

Aluminum Electrolytic Capacitors Surface Mount AEC-Q200

SREL-A series

MERITEK

FEATURE

- Low Impedance Series
- Applications: Monitor/Computer, Home Appliance, OA/HA/Communication, Industrial, Automobile, Meter.
- AEC-Q200 Compliant
- Load life: 105°C



| Diameter (mm) | Load Life (Hours) |
|---------------|-------------------|
| 4.0 ~ 6.3 | 3000 |
| 8.0 ~ 10.0 | 5000 |



SPECIFICATIONS

| Item | Characteristic | | | | | | | |
|---|---|----------------------------------|-----------|------------|-------------|-----------|--|--|
| Operating Temperature | -55 ~ 105°C | | | | | | | |
| Rated Voltage | 6.3 ~ 50VDC | | | | | | | |
| Nominal Capacitance | 1 ~ 1000μF, ±20% (at 20°C, 120Hz) | | | | | | | |
| Leakage Current | $I_L \leq 0.01CV$ or $3\mu A$ whichever is greater after 2 minutes at 20°C I_L : Leakage Current (μA) C: Nominal Capacitance (μF) V: Rated Voltage (V) | | | | | | | |
| Ripple Current Coefficient, Frequency | Frequency (Hz) | 120 | 1K | 10K | 100K | -- | -- | |
| | Coefficient | 0.70 | 0.80 | 0.90 | 1.00 | -- | -- | |
| Dissipation Factor at 20°C, 120Hz | Working Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | |
| | Dissipation Factor | 0.26 | 0.19 | 0.16 | 0.14 | 0.12 | 0.12 | |
| Low Temperature Stability, Impedance Ratio at 120Hz | Working Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | |
| | Z-25°C / Z+20°C | 2 | 2 | 2 | 2 | 2 | 2 | |
| | Z-40°C / Z+20°C | 3 | 3 | 3 | 3 | 3 | 3 | |
| Load Life | Capacitance | $\leq \pm 30\%$ of initial value | | | | | Apply Working Voltage for Rated Load Life / Temperature Stabilized at +20°C. | |
| | Dissipation Factor | $\leq 200\%$ of initial value | | | | | | |
| | Leakage Current | \leq Initial specified value | | | | | | |
| Shelf Life | Capacitance | $\leq \pm 30\%$ of initial value | | | | | After storage condition without voltage applied for 1000 hours at Rated Temperature, Stabilizing for 1 to 2 hours. | |
| | Dissipation Factor | $\leq 200\%$ of initial value | | | | | | |
| | Leakage Current | \leq Initial specified value | | | | | | |
| Resistance to Soldering Heat | Capacitance | $\leq \pm 20\%$ of initial value | | | | | For other procedures than those specified, Soldering iron method: Temperature: 260±5°C. Application time of soldering iron: 10 sec | |
| | Dissipation Factor | \leq specified value | | | | | | |
| | Leakage Current | \leq specified value | | | | | | |

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STANDARD RATING

| Rated Voltage | Rated Cap | Case Size | DF Tan δ | Ripple Current | Max Impedance |
|--------------------|------------|-----------|-----------------|----------------|---------------|
| (V _{DC}) | (μ F) | (mm) | (%) | (mA/rms) | (Ω) |
| 6.3 | 22 | 4x5.4 | 0.26 | 90 | 1.93 |
| | 33 | 4x5.4 | 0.26 | 90 | 1.93 |
| | 47 | 5x5.4 | 0.26 | 160 | 1.00 |
| | 100 | 6.3x5.4 | 0.26 | 240 | 0.52 |
| | 150 | 6.3x7.7 | 0.26 | 240 | 0.30 |
| | 220 | 6.3x5.4 | 0.26 | 240 | 0.52 |
| | 220 | 6.3x7.7 | 0.26 | 240 | 0.30 |
| | 220 | 8x10.2 | 0.26 | 600 | 0.26 |
| | 330 | 8x10.2 | 0.26 | 600 | 0.16 |
| | 470 | 8x10.2 | 0.26 | 600 | 0.16 |
| | 680 | 10x10.2 | 0.26 | 850 | 0.12 |
| | 1000 | 10x10.2 | 0.26 | 850 | 0.12 |
| 10 | 22 | 4x5.4 | 0.19 | 90 | 1.93 |
| | 33 | 5x5.4 | 0.19 | 160 | 1.00 |
| | 47 | 6.3x5.4 | 0.19 | 190 | 0.52 |
| | 100 | 6.3x5.4 | 0.19 | 190 | 0.52 |
| | 100 | 6.3x7.7 | 0.19 | 190 | 0.52 |
| | 150 | 6.3x5.4 | 0.19 | 190 | 0.52 |
| | 150 | 6.3x7.7 | 0.19 | 240 | 0.34 |
| | 220 | 6.3x7.7 | 0.19 | 240 | 0.34 |
| | 220 | 8x6.2 | 0.19 | 240 | 0.34 |
| | 220 | 8x10.2 | 0.19 | 600 | 0.16 |
| | 330 | 8x10.2 | 0.19 | 600 | 0.16 |
| | 470 | 8x10.2 | 0.19 | 600 | 0.16 |
| | 470 | 10x10.2 | 0.19 | 850 | 0.12 |
| | 680 | 10x10.2 | 0.19 | 850 | 0.12 |
| | 1000 | 10x10.2 | 0.19 | 850 | 0.12 |
| 16 | 10 | 4x5.4 | 0.16 | 90 | 1.93 |
| | 22 | 5x5.4 | 0.16 | 160 | 1.00 |
| | 33 | 6.3x5.4 | 0.16 | 240 | 0.52 |
| | 47 | 5x5.4 | 0.16 | 160 | 1.00 |
| | 47 | 6.3x5.4 | 0.16 | 240 | 0.52 |
| | 100 | 6.3x5.4 | 0.16 | 240 | 0.52 |
| | 100 | 6.3x7.7 | 0.16 | 280 | 0.34 |
| | 100 | 8x10.2 | 0.16 | 300 | 0.29 |
| | 150 | 6.3x7.7 | 0.16 | 280 | 0.34 |
| | 150 | 8x10.2 | 0.16 | 370 | 0.22 |
| | 220 | 8x10.2 | 0.16 | 370 | 0.22 |
| | 330 | 8x10.2 | 0.16 | 600 | 0.16 |
| | 470 | 8x10.2 | 0.16 | 600 | 0.16 |
| | 470 | 10x10.2 | 0.16 | 850 | 0.12 |
| | 680 | 10x10.2 | 0.16 | 850 | 0.12 |

Note: Ripple Current measured at 105°C/100KHz, Impedance at 20°C/100KHz

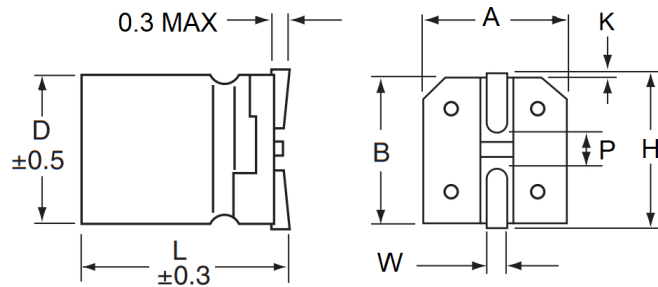
| Rated Voltage | Rated Cap | Case Size | DF Tan δ | Ripple Current | Max Impedance | |
|--------------------|------------|-----------|-----------------|----------------|---------------|------|
| (V _{DC}) | (μ F) | (mm) | (%) | (mA/rms) | (Ω) | |
| 25 | 10 | 4x5.4 | 0.14 | 90 | 1.93 | |
| | 22 | 5x5.4 | 0.14 | 160 | 1.00 | |
| | 33 | 6.3x5.4 | 0.14 | 240 | 0.52 | |
| | 47 | 6.3x5.4 | 0.14 | 240 | 0.52 | |
| | 68 | 6.3x7.7 | 0.14 | 280 | 0.34 | |
| | 100 | 6.3x7.7 | 0.14 | 300 | 0.34 | |
| | 150 | 8x10.2 | 0.14 | 600 | 0.16 | |
| | 220 | 8x10.2 | 0.14 | 600 | 0.16 | |
| | 330 | 10x10.2 | 0.14 | 850 | 0.12 | |
| | 470 | 10x10.2 | 0.14 | 850 | 0.12 | |
| | 35 | 4.7 | 4x5.4 | 0.12 | 90 | 1.93 |
| | | 10 | 5x5.4 | 0.12 | 160 | 1.00 |
| 15 | | 5x5.4 | 0.12 | 160 | 1.00 | |
| 22 | | 5x5.4 | 0.12 | 160 | 1.00 | |
| 33 | | 6.3x5.4 | 0.12 | 240 | 0.52 | |
| 47 | | 6.3x5.4 | 0.12 | 240 | 0.52 | |
| 47 | | 6.3x7.7 | 0.12 | 280 | 0.34 | |
| 47 | | 8x6.2 | 0.12 | 300 | 0.34 | |
| 47 | | 8x10.2 | 0.12 | 280 | 0.34 | |
| 68 | | 6.3x7.7 | 0.12 | 280 | 0.34 | |
| 100 | | 6.3x7.7 | 0.12 | 230 | 0.40 | |
| 100 | | 8x10.2 | 0.12 | 600 | 0.16 | |
| 100 | | 10x10.2 | 0.12 | 670 | 0.16 | |
| 150 | | 8x10.2 | 0.12 | 600 | 0.16 | |
| 150 | | 10x10.2 | 0.12 | 850 | 0.12 | |
| 220 | | 8x10.2 | 0.12 | 600 | 0.16 | |
| 220 | | 10x10.2 | 0.12 | 850 | 0.12 | |
| 330 | | 10x10.2 | 0.12 | 850 | 0.12 | |
| 50 | 1.0 | 4x5.4 | 0.12 | 60 | 5.00 | |
| | 2.2 | 4x5.4 | 0.12 | 60 | 5.00 | |
| | 3.3 | 4x5.4 | 0.12 | 60 | 5.00 | |
| | 4.7 | 5x5.4 | 0.12 | 95 | 4.00 | |
| | 10 | 6.3x5.4 | 0.12 | 140 | 2.00 | |
| | 22 | 6.3x5.4 | 0.12 | 70 | 2.00 | |
| | 22 | 6.3x7.7 | 0.12 | 230 | 1.30 | |
| | 33 | 8x10.2 | 0.12 | 350 | 0.34 | |
| | 47 | 6.3x7.7 | 0.12 | 230 | 1.30 | |
| | 47 | 8x10.2 | 0.12 | 350 | 0.34 | |
| | 47 | 10x10.2 | 0.12 | 670 | 0.18 | |
| | 68 | 8x10.2 | 0.12 | 350 | 0.34 | |
| | 68 | 10x10.2 | 0.12 | 670 | 0.18 | |
| | 100 | 8x10.2 | 0.12 | 350 | 0.34 | |
| | 100 | 10x10.2 | 0.12 | 670 | 0.18 | |
| | 150 | 10x10.2 | 0.12 | 670 | 0.18 | |
| | 220 | 10x10.2 | 0.12 | 670 | 0.18 | |

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DIMENSION



Unit: mm

| D | L | A ±0.2 | B Max | H Max | W | P ±0.2 | K |
|----------|------|--------|-------|-------|----------|--------|----------------|
| 4.0 (D) | 5.4 | 4.3 | 5.0 | 5.5 | 0.65±0.1 | 1.0 | 0.35+0.15/-0.2 |
| 5.0 (E) | 5.4 | 5.3 | 6.0 | 6.5 | 0.65±0.1 | 1.5 | 0.35+0.15/-0.2 |
| 6.3 (F) | 5.4 | 6.6 | 7.3 | 7.8 | 0.65±0.1 | 2.1 | 0.35+0.15/-0.2 |
| 6.3 (F) | 7.7 | 6.6 | 7.3 | 7.8 | 0.65±0.1 | 2.1 | 0.35+0.15/-0.2 |
| 8.0 (H) | 6.2 | 8.3 | 9.0 | 9.5 | 0.65±0.1 | 2.2 | 0.35+0.15/-0.2 |
| 8.0 (H) | 10.2 | 8.3 | 9.1 | 10.0 | 0.90±0.2 | 3.1 | 0.70±0.20 |
| 10.0 (J) | 10.2 | 10.3 | 11.1 | 12.0 | 0.90±0.2 | 4.6 | 0.70±0.20 |

PART NUMBERING SYSTEM

SREL (1) 1H (2) 221 (3) A (4) J102 (5)

| No | Item | Code | Description |
|-----|---------------|------|--|
| (1) | Product Code | SREL | Aluminum Electrolytic Capacitors, SMD type, 3000, 5000 Hrs 105°C |
| (2) | Rated Voltage | 1H | 50VDC DC Voltage Code |
| (3) | Capacitance | 221 | 220µF ±20% (M) First two digits: significant, Third: Multiplier |
| (4) | Series Code | A | AEC-Q200 Compliant Series |
| (5) | Size Code | J102 | 10x10.2mm DxL (mm) |

| Voltage | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 | 500 |
|---------|----|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 0G | 0J | 1A | 1C | 1E | 1V | 1H | 1J | 2A | 2C | 2D | 2E | 2V | 2G | 2W | 2H |

| Diameter | 4 | 5 | 6.3 | 8 | 10 | 12.5 | 14.5 | 16 | 18 | 20 | 22 | 25 |
|----------|---|---|-----|---|----|------|------|----|----|----|----|----|
| Code | D | E | F | H | J | K | U | L | M | N | P | Q |

*Specifications subject to change without notice.