

# Type SEK 105 °C Radial Leaded Aluminum Electrolytic Capacitors

## Long Life, Aluminum Electrolytic



Type SEK is a radial leaded aluminum electrolytic capacitor with a +105 °C, long life rating. The volumetric efficient high CV product of the SEK makes it ideal for high density packaging in general purpose, coupling, decoupling, bypass and filtering circuit applications.

### Highlights

- +105 °C
- Long life
- High CV product
- General purpose applications
- Available in T&R and ammo pack

## Specifications

|                                     |  |
|-------------------------------------|--|
| <b>Capacitance Range:</b>           | 0.47 to 15,000 $\mu$ F   |
| <b>Voltage Range:</b>               | 6.3 to 450 Vdc   |
| <b>Capacitance Tolerance:</b>       | $\pm$ 20%  |
| <b>Operating Temperature Range:</b> | -55 °C to +105 °C; 6.3 to 100 Vdc<br>-40 °C to +105 °C; 160 to 400 Vdc<br>-25 °C to +105 °C; 450 Vdc   |
| <b>Maximum DC Leakage Current:</b>  | After 2 minutes, with rated voltage at +20 °C<br>6.3 to 100 Vdc<br>$I = .01CV$ or 3 $\mu$ A Max (whichever is greater)<br>$\geq$ 160 Vdc after 3 min, with rated voltage at +20 °C<br>$I = .03CV$ or 10 $\mu$ A Max (whichever is greater)<br>C = Capacitance in ( $\mu$ F)<br>V = Rated voltage<br>I = Leakage current in $\mu$ A |

### Dissipation Factor @ 120 Hz, +25 °C:

| WV (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | 160-250 | 350-450 |
|--------|-----|----|----|----|----|----|----|----|-----|---------|---------|
| DF(%)  | 26  | 22 | 18 | 16 | 14 | 12 | 10 | 10 | 10  | 15      | 20      |

For capacitors whose capacitance value exceeds 1000  $\mu$ F, the value of DF (%) is increased 2% for every additional 1000  $\mu$ F.

### Ripple Multipliers for Voltage and Temperature:

| Rated WVDC | Ripple Multipliers |       |      |       |
|------------|--------------------|-------|------|-------|
|            | 60Hz               | 120Hz | 1kHz | 10kHz |
| 6 to 25    | 0.80               | 1.0   | 1.1  | 1.2   |
| 35 to 100  | 0.75               | 1.0   | 1.3  | 1.4   |
| 160 to 250 | 0.70               | 1.0   | 1.4  | 1.6   |
| 350 to 400 | 0.60               | 1.0   | 1.5  | 1.8   |

| Ambient Temperature | Ripple Multiplier |
|---------------------|-------------------|
| +105 °C             | 1.00              |
| +85 °C              | 1.50              |
| +70 °C              | 1.80              |



Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

- Load Life:** Apply WVDC for 2000 hours at +105 °C  
Capacitance change within 20% of initial limit  
DF not to exceed 200% of initial requirement  
Leakage current not to exceed 200% of initial
- Shelf Life:** 1000 hrs with no voltage applied  
Cap change within  $\pm$ 20% of initial values  
DF not to exceed 200% of initial requirement  
DC leakage current meets initial requirement

# Type SEK 105 °C Radial Leaded Aluminum Electrolytic Capacitors

## Outline Drawing

### Outline Dimensions (Millimeters)



Case vented on diameters 6.3 and greater

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

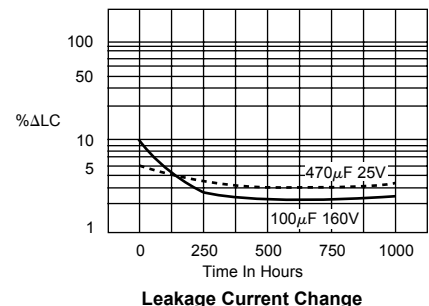
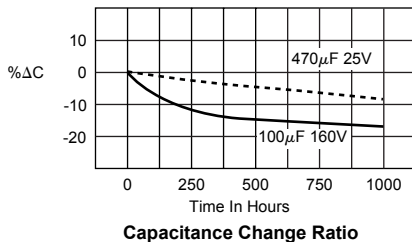
## Part Numbering System

| Type | Capacitance<br>Capacitance<br>( $\mu\text{F}$ )<br>Tolerance<br>(%) | Rated<br>Voltage<br>(Vdc)    | Packaging                          | Lead<br>Configuration  |  |
|------|---|------------------------------|------------------------------------|--|--|
| SEK  | 100<br>M  | 100                          | S                                  | T  |  |
|      | 3R0 = 3<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 SEK 105 °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>105 °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                            | SEK101M6R3ST           | 3.45                                       | 100                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 220                            | SEK221M6R3ST           | 1.57                                       | 165                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 330                            | SEK331M6R3ST           | 1.05                                       | 200                                    | .248 (6.3)      | .453 (11.5)   | .098 (2.5)        | .0197 (0.5)      |
| 470                            | SEK471M6R3ST           | 0.73                                       | 280                                    | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 1000                           | SEK102M6R3ST           | 0.35                                       | 470                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 2200                           | SEK222M6R3ST           | 0.17                                       | 930                                    | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3300                           | SEK332M6R3ST           | 0.12                                       | 1100                                   | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4700                           | SEK472M6R3ST           | 0.10                                       | 1320                                   | .630 (16.0)     | .984 (26.0)   | .295 (7.5)        | .0315 (0.8)      |
| 6800                           | SEK682M6R3ST           | 0.07                                       | 1490                                   | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 10000                          | SEK103M6R3ST           | 0.06                                       | 1830                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 15000                          | SEK153M6R3ST           | 0.05                                       | 2280                                   | .709 (18.0)     | 1.40 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>10 Vdc (13 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 47                             | SEK470M010ST           | 6.21                                       | 75                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 100                            | SEK101M010ST           | 2.92                                       | 110                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 220                            | SEK221M010ST           | 1.33                                       | 180                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 330                            | SEK331M010ST           | 0.88                                       | 255                                    | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 470                            | SEK471M010ST           | 0.62                                       | 305                                    | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 1000                           | SEK102M010ST           | 0.29                                       | 570                                    | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 2200                           | SEK222M010ST           | 0.14                                       | 1010                                   | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3300                           | SEK332M010ST           | 0.10                                       | 1220                                   | .512 (13.0)     | .984 (25.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4700                           | SEK472M010ST           | 0.08                                       | 1410                                   | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 6800                           | SEK682M010ST           | 0.07                                       | 1610                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 10000                          | SEK103M010ST           | 0.05                                       | 1980                                   | .709 (18.0)     | 1.40 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| 15000                          | SEK153M010ST           | 0.04                                       | 3330                                   | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>16 Vdc (20 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 33                             | SEK330M016ST           | 7.24                                       | 70                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 47                             | SEK470M016ST           | 5.08                                       | 85                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 100                            | SEK101M016ST           | 2.39                                       | 135                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 220                            | SEK221M016ST           | 1.09                                       | 235                                    | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 330                            | SEK331M016ST           | 0.72                                       | 285                                    | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 470                            | SEK471M016ST           | 0.51                                       | 395                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 1000                           | SEK102M016ST           | 0.24                                       | 700                                    | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 2200                           | SEK222M016ST           | 0.12                                       | 1150                                   | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3300                           | SEK332M016ST           | 0.09                                       | 1350                                   | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4700                           | SEK472M016ST           | 0.07                                       | 1560                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 6800                           | SEK682M016ST           | 0.06                                       | 1790                                   | .709 (18.0)     | 1.40 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| 10000                          | SEK103M016ST           | 0.05                                       | 2884                                   | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>25 Vdc (32 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 10                             | SEK100M025ST           | 21.23                                      | 50                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 22                             | SEK220M025ST           | 9.65                                       | 60                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 33                             | SEK330M025ST           | 6.43                                       | 75                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 47                             | SEK470M025ST           | 4.52                                       | 90                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 100                            | SEK101M025ST           | 2.12                                       | 145                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 220                            | SEK221M025ST           | 0.97                                       | 250                                    | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 330                            | SEK331M025ST           | 0.64                                       | 355                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |

# Type SEK 105 °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>105 °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> |                        |  |  |                 |               |                   |                  |
| 470                            | SEK471M025ST           | 0.45                                       | 470                                    | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 1000                           | SEK102M025ST           | 0.21                                       | 855                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 2200                           | SEK222M025ST           | 0.11                                       | 1230                                   | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3300                           | SEK332M025ST           | 0.08                                       | 1450                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 4700                           | SEK472M025ST           | 0.07                                       | 1690                                   | .709 (18.0)     | 1.40 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| 6800                           | SEK682M025ST           | 0.05                                       | 2856                                   | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>35 Vdc (44 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 22                             | SEK220M035ST           | 8.44                                       | 65                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 33                             | SEK330M035ST           | 5.63                                       | 85                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 47                             | SEK470M035ST           | 3.95                                       | 115                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 100                            | SEK101M035ST           | 1.86                                       | 190                                    | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 220                            | SEK221M035ST           | 0.84                                       | 315                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 330                            | SEK331M035ST           | 0.56                                       | 440                                    | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 470                            | SEK471M035ST           | 0.40                                       | 580                                    | .512 (13.0)     | .787 (20.0)   | .197 (5.0)        | .0236 (0.6)      |
| 1000                           | SEK102M035ST           | 0.19                                       | 995                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 2200                           | SEK222M035ST           | 0.10                                       | 1450                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 3300                           | SEK332M035ST           | 0.07                                       | 1660                                   | .709 (18.0)     | 1.40 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| 4700                           | SEK472M035ST           | 0.06                                       | 2674                                   | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>50 Vdc (63 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 0.47                           | SEKR47M050ST           | 338.80                                     | 7.0                                    | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 1.0                            | SEK010M050ST           | 159.24                                     | 12.0                                   | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 2.2                            | SEK2R2M050ST           | 72.38                                      | 18.0                                   | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 3.3                            | SEK3R3M050ST           | 48.25                                      | 25.0                                   | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 4.7                            | SEK4R7M050ST           | 33.88                                      | 30.0                                   | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 10                             | SEK100M050ST           | 15.92                                      | 50.0                                   | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 22                             | SEK220M050ST           | 7.24                                       | 75.0                                   | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 33                             | SEK330M050ST           | 4.83                                       | 105.0                                  | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 47                             | SEK470M050ST           | 3.39                                       | 125.0                                  | .248 (6.3)      | .453 (11.5)   | .098 (2.5)        | .0197 (0.5)      |
| 100                            | SEK101M050ST           | 1.59                                       | 210.0                                  | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 220                            | SEK221M050ST           | 0.72                                       | 400.0                                  | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 330                            | SEK331M050ST           | 0.48                                       | 535.0                                  | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 470                            | SEK471M050ST           | 0.34                                       | 730.0                                  | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 1000                           | SEK102M050ST           | 0.16                                       | 1110.0                                 | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 2200                           | SEK222M050ST           | 0.08                                       | 1530.0                                 | .709 (18.0)     | 1.40 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| 3300                           | SEK332M050ST           | 0.47                                       | 2478.0                                 | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>63 Vdc (79 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 4.7                            | SEK4R7M063ST           | 28.23                                      | 34                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 10                             | SEK100M063ST           | 13.27                                      | 55                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 22                             | SEK220M063ST           | 6.03                                       | 90                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 33                             | SEK330M063ST           | 4.02                                       | 110                                    | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 47                             | SEK470M063ST           | 2.82                                       | 155                                    | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 100                            | SEK101M063ST           | 1.33                                       | 260                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 220                            | SEK221M063ST           | 0.60                                       | 460                                    | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 330                            | SEK331M063ST           | 0.40                                       | 650                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 470                            | SEK471M063ST           | 0.28                                       | 800                                    | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 1000                           | SEK102M063ST           | 0.13                                       | 1200                                   | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |

# Type SEK 105 °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>105 °C<br>(mA) | Size in. (mm)   |               |                   |                  |
|----------------------------------|------------------------|--|--|-----------------|---------------|-------------------|------------------|
|                                  |                        |  |  | Diameter<br>(D) | Length<br>(L) | Lead Space<br>(S) | Lead Dia.<br>(d) |
| <b>100 Vdc (125 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 0.47                             | SEKR47M100ST           | 282.33                                     | 10                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 1.0                              | SEK010M100ST           | 132.70                                     | 15                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 2.2                              | SEK2R2M100ST           | 60.32                                      | 22                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 3.3                              | SEK3R3M100ST           | 40.21                                      | 29                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 4.7                              | SEK4R7M100ST           | 28.23                                      | 37                                     | .197 (5.0)      | .433 (11.0)   | .079 (2.0)        | .0197 (0.5)      |
| 10.0                             | SEK100M100ST           | 13.27                                      | 65                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 22.0                             | SEK220M100ST           | 6.03                                       | 115                                    | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 33.0                             | SEK330M100ST           | 4.02                                       | 160                                    | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 47.0                             | SEK470M100ST           | 2.82                                       | 210                                    | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 100.0                            | SEK101M100ST           | 1.33                                       | 385                                    | .512 (13.0)     | .787 (20.0)   | .197 (5.0)        | .0236 (0.6)      |
| 220.0                            | SEK221M100ST           | 0.60                                       | 590                                    | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 330.0                            | SEK331M100ST           | 0.40                                       | 720                                    | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 470.0                            | SEK471M100ST           | 0.28                                       | 875                                    | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>160 Vdc (200 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 0.47                             | SEKR47M160ST           | 423.50                                     | 12                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 1.0                              | SEK010M160ST           | 199.04                                     | 17                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 2.2                              | SEK2R2M160ST           | 90.47                                      | 25                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 3.3                              | SEK3R3M160ST           | 60.32                                      | 36                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 4.7                              | SEK4R7M160ST           | 42.35                                      | 43                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 10                               | SEK100M160ST           | 19.90                                      | 70                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 22                               | SEK220M160ST           | 9.05                                       | 130                                    | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SEK330M160ST           | 6.03                                       | 180                                    | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 47                               | SEK470M160ST           | 4.23                                       | 270                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 100                              | SEK101M160ST           | 1.99                                       | 330                                    | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 220                              | SEK221M160ST           | 0.90                                       | 500                                    | .630 (16.0)     | 1.42 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| 330                              | SEK331M160ST           | 0.60                                       | 850                                    | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>200 Vdc (250 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 0.47                             | SEKR47M200ST           | 423.50                                     | 12                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 1.0                              | SEK010M200ST           | 199.04                                     | 17                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 2.2                              | SEK2R2M200ST           | 90.47                                      | 25                                     | .248 (6.3)      | .453 (11.5)   | .098 (2.5)        | .0197 (0.5)      |
| 3.3                              | SEK3R3M200ST           | 60.32                                      | 36                                     | .248 (6.3)      | .453 (11.5)   | .098 (2.5)        | .0197 (0.5)      |
| 4.7                              | SEK4R7M200ST           | 42.35                                      | 50                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 10                               | SEK100M200ST           | 19.90                                      | 80                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 22                               | SEK220M200ST           | 9.05                                       | 140                                    | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SEK330M200ST           | 6.03                                       | 190                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 47                               | SEK470M200ST           | 4.23                                       | 220                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 100                              | SEK101M200ST           | 1.99                                       | 335                                    | .630 (16.0)     | .984 (25.0)   | .295 (7.5)        | .0315 (0.8)      |
| 220                              | SEK221M200ST           | 0.90                                       | 515                                    | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>250 Vdc (300 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 0.47                             | SEKR47M250ST           | 423.50                                     | 12                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 1.0                              | SEK010M250ST           | 199.04                                     | 17                                     | .248 (6.3)      | .433 (11.0)   | .098 (2.5)        | .0197 (0.5)      |
| 2.2                              | SEK2R2M250ST           | 90.47                                      | 29                                     | .248 (6.3)      | .453 (11.5)   | .098 (2.5)        | .0197 (0.5)      |
| 3.3                              | SEK3R3M250ST           | 60.32                                      | 42                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 4.7                              | SEK4R7M250ST           | 42.35                                      | 50                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 10.0                             | SEK100M250ST           | 19.90                                      | 88                                     | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |

# Type SEK 105 °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>105 °C<br>(mA) | Size in. (mm)   |               |                   |                  |
|----------------------------------|------------------------|--|--|-----------------|---------------|-------------------|------------------|
|                                  |                        |  |  | Diameter<br>(D) | Length<br>(L) | Lead Space<br>(S) | Lead Dia.<br>(d) |
| <b>250 Vdc (300 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 22                               | SEK220M250ST           | 9.05                                       | 155                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SEK330M250ST           | 6.03                                       | 190                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 47                               | SEK470M250ST           | 4.23                                       | 230                                    | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 100                              | SEK101M250ST           | 1.99                                       | 340                                    | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>350 Vdc (400 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 0.47                             | SEKR47M350ST           | 564.67                                     | 14                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 1.0                              | SEK010M350ST           | 265.39                                     | 20                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 2.2                              | SEK2R2M350ST           | 120.63                                     | 35                                     | .315 (8.0)      | .453 (11.5)   | .138 (3.5)        | .0236 (0.6)      |
| 3.3                              | SEK3R3M350ST           | 80.42                                      | 47                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4.7                              | SEK4R7M350ST           | 56.47                                      | 55                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 10                               | SEK100M350ST           | 26.54                                      | 95                                     | .394 (10.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 22                               | SEK220M350ST           | 12.06                                      | 165                                    | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SEK330M350ST           | 8.04                                       | 195                                    | .512 (13.0)     | .984 (25.0)   | .197 (5.0)        | .0236 (0.6)      |
| 47                               | SEK470M350ST           | 5.65                                       | 240                                    | .630 (16.0)     | 1.42 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| 100                              | SEK101M350ST           | 2.65                                       | 360                                    | .709 (18.0)     | 1.65 (42.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>400 Vdc (450 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 0.47                             | SEKR47M400ST           | 564.67                                     | 14                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 1.0                              | SEK010M400ST           | 265.39                                     | 20                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 2.2                              | SEK2R2M400ST           | 120.63                                     | 35                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3.3                              | SEK3R3M400ST           | 80.42                                      | 50                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4.7                              | SEK4R7M400ST           | 56.47                                      | 58                                     | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 10                               | SEK100M400ST           | 26.54                                      | 100                                    | .512 (13.0)     | .787 (20.0)   | .197 (5.0)        | .0236 (0.6)      |
| 22                               | SEK220M400ST           | 12.06                                      | 170                                    | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SEK330M400ST           | 8.04                                       | 205                                    | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 47                               | SEK470M400ST           | 5.65                                       | 255                                    | .709 (18.0)     | 1.40 (36.0)   | .295 (7.5)        | .0315 (0.8)      |
| <b>450 Vdc (500 Volts Surge)</b> |                        |  |  |                 |               |                   |                  |
| 0.47                             | SEKR47M450ST           | 564.67                                     | 14                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 1.0                              | SEK010M450ST           | 265.39                                     | 20                                     | .315 (8.0)      | .433 (11.0)   | .138 (3.5)        | .0236 (0.6)      |
| 2.2                              | SEK2R2M450ST           | 120.63                                     | 35                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 3.3                              | SEK3R3M450ST           | 80.42                                      | 50                                     | .394 (10.0)     | .512 (13.0)   | .197 (5.0)        | .0236 (0.6)      |
| 4.7                              | SEK4R7M450ST           | 56.47                                      | 58                                     | .394 (10.0)     | .630 (16.0)   | .197 (5.0)        | .0236 (0.6)      |
| 10                               | SEK100M450ST           | 26.54                                      | 100                                    | .512 (13.0)     | .827 (21.0)   | .197 (5.0)        | .0236 (0.6)      |
| 22                               | SEK220M450ST           | 12.06                                      | 170                                    | .512 (13.0)     | .984 (26.0)   | .197 (5.0)        | .0236 (0.6)      |
| 33                               | SEK330M450ST           | 8.04                                       | 205                                    | .630 (16.0)     | 1.26 (32.0)   | .295 (7.5)        | .0315 (0.8)      |
| 47                               | SEK470M450ST           | 5.65                                       | 255                                    | .709 (18.0)     | 1.40 (36.0)   | .295 (7.5)        | .0315 (0.8)      |



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

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «**JONHON**», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «**FORSTAR**».



## JONHON

«**JONHON**» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«**FORSTAR**» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А