

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) \geq 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)



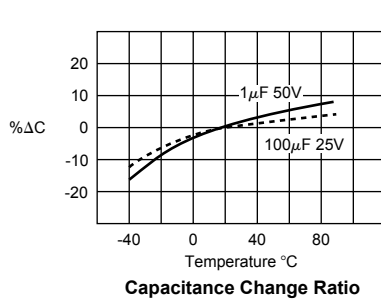
Case vented on diameters 6.3 and greater

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

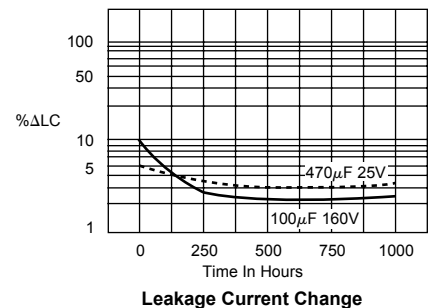
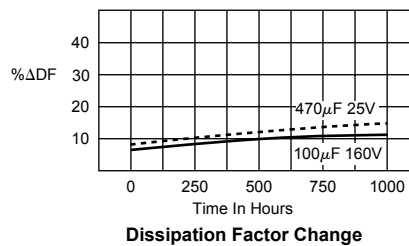
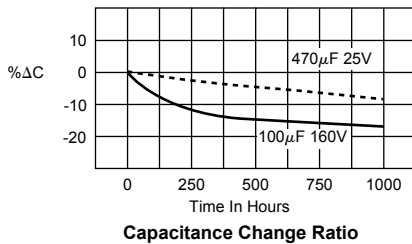
Part Numbering System

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

Temperature Characteristics



Load Life Characteristics



Type SEK 105 °C Radial Leaded Aluminum Electrolytic Capacitors

Ratings

| 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) |
| 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

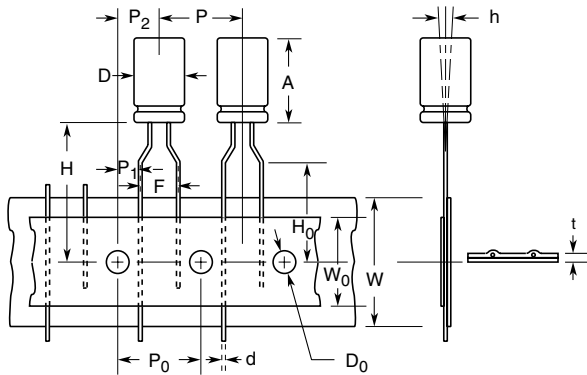


Fig. 2 - Straight Taping (5φ, 6.3φ, 8φ)

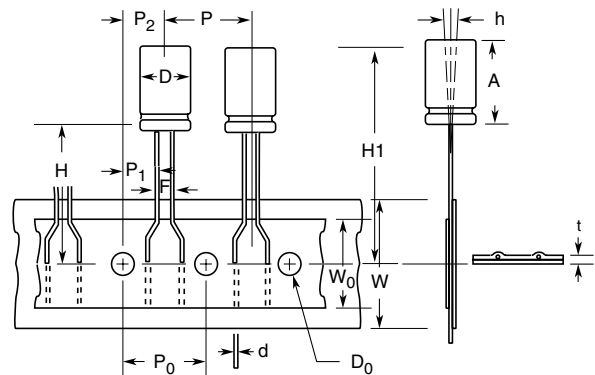


Fig. 3 - Straight Taping (Under 10φ, 12φ, 13φ)

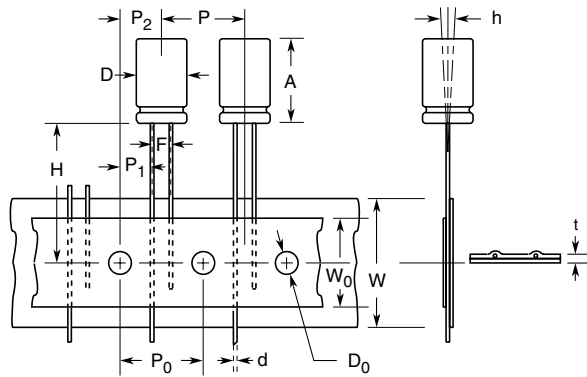
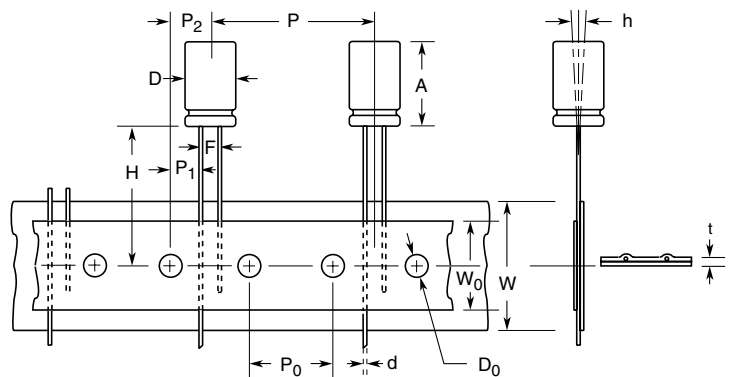


Fig. 4 - Straight Taping (16φ, 18φ)



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

Notice and Disclaimer: All product drawings, descriptions, specifications, statements, information and data (collectively, the "Information") in this datasheet or other publication are subject to change. The customer is responsible for checking, confirming and verifying the extent to which the Information contained in this datasheet or other publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without any guarantee, warranty, representation or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on the knowledge that the Cornell Dubilier company providing such statements ("Cornell Dubilier") has of operating conditions that such Cornell Dubilier company regards as typical for such applications, but are not intended to constitute any guarantee, warranty or representation regarding any such matter – and Cornell Dubilier specifically and expressly disclaims any guarantee, warranty or representation concerning the suitability for a specific customer application, use, storage, transportation, or operating environment. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by Cornell Dubilier with reference to the use of any Cornell Dubilier products is given gratis (unless otherwise specified by Cornell Dubilier), and Cornell Dubilier assumes no obligation or liability for the advice given or results obtained. Although Cornell Dubilier strives to apply the most stringent quality and safety standards regarding the design and manufacturing of its products, in light of the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies or other appropriate protective measures) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage. Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated in such warnings, cautions and notes, or that other safety measures may not be required.