



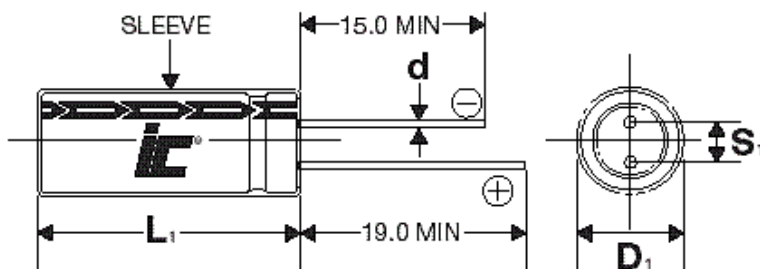
FEATURES

Small Size - Low Profile - Lead Free Leads

APPLICATIONS

Filtering - Bypass - Coupling - Blocking

| | | | | | | | | | | | | | |
|--|----------------|--|------------------|-----|----------------|---------------------------------------|------|----------------------------------|------|------------------|-----|-----|-----|
| Operating Temperature Range | | -40°C to +85°C | | | | | | | | | | | |
| Capacitance Tolerance | | ±20% at 120 Hz, 20°C | | | | | | | | | | | |
| Surge voltage | WVDC | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 400 |
| | SVDC | 7.9 | 13 | 20 | 32 | 44 | 63 | 79 | 125 | 200 | 250 | 300 | 450 |
| Dissipation Factor | WVDC | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 400 |
| | Tan δ | .28 | .24 | .2 | .16 | .14 | .12 | .1 | .08 | .2 | .2 | .2 | .25 |
| Add .02 for every 1000uF above 1000uF | | | | | | | | | | | | | |
| Leakage current | | ≤100 WVDC | | | | ≤100 WVDC | | | | 160 to 400 WVDC | | | |
| | | 1 Minutes | | | | 2 Minutes | | | | 1 Minutes | | | |
| | | .03CV or 4uA, Whichever is greater | | | | .01CV or 3uA, Whichever is greater | | | | .04CV or 100uA | | | |
| Low temperature stability Impedance ratio (120 Hz) | WVDC | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 400 |
| | -25°C to +20°C | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 |
| | -40°C to +20°C | 12 | 10 | 8 | 5 | 4 | 3 | 3 | 3 | 15 | 15 | 15 | 10 |
| Load Life | | 2000 hours at 85°C with rated WVDC and ripple current applied | | | | | | | | | | | |
| | | Capacitance change | | | | | | ≤20% of initial measured value | | | | | |
| | | Dissipation factor | | | | | | ≤200% of maximum specified value | | | | | |
| | | Leakage current | | | | | | ≥100% of maximum specified value | | | | | |
| Shelf Life | | 1000 hours at 105°C with no voltage applied | | | | | | | | | | | |
| | | Capacitance change | | | | | | ≤20% initial measured value | | | | | |
| | | Dissipation factor | | | | | | ≤200% of maximum specified value | | | | | |
| | | Leakage current | | | | | | ≥100% of maximum specified value | | | | | |
| Ripple Current Multipliers | | WVDC | Capacitance (uF) | | Frequency (Hz) | | | | | Temperature (°C) | | | |
| | | | 50 | 120 | 300 | 1k | 10k | +85 | +70 | +60 | | | |
| | | 6.3 to 100V | C<47 | | .75 | 1.0 | 1.35 | 1.57 | 2.0 | 1.0 | 1.3 | 1.5 | |
| | | 6.3 to 100V | 47<C<470 | | .8 | 1.0 | 1.23 | 1.32 | 1.5 | 1.0 | 1.3 | 1.5 | |
| | | 6.3 to 100V | C>470 | | .85 | 1.0 | 1.1 | 1.13 | 1.15 | 1.0 | 1.3 | 1.5 | |
| 160 to 400V | all | | .8 | 1.0 | 1.25 | 1.40 | 1.60 | 1.0 | 1.4 | 1.8 | | | |



| | | | | | | | |
|---|-----|-----|-----|-----|------|-----|-----|
| D | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 |
| S | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| d | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 |

$L_1 = L + 1.5\text{mm Max.}$
 $D_1 = D + 0.5\text{mm Max.}$
 $S_1 = S + 0.5\text{mm}$

SAK

+85°C, Low Profile, 2000 hours

| WVDC | Capacitance (µF) | IC PART NUMBER | Maximum ESR (Ω) 120 Hz, +20°C | Maximum RMS Ripple Current (mA) 120 Hz, +85°C | Dims DxDL (mm) |
|------|------------------|----------------|-------------------------------|---|----------------|
| 6.3 | 330 | 337SAK6R3M | 1.407 | 250 | 6.3x9 |
| 6.3 | 1000 | 108SAK6R3M | 0.464 | 490 | 10x9 |
| 6.3 | 4700 | 478SAK6R3M | 0.12 | 1380 | 16x15 |
| 6.3 | 6800 | 688SAK6R3M | 0.1 | 1640 | 18x15 |
| 6.3 | 10000 | 109SAK6R3M | 0.08 | 1950 | 18x20 |
| 10 | 100 | 107SAK010M | 3.979 | 135 | 5x9 |
| 10 | 220 | 227SAK010M | 1.809 | 220 | 6.3x7 |
| 10 | 330 | 337SAK010M | 1.206 | 300 | 8x9 |
| 10 | 470 | 477SAK010M | 0.847 | 360 | 8x9 |
| 10 | 1000 | 108SAK010M | 0.398 | 620 | 10x12.5 |
| 10 | 2200 | 228SAK010M | 0.211 | 950 | 12.5x15 |
| 10 | 3300 | 338SAK010M | 0.151 | 1270 | 16x15 |
| 10 | 4700 | 478SAK010M | 0.113 | 1530 | 18x15 |
| 10 | 6800 | 688SAK010M | 0.09 | 1830 | 18x20 |
| 10 | 10000 | 109SAK010M | 0.07 | 2230 | 18x25 |
| 16 | 220 | 227SAK016M | 1.507 | 270 | 8x9 |
| 16 | 470 | 477SAK016M | 0.706 | 400 | 10x9 |
| 16 | 2200 | 228SAK016M | 0.181 | 1170 | 16x15 |
| 16 | 3300 | 338SAK016M | 0.131 | 1430 | 18x15 |
| 16 | 4700 | 478SAK016M | 0.099 | 1740 | 18x20 |
| 16 | 6800 | 688SAK016M | 0.08 | 2120 | 18x25 |
| 25 | 47 | 476SAK025M | 5.644 | 110 | 5x9 |
| 25 | 100 | 107SAK025M | 2.653 | 180 | 6.3x9 |
| 25 | 330 | 337SAK025M | 0.804 | 370 | 10x9 |
| 25 | 470 | 477SAK025M | 0.564 | 520 | 10x12.5 |
| 25 | 1000 | 108SAK025M | 0.265 | 820 | 12.5x15 |
| 25 | 2200 | 228SAK025M | 0.151 | 1350 | 18x15 |
| 25 | 3300 | 338SAK025M | 0.111 | 1660 | 18x20 |
| 25 | 4700 | 478SAK025M | 0.085 | 2060 | 18x25 |
| 35 | 33 | 336SAK035M | 7.033 | 100 | 5x9 |
| 35 | 100 | 107SAK035M | 2.321 | 210 | 8x9 |
| 35 | 220 | 227SAK035M | 1.055 | 330 | 10x9 |
| 35 | 330 | 337SAK035M | 0.703 | 460 | 10x12.5 |
| 35 | 470 | 477SAK035M | 0.494 | 570 | 12.5x12.5 |
| 35 | 1000 | 108SAK035M | 0.232 | 990 | 16x15 |
| 35 | 2200 | 228SAK035M | 0.136 | 1520 | 18x20 |
| 50 | 1 | 105SAK050M | 198.944 | 13 | 5x9 |
| 50 | 2.2 | 225SAK050M | 90.429 | 26 | 5x9 |
| 50 | 3.3 | 335SAK050M | 60.286 | 35 | 5x9 |
| 50 | 4.7 | 475SAK050M | 42.328 | 40 | 5x9 |
| 50 | 22 | 226SAK050M | 9.043 | 90 | 5x9 |
| 50 | 33 | 336SAK050M | 6.029 | 120 | 6.3x9 |

| WVDC | Capacitance (µF) | IC PART NUMBER | Maximum ESR (Ω) 120 Hz, +20°C | Maximum RMS Ripple Current (mA) 120 Hz, +85°C | Dims DxDL (mm) |
|------|------------------|----------------|-------------------------------|---|----------------|
| 50 | 47 | 476SAK050M | 4.233 | 140 | 6.3x9 |
| 50 | 100 | 107SAK050M | 1.989 | 240 | 10x9 |
| 50 | 330 | 337SAK050M | 0.603 | 520 | 12.5x12.5 |
| 50 | 470 | 477SAK050M | 0.423 | 730 | 16x15 |
| 50 | 1000 | 108SAK050M | 0.199 | 1180 | 18x20 |
| 50 | 2200 | 228SAK050M | 0.121 | 1750 | 18x25 |
| 63 | 10 | 106SAK063M | 16.579 | 70 | 5x9 |
| 63 | 22 | 226SAK063M | 7.536 | 110 | 6.3x9 |
| 63 | 33 | 336SAK063M | 5.024 | 135 | 6.3x9 |
| 63 | 47 | 476SAK063M | 3.527 | 175 | 8x9 |
| 63 | 100 | 107SAK063M | 1.658 | 300 | 10x12.5 |
| 63 | 220 | 227SAK063M | 0.754 | 470 | 12.5x12.5 |
| 63 | 330 | 337SAK063M | 0.502 | 600 | 12.5x15 |
| 63 | 470 | 477SAK063M | 0.353 | 840 | 18x15 |
| 63 | 1000 | 108SAK063M | 0.166 | 1410 | 18x25 |
| 100 | 1 | 105SAK100M | 132.629 | 21 | 5x9 |
| 100 | 2.2 | 225SAK100M | 6.029 | 30 | 5x9 |
| 100 | 3.3 | 335SAK100M | 40.191 | 40 | 5x9 |
| 100 | 4.7 | 475SAK100M | 28.219 | 50 | 5x9 |
| 100 | 10 | 106SAK100M | 13.263 | 80 | 6.3x9 |
| 100 | 22 | 226SAK100M | 6.029 | 135 | 8x9 |
| 100 | 33 | 336SAK100M | 4.019 | 170 | 10x9 |
| 100 | 47 | 476SAK100M | 2.822 | 230 | 10x12.5 |
| 100 | 100 | 107SAK100M | 1.326 | 370 | 12.5x15 |
| 100 | 220 | 227SAK100M | 0.603 | 620 | 16x15 |
| 100 | 330 | 337SAK100M | 0.402 | 830 | 18x20 |
| 100 | 470 | 477SAK100M | 0.282 | 1080 | 18x25 |
| 160 | 47 | 476SAK160M | 7.055 | 420 | 16x15 |
| 160 | 68 | 686SAK160M | 4.876 | 490 | 18x15 |
| 160 | 100 | 107SAK160M | 3.316 | 590 | 18x20 |
| 200 | 33 | 336SAK200M | 10.048 | 350 | 16x15 |
| 200 | 47 | 476SAK200M | 7.055 | 420 | 18x15 |
| 200 | 150 | 157SAK200M | 2.21 | 710 | 18x25 |
| 250 | 22 | 226SAK250M | 15.071 | 280 | 16x15 |
| 250 | 33 | 336SAK250M | 10.048 | 350 | 18x15 |
| 250 | 47 | 476SAK250M | 7.055 | 420 | 18x20 |
| 250 | 68 | 686SAK250M | 4.876 | 490 | 18x20 |
| 250 | 100 | 107SAK250M | 3.316 | 590 | 18x25 |
| 400 | 10 | 106SAK400M | 41.447 | 140 | 16x15 |
| 400 | 22 | 226SAK400M | 18.839 | 280 | 18x15 |
| 400 | 33 | 336SAK400M | 12.56 | 350 | 18x20 |
| 400 | 47 | 476SAK400M | 8.818 | 420 | 18x25 |