



FEATURES

Small Size - Low Cost

APPLICATIONS

Filtering - Bypass - Coupling - Blocking

| | | | | | | | | | | | | |
|-----------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------|-----------|------------|-------------------------|-----------|-----------|------------|------------|--|
| Operating Temperature Range | | -40°C to +85°C | | | | | | | | | | |
| Capacitance Tolerance | | +20% at 120 Hz, 20°C | | | | | | | | | | |
| Surge voltage | WVDC | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | | |
| | SVDC | 5.2 | 7.9 | 13 | 20 | 32 | 44 | 63 | 79 | 125 | | |
| Dissipation Factor | WVDC | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | | |
| | tan δ | .35 | .28 | .24 | .2 | .16 | .14 | .12 | .12 | .1 | | |
| Leakage current | | 2 Minutes | | | | | | | | | | |
| | | .01CV or 3uA, Whichever is greater | | | | | | | | | | |
| Low temperature stability Impedance ratio (120 Hz) | Rated WVDC | | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | |
| | -25°C to +20°C | D<8 | 7 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | D≥8 | 7 | 5 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | |
| | -40°C to +20°C | D<8 | 15 | 8 | 6 | 4 | 4 | 3 | 3 | 3 | 3 | |
| D≥8 | | 15 | 10 | 8 | 6 | 4 | 3 | 3 | 3 | 3 | | |
| 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 85°C with no voltage applied | | | | | | | | | | |
| | | Capacitance change | ≤20% of initial measured value | | | | | | | | | |
| | | Dissipation factor | ≤200% of maximum specified value | | | | | | | | | |
| | | Leakage current | ≤100% of maximum specified value | | | | | | | | | |
| Resistance to soldering heat | | Capacitors placed on a 250C hot plate for 30 seconds with their electrode terminations facing downward will fulfill the following conditions after being cooled to room temperature | | | | | | | | | | |
| | | Capacitance change | ≤10% of initial measured value | | | | | | | | | |
| | | Dissipation factor | ≤200% of maximum specified value | | | | | | | | | |
| | | Leakage current | ≤100% of maximum specified value | | | | | | | | | |
| Ripple Current Multipliers | | Frequency (Hz) | | | | | Temperature (°C) | | | | | |
| | | 50 | 120 | 400 | 1k | 10k | 100k | 85 | 70 | 65 | | |
| | | 0.7 | 1.0 | 1.17 | 1.36 | 1.5 | 1.5 | 1.0 | 1.35 | 1.35 | | |



| D | L | W±0.2 | H±0.2 | C±0.2 | R | LL±0.2 | S±0.2 |
|-----|---------------|-------|-------|-------|---------|--------|-------|
| 4 | 5.4 +0.1/-0.2 | 4.3 | 4.3 | 5.0 | 0.5~0.8 | 1.8 | 1.0 |
| 5 | 5.4 +0.1/-0.2 | 5.3 | 5.3 | 6.0 | 0.5~0.8 | 2.1 | 1.4 |
| 6.3 | 5.4 +0.1/-0.2 | 6.6 | 6.6 | 7.3 | 0.5~0.8 | 2.4 | 2.2 |
| 6.3 | 5.8 +0.1/-0.2 | 6.6 | 6.6 | 7.3 | 0.5~0.8 | 2.4 | 2.2 |
| 6.3 | 7.7 +0.1/-0.2 | 6.6 | 6.6 | 7.3 | 0.5~0.8 | 2.4 | 2.2 |
| 8 | 6.2 +0.1/-0.2 | 8.3 | 8.3 | 9.0 | 0.7~1.0 | 2.4 | 3.2 |
| 8 | 10.2+0.1/-0.2 | 8.3 | 8.3 | 9.0 | 0.7~1.0 | 2.8 | 3.2 |
| 10 | 10.2+0.1/-0.2 | 10 | 10 | 11.0 | 0.7~1.0 | 3.2 | 4.6 |

SML

+85°C Standard, 2000 hrs

| WVDC | Capacitance (µF) | IC PART NUMBER | Maximum ESR (Ω) 120 Hz, +20°C | Maximum RMS Ripple Current (mA) 120 Hz, +85°C | Dims DxL (mm) |
|------|------------------|----------------|-------------------------------------|-----------------------------------------------------|---------------|
| 4 | 33 | 336SML004M | 17.58 | 31 | 4x5.4 |
| 4 | 47 | 476SML004M | 12.35 | 37 | 4x5.4 |
| 4 | 100 | 107SML004M | 5.83 | 63 | 5x5.4 |
| 4 | 150 | 157SML004M | 3.868 | 84 | 6.3x5.4 |
| 4 | 220 | 227SML004M | 2.64 | 110 | 6.3x5.4 |
| 4 | 470 | 477SML004M | 1.24 | 150 | 6.3x7.7 |
| 4 | 1000 | 108SML004MD8 | 0.58 | 300 | 8x10.5 |
| 6.3 | 22 | 226SML6R3M | 21.1 | 31 | 4x5.4 |
| 6.3 | 47 | 476SML6R3MD4 | 9.877 | 40 | 4x5.4 |
| 6.3 | 47 | 476SML6R3M | 9.877 | 52 | 5x5.4 |
| 6.3 | 68 | 686SML6R3M | 6.826 | 50 | 5x5.4 |
| 6.3 | 100 | 107SML6R3M | 4.642 | 54 | 5x5.4 |
| 6.3 | 220 | 227SML6R3M | 2.11 | 91 | 6.3x5.8 |
| 6.3 | 330 | 337SML6R3M | 1.407 | 188 | 6.3x7.7 |
| 6.3 | 330 | 337SML6R3MD8 | 1.407 | 190 | 8x6.2 |
| 6.3 | 470 | 477SML6R3M | 0.9877 | 380 | 8x10.5 |
| 6.3 | 1000 | 108SML6R3M | 0.464 | 370 | 8x10.5 |
| 6.3 | 1500 | 158SML6R3M | 0.3095 | 750 | 10x10.5 |
| 10 | 33 | 336SML010MD4 | 12.057 | 34 | 4x5.4 |
| 10 | 33 | 336SML010M | 12.057 | 48 | 5x5.4 |
| 10 | 150 | 157SML010M | 2.653 | 88 | 6.3x5.4 |
| 10 | 220 | 227SML010M | 1.8086 | 250 | 8x6.5 |
| 10 | 470 | 477SML010MD8 | 0.8466 | 390 | 8x10.5 |
| 10 | 1000 | 108SML010M | 0.398 | 580 | 10x10.5 |
| 16 | 10 | 106SML016M | 33.16 | 26 | 4x5.4 |
| 16 | 22 | 226SML016MD4 | 12.057 | 30 | 4x5.4 |
| 16 | 22 | 226SML016M | 12.057 | 44 | 5x5.4 |
| 16 | 47 | 476SML016MD5 | 7.055 | 52 | 5x5.4 |
| 16 | 47 | 476SML016M | 7.055 | 75 | 6.3x5.4 |
| 16 | 68 | 686SML016M | 4.876 | 78 | 6.3x5.4 |
| 16 | 100 | 107SML016M | 3.316 | 103 | 6.3x5.4 |
| 16 | 150 | 157SML016M | 2.21 | 135 | 6.3x7.7 |
| 16 | 220 | 227SML016M | 1.507 | 162 | 6.3x7.7 |
| 16 | 220 | 227SML016MD8 | 1.507 | 280 | 8x10.5 |
| 16 | 470 | 477SML016M | 0.56 | 350 | 8x10.5 |
| 16 | 470 | 477SML016MD10 | 0.7055 | 330 | 10x10.5 |
| 25 | 22 | 226SML025MD5 | 12.06 | 38 | 5x5.4 |
| 25 | 33 | 336SML025MD5 | 8.038 | 46 | 5x5.4 |
| 25 | 33 | 336SML025M | 8.038 | 67 | 6.3x5.4 |
| 25 | 47 | 476SML025M | 5.644 | 70 | 6.3x5.4 |
| 25 | 100 | 107SML025M | 2.653 | 145 | 8x6.2 |
| 25 | 220 | 227SML025MD8 | 1.206 | 230 | 8x10.5 |
| 25 | 220 | 227SML025M | 1.206 | 250 | 10x7.7 |
| 25 | 330 | 337SML025M | 0.7 | 270 | 8x10.5 |
| 25 | 330 | 337SML025MD10 | 0.7 | 340 | 10x10.5 |
| 25 | 470 | 477SML025M | 0.49 | 430 | 10x10.5 |
| 35 | 4.7 | 475SML035M | 49.38 | 20 | 4x5.4 |
| 35 | 10 | 106SML035MD4 | 23.21 | 24 | 4x5.4 |
| 35 | 10 | 106SML035M | 23.21 | 34 | 5x5.4 |
| 35 | 22 | 226SML035M | 10.55 | 59 | 6.3x5.4 |
| 35 | 33 | 336SML035M | 7.033 | 65 | 6.3x5.4 |
| 35 | 47 | 476SML035M | 4.938 | 70 | 6.3x5.8 |
| 35 | 47 | 476SML035MD8 | 4.938 | 105 | 8x6.2 |
| 35 | 100 | 107SML035M | 2.321 | 132 | 6.3x7.7 |
| 35 | 150 | 157SML035MD8 | 1.547 | 220 | 8x10.5 |
| 35 | 220 | 227SML035M | 0.9 | 270 | 8x10.5 |
| 35 | 220 | 227SML035MD10 | 0.9 | 310 | 10x10.5 |
| 35 | 330 | 337SML035M | 0.703 | 360 | 10x10.5 |

SML

+85°C Standard, 2000 hrs

| WVDC | Capacitance (µF) | IC PART NUMBER | Maximum ESR (Ω) 120 Hz, +20°C | Maximum RMS Ripple Current (mA) 120 Hz, +85°C | Dims DxL (mm) |
|------|------------------|-------------------------------|-------------------------------------|-----------------------------------------------------|---------------|
| 50 | 0.1 | 104SML050MD4 | 1989.44 | 3.2 | 4x5.4 |
| 50 | 0.22 | 224SML050MD4 | 904.29 | 4.7 | 4x5.4 |
| 50 | 0.33 | 334SML050MD4 | 602.86 | 5.7 | 4x5.4 |
| 50 | 0.47 | 474SML050MD4 | 423.28 | 6.8 | 4x5.4 |
| 50 | 1 | 105SML050MD4 | 198.944 | 10 | 4x5.4 |
| 50 | 2.2 | 225SML050MD4 | 90.429 | 15 | 4x5.4 |
| 50 | 3.3 | 335SML050M | 60.29 | 18 | 4x5.4 |
| 50 | 4.7 | 475SML050M | 42.33 | 24 | 4x5.4 |
| 50 | 4.7 | 475SML050MD5 | 42.33 | 25 | 5x5.4 |
| 50 | 10 | 106SML050MD5 | 19.894 | 41 | 5x5.4 |
| 50 | 10 | 106SML050M | 19.894 | 43 | 6.3x5.4 |
| 50 | 22 | 226SML050M | 9.043 | 71 | 6.3x5.4 |
| 50 | 33 | 336SML050M | 6.029 | 85 | 6.3x7.7 |
| 50 | 33 | 336SML050MD8 | 6.029 | 95 | 8x6.2 |
| 50 | 47 | 476SML050M | 4.23 | 105 | 6.3x7.7 |
| 50 | 47 | 476SML050MD8 | 4.23 | 140 | 8x10.5 |
| 50 | 100 | 107SML050M | 1.99 | 200 | 8x10.5 |
| 50 | 100 | 107SML050MD10 | 1.99 | 250 | 10x10.5 |
| 50 | 220 | 227SML050M | 0.9043 | 320 | 10x10.5 |
| 63 | 10 | 106SML063M | 19.89 | 34 | 6.3x5.4 |
| 63 | 22 | 226SML063M | 9.04 | 70 | 6.3x7.7 |
| 63 | 22 | 226SML063MD8 | 9.043 | 120 | 8x10.5 |
| 63 | 33 | 336SML063M | 6.03 | 117 | 8x10.5 |
| 63 | 47 | 476SML063M | 4.23 | 170 | 8x10.5 |
| 63 | 100 | 107SML063M | 1.99 | 280 | 10x10.5 |
| 100 | 3.3 | 335SML100M | 50.24 | 28 | 6.3x5.8 |
| 100 | 4.7 | 475SML100MD8 | 3.53 | 60 | 8x10.5 |
| 100 | 10 | 106SML100M | 16.57 | 50 | 6.3x7.7 |
| 100 | 10 | 106SML100MD8 | 16.579 | 85 | 8x10.5 |
| 100 | 22 | 226SML100M | 7.54 | 120 | 8x10.5 |
| 100 | 33 | 336SML100M | 5.02 | 100 | 8x10.5 |
| 100 | 47 | 476SML100M | 3.5274 | 130 | 10x10.5 |