to 100</b> | 0.75 | 1.0 | 1.3 | 1.4 | <b>160 to 250</b> | 0.70 | 1.0 | 1.4 | 1.6 | Ambient Temperature | Ripple Multiplier | +85 °C | 1.00 | +75 °C | 1.14 | +65 °C | 1.25 |
| Rated WVDC                                      | Ripple Multipliers   |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
|   | 60Hz   | 120Hz         | 1kHz               | 10kHz |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| <b>6 to 25</b>                                  | 0.80   | 1.0           | 1.1                | 1.2   |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| <b>35 to 100</b>                                | 0.75   | 1.0           | 1.3                | 1.4   |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| <b>160 to 250</b>                               | 0.70   | 1.0           | 1.4                | 1.6   |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| Ambient Temperature                             | Ripple Multiplier  |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| +85 °C  | 1.00   |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| +75 °C  | 1.14   |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| +65 °C  | 1.25   |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| Load Life Test                                  | Apply WVDC for 2000 hours at +85 °C<br>Capacitance change within 20% of initial limit<br>DF not to exceed 200% of initial requirement<br>Leakage current not to exceed 200% of initial   |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| Shelf Life Test                                 | 1000 hrs at +85 °C with no voltage applied<br>Cap change within ±20% of initial values<br>DF not to exceed 200% of initial requirement<br>DC leakage current meets initial requirement   |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |
| <a href="#">Regulatory Information</a>          |  |               |                    |       |    |    |      |       |         |         |                |         |              |     |     |                  |      |     |     |     |                   |      |     |     |     |                     |                   |        |      |        |      |        |      |

# Type SK 85 °C Radial Leaded Aluminum Electrolytic Capacitors

## Outline Drawing

### Outline Dimensions (Millimeters)



Case vented on diameters 6.3 and greater

sleeve adds .5 Max. to diameter and 2.0 Max. to length

## Part Numbering System

| SK   | 100  | M                            | 100                                | S  | T  |
|------|--|------------------------------|------------------------------------|--|--|
| Type | Capacitance ( $\mu\text{F}$ )                  | Capacitance Tolerance (%)    | Rated Voltage (Vdc)                | Packaging  | Lead Configuration   |
| SK   | 1R0 = 1<br>100 = 10<br>101 = 100<br>102 = 1000 | K = $\pm 10$<br>M = $\pm 20$ | 6R3 = 6.3<br>010 = 10<br>100 = 100 | A = Tape & Ammo<br>E = Different Characteristic<br>R = Tape & Reel<br>S = Standard | 1 = Lead cut<br>2 = Lead form<br>4 = Lead crimp & cut (form)<br>T = Standard |

## Temperature Characteristics



## Load Life Characteristics



# Type SK 85 °C Radial Leaded Aluminum Electrolytic Capacitors

## Ratings

| Cap<br>( $\mu$ F)              | Catalog<br>Part Number | Max ESR<br>120 Hz<br>+25 °C<br>( $\Omega$ ) | Max Ripple<br>120 Hz<br>+85 °C<br>(mA) | Size in. (mm)   |               |                   |                  |
|--------------------------------|------------------------|---|--|-----------------|---------------|-------------------|------------------|
|                                |                        |   |  | Diameter<br>(D) | Length<br>(L) | Lead Space<br>(S) | Lead Dia.<br>(d) |
| <b>6.3 Vdc (8 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 100                            | SK101M6R3ST            | 2.92  | 130                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 220                            | SK221M6R3ST            | 1.33  | 240                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 330                            | SK331M6R3ST            | 0.88  | 300                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 470                            | SK471M6R3ST            | 0.62  | 380                                    | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 1000                           | SK102M6R3ST            | 0.29  | 580                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 2200                           | SK222M6R3ST            | 0.14  | 1050                                   | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3300                           | SK332M6R3ST            | 0.10  | 1250                                   | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4700                           | SK472M6R3ST            | 0.08  | 1700                                   | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 6800                           | SK682M6R3ST            | 0.07  | 1900                                   | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 10000                          | SK103M6R3ST            | 0.05  | 2250                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 15000                          | SK153M6R3ST            | 0.04  | 2680                                   | .630 (16.0)     | 1.38 (35.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>10 Vdc (13 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 33                             | SK330M010ST            | 7.64  | 80                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 47                             | SK470M010ST            | 5.36  | 95                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 100                            | SK101M010ST            | 2.52  | 180                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 220                            | SK221M010ST            | 1.15  | 250                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 330                            | SK331M010ST            | 0.76  | 330                                    | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 470                            | SK471M010ST            | 0.54  | 400                                    | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 1000                           | SK102M010ST            | 0.25  | 630                                    | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 2200                           | SK222M010ST            | 0.14  | 1100                                   | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3300                           | SK332M010ST            | 0.10  | 1400                                   | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4700                           | SK472M010ST            | 0.08  | 1800                                   | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 6800                           | SK682M010ST            | 0.07  | 2150                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 10000                          | SK103M010ST            | 0.05  | 2500                                   | .709 (18.0)     | 1.38 (35.0)   | .295 (7.5)        | .0315 (0.8)      |
| 15000                          | SK153M010ST            | 0.04  | 2950                                   | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>16 Vdc (20 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 22                             | SK220M016ST            | 9.65  | 75                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 33                             | SK330M016ST            | 6.43  | 110                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 47                             | SK470M016ST            | 4.52  | 130                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 100                            | SK101M016ST            | 2.12  | 185                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 220                            | SK221M016ST            | 0.97  | 320                                    | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 330                            | SK331M016ST            | 0.64  | 360                                    | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 470                            | SK471M016ST            | 0.45  | 470                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 1000                           | SK102M016ST            | 0.21  | 790                                    | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 2200                           | SK222M016ST            | 0.14  | 1350                                   | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3300                           | SK332M016ST            | 0.10  | 1700                                   | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4700                           | SK472M016ST            | 0.08  | 2100                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 6800                           | SK682M016ST            | 0.07  | 2500                                   | .709 (18.0)     | 1.38 (35.0)   | .295 (7.5)        | .0315 (0.8)      |
| 10000                          | SK103M016ST            | 0.05  | 2700                                   | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>25 Vdc (32 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 10                             | SK100M025ST            | 18.57                                       | 50                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 22                             | SK220M025ST            | 8.44  | 90                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 33                             | SK330M025ST            | 5.63  | 110                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 47                             | SK470M025ST            | 3.95  | 130                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 100                            | SK101M025ST            | 1.85  | 185                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |

# Type SK 85 °C Radial Leaded Aluminum Electrolytic Capacitors

| Cap<br>( $\mu$ F)              | Catalog<br>Part Number | Max ESR<br>120 Hz<br>+25 °C<br>( $\Omega$ ) | Max Ripple<br>120 Hz<br>+85 °C<br>(mA) | Size in. (mm)   |               |                   |                  |
|--------------------------------|------------------------|---|--|-----------------|---------------|-------------------|------------------|
|                                |                        |   |  | Diameter<br>(D) | Length<br>(L) | Lead Space<br>(S) | Lead Dia.<br>(d) |
| <b>25 Vdc (32 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 220                            | SK221M025ST            | 0.84  | 320                                    | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 330                            | SK331M025ST            | 0.56  | 420                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 470                            | SK471M025ST            | 0.39  | 540                                    | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 1,000                          | SK102M025ST            | 0.18  | 950                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 2,200                          | SK222M025ST            | 0.14  | 1550                                   | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3,300                          | SK332M025ST            | 0.10  | 1950                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 4,700                          | SK472M025ST            | 0.08  | 2360                                   | .709 (18.0)     | 1.38 (35.0)   | .295 (7.5)        | .0315 (0.8)      |
| 6,800                          | SK682M025ST            | 0.06  | 2550                                   | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>35 Vdc (44 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 10                             | SK100M035ST            | 15.92                                       | 60                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 22                             | SK220M035ST            | 7.23  | 95                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 33                             | SK330M035ST            | 4.82  | 115                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 47                             | SK470M035ST            | 3.38  | 140                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 100                            | SK101M035ST            | 1.59  | 230                                    | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 220                            | SK221M035ST            | 0.72  | 370                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 330                            | SK331M035ST            | 0.48  | 490                                    | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 470                            | SK471M035ST            | 0.33  | 640                                    | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 1,000                          | SK102M035ST            | 0.15  | 1100                                   | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 2,200                          | SK222M035ST            | 0.14  | 1800                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 3,300                          | SK332M035ST            | 0.10  | 2220                                   | .709 (18.0)     | 1.38 (35.0)   | .295 (7.5)        | .0315 (0.8)      |
| 4,700                          | SK472M035ST            | 0.08  | 2400                                   | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>50 Vdc (63 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 0.47                           | SKR47M050ST            | 282.33                                      | 5                                      | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 1.0                            | SK010M050ST            | 132.70                                      | 10                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 2.2                            | SK2R2M050ST            | 60.32                                       | 23                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 3.3                            | SK3R3M050ST            | 40.21                                       | 35                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 4.7                            | SK4R7M050ST            | 28.23                                       | 40                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 10                             | SK100M050ST            | 13.27                                       | 65                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 22                             | SK220M050ST            | 6.03  | 100                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 33                             | SK330M050ST            | 4.02  | 125                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 47                             | SK470M050ST            | 2.82  | 150                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 100                            | SK101M050ST            | 1.33  | 250                                    | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 220                            | SK221M050ST            | 0.60  | 440                                    | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 330                            | SK331M050ST            | 0.40  | 580                                    | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 470                            | SK471M050ST            | 0.28  | 760                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 1,000                          | SK102M050ST            | 0.13  | 1350                                   | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 2,200                          | SK222M050ST            | 0.14  | 2090                                   | .709 (18.0)     | 1.38 (35.0)   | .295 (7.5)        | .0315 (0.8)      |
| 3,300                          | SK332M050ST            | 0.10  | 2320                                   | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>63 Vdc (79 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 0.47                           | SKR47M063ST            | 254.10                                      | 5                                      | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 1.0                            | SK010M063ST            | 119.43                                      | 10                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 2.2                            | SK2R2M063ST            | 54.28                                       | 29                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 3.3                            | SK3R3M063ST            | 36.19                                       | 40                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 4.7                            | SK4R7M063ST            | 25.41                                       | 45                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 10.0                           | SK100M063ST            | 11.94                                       | 70                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |

\* Note max leakage current  $\geq 100$  Vdc is measured at 3 minutes

Parts highlighted in yellow are obsolete.

# Type SK 85 °C Radial Leaded Aluminum Electrolytic Capacitors

| Cap<br>(µF)                      | Catalog<br>Part Number | Max ESR<br>120 Hz<br>+25 °C<br>(Ω) | Max Ripple<br>120 Hz<br>+85 °C<br>(mA) | Size in. (mm)   |               |                   |                  |
|----------------------------------|------------------------|------------------------------------|--|-----------------|---------------|-------------------|------------------|
|                                  |                        |                                    |  | Diameter<br>(D) | Length<br>(L) | Lead Space<br>(S) | Lead Dia.<br>(d) |
| <b>63 Vdc (79 Volts Surge)</b>   |                        |                                    |  |                 |               |                   |                  |
| 22                               | SK220M063ST            | 5.43                               | 115                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 33                               | SK330M063ST            | 3.62                               | 140                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 47                               | SK470M063ST            | 2.54                               | 190                                    | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 100                              | SK101M063ST            | 1.19                               | 300                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 220                              | SK221M063ST            | 0.54                               | 490                                    | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 330                              | SK331M063ST            | 0.36                               | 680                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 470                              | SK471M063ST            | 0.25                               | 880                                    | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 1,000                            | SK102M063ST            | 0.12                               | 1550                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>100 Vdc (125 Volts Surge)</b> |                        |                                    |  |                 |               |                   |                  |
| 0.47                             | SKR47M100ST            | 225.87                             | 10                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 1                                | SK010M100ST            | 106.16                             | 21                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 2.2                              | SK2R2M100ST            | 48.25                              | 30                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 3.3                              | SK3R3M100ST            | 32.17                              | 40                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 4.7                              | SK4R7M100ST            | 22.59                              | 50                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 10                               | SK100M100ST            | 10.62                              | 75                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 22                               | SK220M100ST            | 4.83                               | 130                                    | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 33                               | SK330M100ST            | 3.22                               | 170                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 47                               | SK470M100ST            | 2.26                               | 230                                    | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 100                              | SK101M100ST            | 1.06                               | 400                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 220                              | SK221M100ST            | 0.48                               | 710                                    | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 330                              | SK331M100ST            | 0.32                               | 860                                    | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 470                              | SK471M100ST            | 0.23                               | 1100                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>160 Vdc (200 Volts Surge)</b> |                        |                                    |  |                 |               |                   |                  |
| 0.47                             | SKR47M160ST            | 423.50                             | 12.0                                   | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 1.0                              | SK010M160ST            | 199.04                             | 17.0                                   | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 2.2                              | SK2R2M160ST            | 90.47                              | 26.0                                   | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 3.3                              | SK3R3M160ST            | 60.32                              | 35.0                                   | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 4.7                              | SK4R7M160ST            | 42.35                              | 40.0                                   | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 10                               | SK100M160ST            | 19.90                              | 65.0                                   | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 22                               | SK220M160ST            | 9.05                               | 110.0                                  | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SK330M160ST            | 6.03                               | 150.0                                  | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 47                               | SK470M160ST            | 4.23                               | 180.0                                  | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 100                              | SK101M160ST            | 1.99                               | 300.0                                  | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 220                              | SK221M160ST            | 0.90                               | 510.0                                  | .630 (16.0)     | 1.42 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| 330                              | SK331M160ST            | 0.60                               | 600.0                                  | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>200 Vdc (250 Volts Surge)</b> |                        |                                    |  |                 |               |                   |                  |
| 0.47                             | SKR47M200ST            | 423.50                             | 12                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 1.0                              | SK010M200ST            | 199.04                             | 17                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 2.2                              | SK2R2M200ST            | 90.47                              | 26                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 3.3                              | SK3R3M200ST            | 60.32                              | 35                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 4.7                              | SK4R7M200ST            | 42.35                              | 45                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 10                               | SK100M200ST            | 19.90                              | 70                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 22                               | SK220M200ST            | 9.05                               | 110                                    | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SK330M200ST            | 6.03                               | 160                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 47                               | SK470M200ST            | 4.23                               | 180                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |

\* Note max leakage current ≥100 Vdc is measured at 3 minutes

Parts highlighted in yellow are obsolete.

# Type SK 85 °C Radial Leaded Aluminum Electrolytic Capacitors

| Cap<br>( $\mu$ F)                | Catalog<br>Part Number | Max ESR<br>120 Hz<br>+25 °C<br>( $\Omega$ ) | Max Ripple<br>120 Hz<br>+85 °C<br>(mA) | Size in. (mm)   |               |                   |                  |
|----------------------------------|------------------------|---|--|-----------------|---------------|-------------------|------------------|
|                                  |                        |   |  | Diameter<br>(D) | Length<br>(L) | Lead Space<br>(S) | Lead Dia.<br>(d) |
| <b>200 Vdc (250 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 100                              | SK101M200ST            | 1.99  | 330                                    | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 220                              | SK221M200ST            | 0.90  | 520                                    | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>250 Vdc (300 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 0.47                             | SKR47M250ST            | 423.50                                      | 12                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 1.0                              | SK010M250ST            | 199.04                                      | 17                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 2.2                              | SK2R2M250ST            | 90.47                                       | 30                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 3.3                              | SK3R3M250ST            | 60.32                                       | 35                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 4.7                              | SK4R7M250ST            | 42.35                                       | 45                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 10                               | SK100M250ST            | 19.90                                       | 70                                     | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 22                               | SK220M250ST            | 9.05  | 130                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SK330M250ST            | 6.03  | 160                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 47                               | SK470M250ST            | 4.23  | 210                                    | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 100                              | SK101M250ST            | 1.99  | 310                                    | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>350 Vdc (400 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 0.47                             | SKR47M350ST            | 564.67                                      | 14                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 1.0                              | SK010M350ST            | 265.39                                      | 18                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 2.2                              | SK2R2M350ST            | 120.63                                      | 28                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 3.3                              | SK3R3M350ST            | 80.42                                       | 35                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4.7                              | SK4R7M350ST            | 56.47                                       | 40                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 10                               | SK100M350ST            | 26.54                                       | 70                                     | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 22                               | SK220M350ST            | 12.06                                       | 110                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SK330M350ST            | 8.04  | 140                                    | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 47                               | SK470M350ST            | 5.65  | 220                                    | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 100                              | SK101M350ST            | 2.65  | 360                                    | .709 (18.0)     | 1.42 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>400 Vdc (450 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 0.47                             | SKR47M400ST            | 564.67                                      | 14                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 1.0                              | SK010M400ST            | 265.39                                      | 18                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 2.2                              | SK2R2M400ST            | 120.63                                      | 28                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 3.3                              | SK3R3M400ST            | 80.42                                       | 32                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4.7                              | SK4R7M400ST            | 56.47                                       | 41                                     | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 10                               | SK100M400ST            | 26.54                                       | 70                                     | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 22                               | SK220M400ST            | 12.06                                       | 120                                    | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SK330M400ST            | 8.04  | 140                                    | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 47                               | SK470M400ST            | 5.65  | 160                                    | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>450 Vdc (500 Volts Surge)</b> |                        |   |  |                 |               |                   |                  |
| 0.47                             | SKR47M450ST            | 564.67                                      | 14                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 1.0                              | SK010M450ST            | 265.39                                      | 19                                     | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 2.2                              | SK2R2M450ST            | 120.63                                      | 29                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3.3                              | SK3R3M450ST            | 80.42                                       | 35                                     | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4.7                              | SK4R7M450ST            | 56.47                                       | 50                                     | .394 (10.0)     | .709 (18.0)   | .197 (5.0)        | .0236 (0.6)      |
| 10                               | SK100M450ST            | 26.54                                       | 75                                     | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 22                               | SK220M450ST            | 12.06                                       | 110                                    | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 33                               | SK330M450ST            | 8.04  | 150                                    | .630 (16.0)     | 1.42 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| 47                               | SK470M450ST            | 5.65  | 230                                    | .630 (16.0)     | 1.57 (40.0)   | .295 (7.5)        | .0315 (0.8)      |

Parts highlighted in yellow are obsolete.

# Type SK 85 °C Radial Leaded Aluminum Electrolytic Capacitors

## Taping & Packaging

**Fig. 1 - Formed Taping**



**Fig. 2 - Straight Taping (5φ, 6.3φ, 8φ)**



**Fig. 3- Straight Taping (Under 10φ, 12φ, 13φ)**



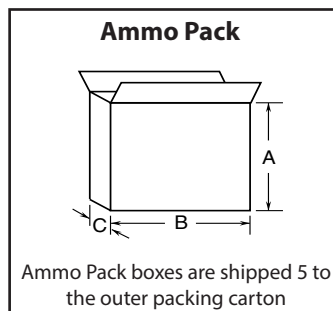
**Fig. 4- Straight Taping (16φ, 18φ)**



**Standard Lead Spacing of Taped Components is 5mm  
Other Lead Spacing is Available by Special Order**

| Code      | D       | A    | d     | P    | P <sub>0</sub> | P <sub>1</sub> | P <sub>2</sub> | F            | W    | W <sub>0</sub> | H     | H <sub>0</sub> | D <sub>0</sub> | t    | ih   | Fig. |
|-----------|---------|------|-------|------|----------------|----------------|----------------|--------------|------|----------------|-------|----------------|----------------|------|------|------|
| Tolerance | 0.5     | 1.0  | ±0.05 | ±1.0 | ±0.2           | ±0.7           | ±1.3           | +0.8<br>-0.2 | ±0.5 | Min.           | ±0.75 | ±0.5           | ±0.2           | ±0.2 | Max. |      |
| Item      | 4 ~ 6.3 | 7.0  | 0.45  | 12.7 | 12.7           | 3.85           | 6.35           | 5.0          | 18.0 | 12.5           | 18.5  | 16.0           | 4.0            | 0.7  | 2.0  | 1    |
|           | 5 ~ 8   | 12.5 | 0.5   | 12.7 | 12.7           | 3.85           | 6.35           | 5.0          | 18.0 | 12.5           | 18.5  | 16.0           | 4.0            | 0.7  | 2.0  |      |
|           | 5, 6.3  | 12.5 | 0.5   | 12.7 | 12.7           | 5.1            | 6.35           | 2.5          | 18.0 | 12.5           | 18.5  | —              | 4.0            | 0.7  | 2.0  | 2    |
|           | 8       | 12.5 | 0.5   | 12.7 | 12.7           | 4.6            | 6.35           | 3.5          | 18.0 | 12.5           | 18.5  | —              | 4.0            | 0.7  | 2.0  |      |
|           | 10      | 21.0 | 0.6   | 12.7 | 12.7           | 3.85           | 6.35           | 5.0          | 18.0 | 12.5           | 18.5  | —              | 4.0            | 0.7  | 2.0  | 3    |
|           | 12, 13  | 26.0 | 0.6   | 15.0 | 15.0           | 5.0            | 7.5            | 5.0          | 18.0 | 12.5           | 18.5  | —              | 4.0            | 0.7  | 2.0  |      |
|           | 16, 18  | 26.0 | 0.8   | 30.0 | 15.0           | 3.75           | 7.5            | 7.5          | 18.0 | 12.5           | 18.0  | —              | 4.0            | 0.7  | 2.0  | 4    |

| Capacitor Diameter D (mm) | Ammo Pack Box Dimensions (mm) |       |     | Quantity Per Ammo Pack Box |
|---------------------------|-------------------------------|-------|-----|----------------------------|
|                           | A±5                           | B Max | C±3 |                            |
| 4                         | 250                           | 340   | 54  | 3000                       |
| 5                         | 250                           | 340   | 54  | 2,000                      |
| 6.3                       | 290                           | 340   | 54  | 2,000                      |
| 8                         | 250                           | 340   | 54  | 1,000                      |
| 10 (12L)                  | 290                           | 340   | 54  | 600                        |
| 10 (16L)                  | 350                           | 340   | 59  | 600                        |
| 10 (20L)                  | 340                           | 340   | 71  | 600                        |
| 12, 13                    | 340                           | 340   | 71  | 400                        |
| 16                        | 340                           | 340   | 71  | 300                        |



| Tape And Reel Quantities |            |                  |
|--------------------------|------------|------------------|
| Case Diameter D (mm)     | Reel Width | Reel Qty. (Pcs.) |
| 4                        | 44         | 1500             |
| 5                        | 44         | 1200             |
| 6                        | 44         | 1000             |
| 8                        | 44         | 800              |
| 10 (12L)                 | 44         | 600              |
| 10 (16L)                 | 50         | 600              |
| 12, 13                   | -          | -                |
| 16                       | -          | -                |

## Type SK 85 °C Radial Leaded Aluminum Electrolytic Capacitors

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