

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

Capacitance Range: 0.47 to 15,000 μ F
Voltage Range: 6.3 to 450 Vdc
Capacitance Tolerance: \pm 20%
Operating Temperature Range: -55 °C to +105 °C; 6.3 to 100 Vdc
 -40 °C to +105 °C; 160 to 400 Vdc
 -25 °C to +105 °C; 450 Vdc
Maximum DC Leakage Current: After 2 minutes, with rated voltage at +20 °C
 6.3 to 100 Vdc

$I = .01CV$ or 3 μ A Max (whichever is greater)
 ≥ 160 Vdc after 3 min, with rated voltage at +20 °C
 $I = .03CV$ or 10 μ A Max (whichever is greater)
 C = Capacitance in (μ F)
 V = Rated voltage
 I = Leakage current in μ 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 μ F, the value of DF (%) is increased 2% for every additional 1000 μ 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).

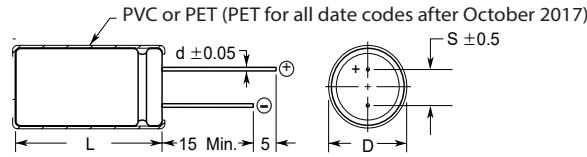
Load Life: Apply WVDC for 2000 hours at +105 °C
 Capacitance change within 20% of initial limit
 DF not to exceed 200% of initial requirement
 Leakage current not to exceed 200% of initial

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)



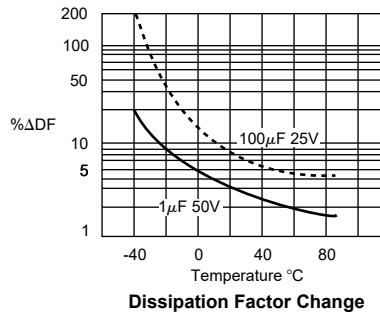
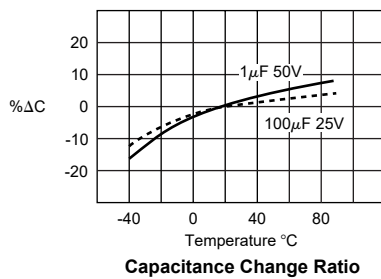
Case vented on diameters 6.3 and greater

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

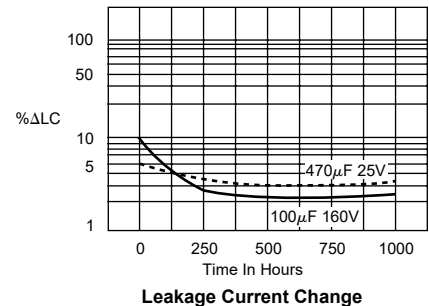
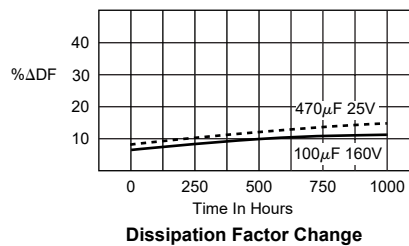
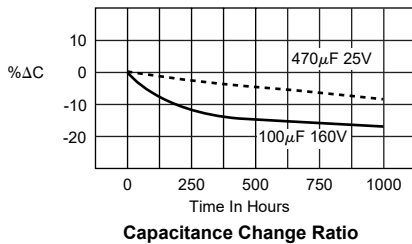
Part Numbering System

| Type | Capacitance | Rated Voltage | Packaging | Lead Configuration | |
|------|-----------------------|---------------|-----------|------------------------------|-----------------------------|
| | Capacitance Tolerance | (Vdc) | | | |
| | (μ F) | (%) | | | |
| SEK | 100 | M | 100 | S | T |
| | 3R0 = 3 | K = ± 10 | 6R3 = 6.3 | A = Tape & Ammo | 1 = Lead cut |
| | 100 = 10 | M = ± 20 | 010 = 10 | E = Different Characteristic | 2 = Lead form |
| | 101 = 100 | | 100 = 100 | R = Tape & Reel | 4 = Lead crimp & cut (form) |
| | 102 = 1000 | | | S = Standard | T = Standard |

Temperature Characteristics



Load Life Characteristics



Type SEK 105 °C Radial Leaded Aluminum Electrolytic Capacitors

Ratings

| Cap (µF) | Catalog Part Number | Max ESR 120 Hz 25 °C (Ω) | Max Ripple 120 Hz 105 °C (mA) | Size in. (mm) | | | |
|--------------------------------|------------------------|-----------------------------------|--|-----------------|---------------|-------------------|------------------|
| | | | | Diameter (D) | Length (L) | Lead Space (S) | Lead Dia. (d) |
| 6.3 Vdc (8 Volts Surge) | | | | | | | |
| 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) |
| 10 Vdc (13 Volts Surge) | | | | | | | |
| 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) |
| 16 Vdc (20 Volts Surge) | | | | | | | |
| 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) |
| 25 Vdc (32 Volts Surge) | | | | | | | |
| 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 (μ F) | Catalog Part Number | Max ESR 120 Hz 25 °C (Ω) | Max Ripple 120 Hz 105 °C (mA) | Size in. (mm) | | | |
|--------------------------------|------------------------|--|--|-----------------|---------------|-------------------|------------------|
| | | | | Diameter (D) | Length (L) | Lead Space (S) | Lead Dia. (d) |
| 25 Vdc (32 Volts Surge) | | | | | | | |
| 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) |
| 35 Vdc (44 Volts Surge) | | | | | | | |
| 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) |
| 50 Vdc (63 Volts Surge) | | | | | | | |
| 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) |
| 63 Vdc (79 Volts Surge) | | | | | | | |
| 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) |

Parts highlighted in yellow are obsolete.

Type SEK 105 °C Radial Leaded Aluminum Electrolytic Capacitors

| Cap (μ F) | Catalog Part Number | Max ESR 120 Hz 25 °C (Ω) | Max Ripple 120 Hz 105 °C (mA) | Size in. (mm) | | | |
|----------------------------------|------------------------|--|--|-----------------|---------------|-------------------|------------------|
| | | | | Diameter (D) | Length (L) | Lead Space (S) | Lead Dia. (d) |
| 100 Vdc (125 Volts Surge) | | | | | | | |
| 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) |
| 160 Vdc (200 Volts Surge) | | | | | | | |
| 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) |
| 200 Vdc (250 Volts Surge) | | | | | | | |
| 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) |
| 250 Vdc (300 Volts Surge) | | | | | | | |
| 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) |

Parts highlighted in yellow are obsolete.

Type SEK 105 °C Radial Leaded Aluminum Electrolytic Capacitors

| Cap (μ F) | Catalog Part Number | Max ESR 120 Hz 25 °C (Ω) | Max Ripple 120 Hz 105 °C (mA) | Size in. (mm) | | | |
|----------------------------------|------------------------|--|--|-----------------|---------------|-------------------|------------------|
| | | | | Diameter (D) | Length (L) | Lead Space (S) | Lead Dia. (d) |
| 250 Vdc (300 Volts Surge) | | | | | | | |
| 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) |
| 350 Vdc (400 Volts Surge) | | | | | | | |
| 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) |
| 400 Vdc (450 Volts Surge) | | | | | | | |
| 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) |
| 450 Vdc (500 Volts Surge) | | | | | | | |
| 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) |

Parts highlighted in yellow are obsolete.

Type SEK 105 °C Radial Leaded Aluminum Electrolytic Capacitors

Taping & Packaging

Fig. 1 - Formed Taping

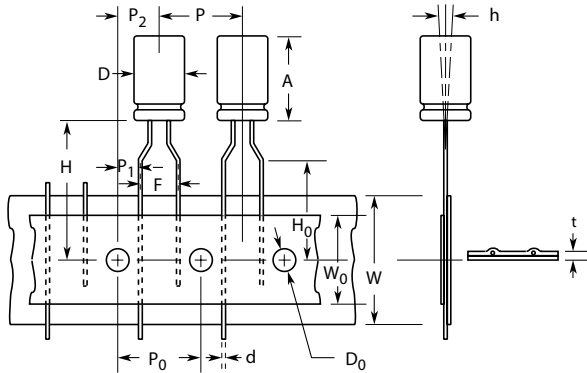


Fig. 2 - Straight Taping (5φ, 6.3φ, 8φ)

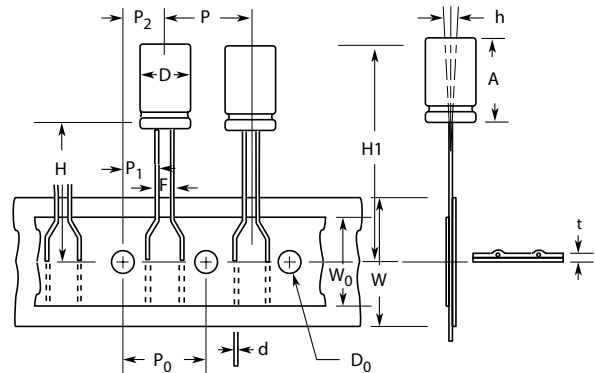


Fig. 3 - Straight Taping (Under 10φ, 12φ, 13φ)

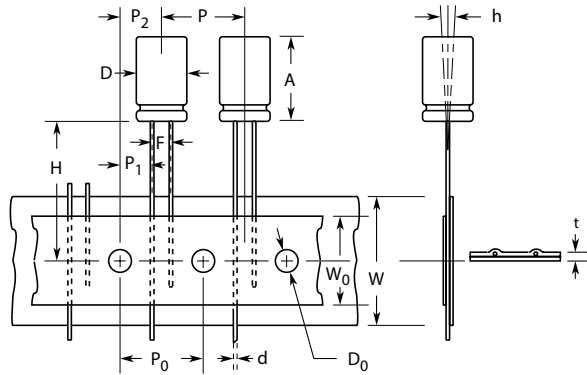
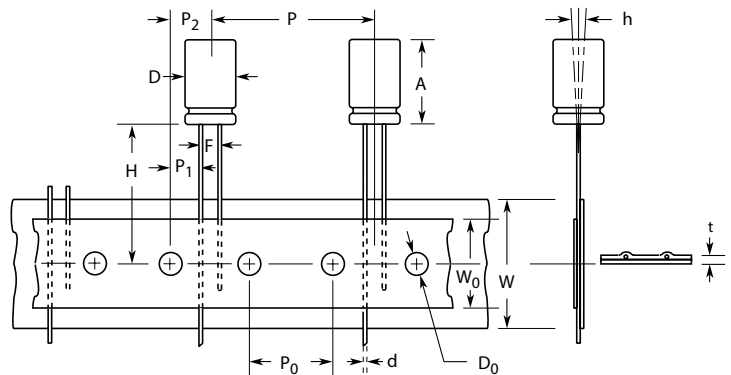


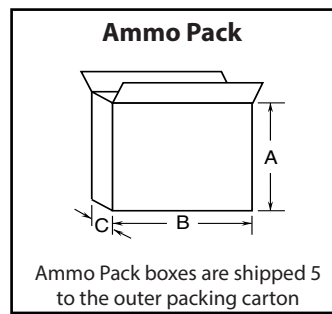
Fig. 4 - Straight Taping (16φ, 18φ)



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

| Code | D | A | d | P | P ₀ | P ₁ | P ₂ | F | W | W ₀ | H | H ₀ | D ₀ | t | ih | Fig. |
|-----------|---------|------|-------|------|----------------|----------------|----------------|--------------|------|----------------|-------|----------------|----------------|------|------|------|
| Tolerance | 0.5 | 1.0 | ±0.05 | ±1.0 | ±0.2 | ±0.7 | ±1.3 | +0.8 -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 | 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 (12 L) | 290 | 340 | 54 | 600 |
| 10 (16 L) | 350 | 340 | 59 | 600 |
| 10 (20 L) | 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 SEK 105 °C Radial Leaded Aluminum Electrolytic Capacitors

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