

Type SKA Axial Leaded Aluminum Electrolytic Capacitors

85 °C Extended Life General Purpose Capacitor



Type SKA is an axial leaded, 85 °C, 2000 hour extended life general purpose capacitor with a high CV per case size rating. It is suitable for consumer electronic products such as radio and TV applications.

Highlights

- General purpose
- High CV per case size
- Miniature Size
- Available on T&R or Ammo Pack

Specifications

Capacitance Range: 0.47 to 15,000 μF
Voltage Range: 6.3 to 450 WVdc
Capacitance Tolerance: $\pm 20\%$
Operating Temperature Range: $-40\text{ }^{\circ}\text{C}$ to $85\text{ }^{\circ}\text{C}$
Dissipation Factor:

| Rated Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 - 350 | 400 - 450 |
|-------------------|------|-----|------|------|------|------|------|------|-----------|-----------|
| $\tan(\delta)$ | 0.24 | 0.2 | 0.17 | 0.15 | 0.12 | 0.10 | 0.10 | 0.10 | 0.20 | 0.25 |

For capacitance $> 1,000\text{ }\mu\text{F}$, add .002 for every increase of 1,000 μF at 120 Hz, 20 °C

DC Leakage Current: 6.3 to 100 Vdc; $I = .01CV$ or $3\text{ }\mu\text{A}$ @ 5 minutes
 $> 100\text{ Vdc}$; $I = .01CV + 100\text{ }\mu\text{A}$
 C = Capacitance in μF
 V = Rated voltage
 I = Leakage current in μA



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).

Ripple Current Multipliers:

| Rated WVdc | Ripple Multipliers | | |
|------------|--------------------|--------|-------|
| | 60 Hz | 120 Hz | 1 kHz |
| 6 to 25 | 0.85 | 1.0 | 1.10 |
| 35 to 100 | 0.80 | 1.0 | 1.15 |
| 160 to 250 | 0.75 | 1.0 | 1.25 |

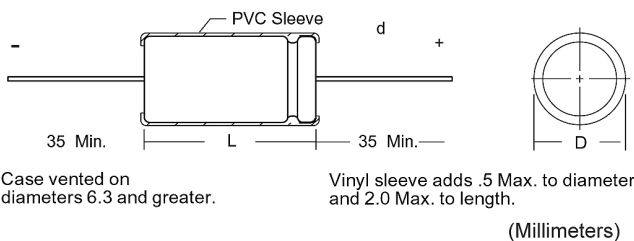
| Ambient Temperature | +65 °C | +75 °C | +85 °C |
|---------------------|--------|--------|--------|
| Ripple Multiplier | 1.25 | 1.14 | 1.00 |

QA Stability Test:

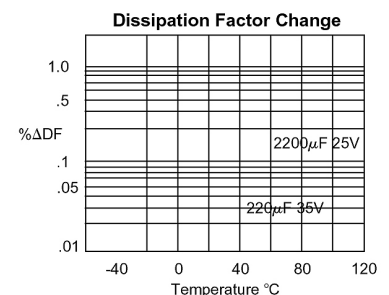
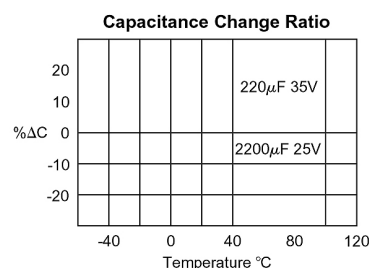
Apply WVdc for 2,000 h at 85 °C

- Capacitance change $\leq 20\%$ from initial limits
- DC leakage current meets initial limits
- ESR $\leq 150\%$ of initial measured value

Outline Drawing

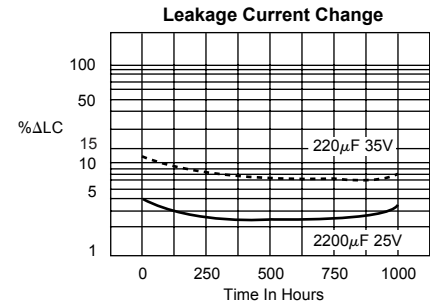
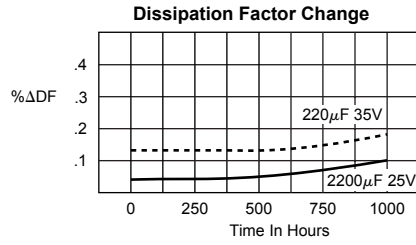
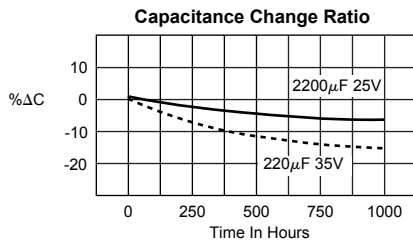


Temperature Characteristics



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Load Life Characteristics



Ratings

| Cap (μF) | Catalog Part Number | Max ESR | | Max LC 5 Min. (μA) | Size | | |
|---------------------------------|------------------------|------------------------|-------------------------|--------------------------|-----------------------|---------------------|---------------------|
| | | 120 Hz 25 °C (Ω) | 120 Hz 85 °C (mA) | | Diameter D (mm) | Length L (mm) | Lead Wire (d) |
| 6.3 WVdc (8 Vdc Surge) | | | | | | | |
| 47 | SKA470M6R3 | 10.60 | 65 | 3.0 | 5.0 | 12.5 | 0.6 |
| 100 | SKA101M6R3 | 5.00 | 116 | 7.0 | 6.0 | 12.5 | 0.6 |
| 220 | SKA221M6R3 | 1.33 | 204 | 13.9 | 6.3 | 16.0 | 0.6 |
| 330 | SKA331M6R3 | 1.10 | 300 | 20.8 | 8.0 | 16.0 | 0.6 |
| 470 | SKA471M6R3 | 0.62 | 396 | 29.3 | 8.0 | 16.0 | 0.6 |
| 1,000 | SKA102M6R3 | 0.30 | 500 | 63.0 | 10.0 | 20.0 | 0.6 |
| 2,200 | SKA222M6R3 | 0.14 | 826 | 138.6 | 13.0 | 25.0 | 0.6 |
| 3,300 | SKA332M6R3 | 0.10 | 1020 | 207.9 | 13.0 | 30.0 | 0.6 |
| 10,000 | SKA103M6R3 | 0.07 | 1450 | 630.0 | 18.0 | 45.0 | 0.8 |
| 15,000 | SKA153M6R3 | 0.06 | 1800 | 945.0 | 22.0 | 40.0 | 0.8 |
| 10 WVdc (13 Vdc Surge) | | | | | | | |
| 47 | SKA470M010 | 6.94 | 75 | 5 | 5 | 12.5 | 0.6 |
| 100 | SKA101M010 | 3.26 | 180 | 10 | 6 | 16.0 | 0.6 |
| 220 | SKA221M010 | 1.48 | 204 | 22 | 8 | 16.0 | 0.6 |
| 330 | SKA331M010 | 0.99 | 249 | 33 | 8 | 16.0 | 0.6 |
| 470 | SKA471M010 | 0.67 | 400 | 47 | 8 | 20.0 | 0.6 |
| 1,000 | SKA102M010 | 0.33 | 585 | 100 | 10 | 21.0 | 0.6 |
| 2,200 | SKA222M010 | 0.15 | 920 | 220 | 13 | 25.0 | 0.6 |
| 3,300 | SKA332M010 | 0.10 | 1090 | 330 | 13 | 30.0 | 0.6 |
| 4,700 | SKA472M010 | 0.08 | 1200 | 470 | 16 | 30.0 | 0.8 |
| 16 WVdc (20 Vdc Surge) | | | | | | | |
| 33 | SKA330M016 | 6.84 | 60 | 5.3 | 6 | 12.5 | 0.6 |
| 47 | SKA470M016 | 4.80 | 70 | 7.5 | 6 | 12.5 | 0.6 |
| 100 | SKA101M016 | 2.76 | 125 | 16.0 | 6 | 16.0 | 0.6 |
| 220 | SKA221M016 | 1.27 | 221 | 35.2 | 8 | 16.0 | 0.6 |
| 330 | SKA331M016 | 0.85 | 350 | 52.8 | 8 | 20.0 | 0.6 |
| 470 | SKA471M016 | 0.53 | 440 | 75.2 | 10 | 17.0 | 0.6 |
| 1,000 | SKA102M016 | 0.21 | 680 | 180.0 | 10 | 26.0 | 0.6 |
| 2,200 | SKA222M016 | 0.11 | 1000 | 352.0 | 13 | 30.0 | 0.6 |
| 3,300 | SKA332M016 | 0.10 | 1200 | 528.0 | 16 | 30.0 | 0.8 |
| 4,700 | SKA472M016 | 0.07 | 1360 | 752.0 | 16 | 40.0 | 0.8 |
| 25 WVdc (32 Vdc Surge) | | | | | | | |
| 22 | SKA220M025 | 10.05 | 53 | 5.5 | 6 | 12.5 | 0.6 |
| 33 | SKA330M025 | 6.70 | 77 | 8.3 | 6 | 12.5 | 0.6 |
| 47 | SKA470M025 | 4.70 | 91 | 11.8 | 6 | 12.5 | 0.6 |
| 100 | SKA101M025 | 2.21 | 158 | 25.0 | 8 | 16.0 | 0.6 |
| 220 | SKA221M025 | 1.01 | 257 | 55.0 | 8 | 20.0 | 0.6 |
| 330 | SKA331M025 | 0.76 | 367 | 82.5 | 10 | 16.0 | 0.6 |
| 470 | SKA471M025 | 0.47 | 480 | 118.0 | 10 | 21.0 | 0.6 |
| 1,000 | SKA102M025 | 0.22 | 850 | 250.0 | 13 | 24.0 | 0.6 |
| 2,200 | SKA222M025 | 0.11 | 1200 | 550.0 | 16 | 30.0 | 0.8 |
| 3,300 | SKA332M025 | 0.09 | 1300 | 825.0 | 16 | 40.0 | 0.8 |
| 4,700 | SKA472M025 | 0.07 | 1500 | 1175.0 | 18 | 42.0 | 0.8 |

| Cap (μF) | Catalog Part Number | Max ESR | | Max LC 5 Min. (μA) | Size | | |
|---------------------------------|------------------------|------------------------|-------------------------|--------------------------|-----------------------|---------------------|---------------------|
| | | 120 Hz 25 °C (Ω) | 120 Hz 85 °C (mA) | | Diameter D (mm) | Length L (mm) | Lead Wire (d) |
| 35 WVdc (44 Vdc Surge) | | | | | | | |
| 10 | SKA100M035 | 17.68 | 35 | 3.5 | 5 | 12.5 | 0.6 |
| 22 | SKA220M035 | 8.08 | 53 | 7.7 | 6 | 12.5 | 0.6 |
| 33 | SKA330M035 | 5.54 | 70 | 11.6 | 6 | 16.0 | 0.6 |
| 47 | SKA470M035 | 3.76 | 121 | 16.5 | 6 | 16.0 | 0.6 |
| 100 | SKA101M035 | 1.77 | 194 | 35.0 | 8 | 16.0 | 0.6 |
| 220 | SKA221M035 | 0.80 | 335 | 77.0 | 10 | 16.0 | 0.6 |
| 330 | SKA331M035 | 0.54 | 440 | 115.5 | 10 | 21.0 | 0.6 |
| 470 | SKA471M035 | 0.38 | 550 | 164.5 | 10 | 26.0 | 0.6 |
| 1,000 | SKA102M035 | 0.18 | 992 | 350.0 | 13 | 32.0 | 0.6 |
| 2,200 | SKA222M035 | 0.09 | 1250 | 770.0 | 16 | 40.0 | 0.8 |
| 3,300 | SKA332M035 | 0.07 | 1400 | 1155.0 | 18 | 42.0 | 0.8 |
| 4,700 | SKA472M035 | 0.06 | 1600 | 1645.0 | 22 | 40.0 | 0.8 |
| 50 WVdc (63 Vdc Surge) | | | | | | | |
| 10 | SKA100M050 | 14.74 | 36 | 5.0 | 6 | 12.5 | 0.6 |
| 22 | SKA220M050 | 6.70 | 58 | 11.0 | 6 | 16.0 | 0.6 |
| 33 | SKA330M050 | 4.47 | 111 | 16.5 | 6 | 16.0 | 0.6 |
| 47 | SKA470M050 | 3.14 | 130 | 23.5 | 8 | 16 | 0.6 |
| 100 | SKA101M050 | 1.47 | 250 | 50.0 | 8 | 20 | 0.6 |
| 220 | SKA221M050 | 0.67 | 388 | 110.0 | 10 | 20 | 0.6 |
| 330 | SKA331M050 | 0.45 | 433 | 165.0 | 10 | 25 | 0.6 |
| 470 | SKA471M050 | 0.31 | 650 | 235.0 | 13 | 27 | 0.6 |
| 1,000 | SKA102M050 | 0.15 | 1050 | 500.0 | 16 | 30 | 0.8 |
| 2,200 | SKA222M050 | 0.08 | 1300 | 1100.0 | 18 | 40 | 0.8 |
| 3,300 | SKA332M050 | 0.06 | 1500 | 1650.0 | 22 | 40 | 0.8 |
| 4,700 | SKA472M050 | 0.06 | 3305 | 2350.0 | 22 | 40 | 0.8 |
| 63 WVdc (79 Vdc Surge) | | | | | | | |
| 4.7 | SKA4R7M063 | 31.4 | 32 | 3.0 | 6 | 12.5 | 0.6 |
| 10 | SKA100M063 | 14.7 | 51 | 6.3 | 6 | 12.5 | 0.6 |
| 22 | SKA220M063 | 6.7 | 91 | 13.9 | 6 | 16.0 | 0.6 |
| 33 | SKA330M063 | 4.47 | 111 | 20.8 | 8 | 16.0 | 0.6 |
| 47 | SKA470M063 | 3.14 | 133 | 29.6 | 8 | 16.0 | 0.6 |
| 100 | SKA101M063 | 1.47 | 247 | 63.0 | 10 | 17.0 | 0.6 |
| 220 | SKA221M063 | 0.67 | 450 | 138.6 | 10 | 25.0 | 0.6 |
| 330 | SKA331M063 | 0.45 | 550 | 207.9 | 13 | 27.0 | 0.6 |
| 470 | SKA471M063 | 0.31 | 750 | 296.1 | 13 | 32.0 | 0.6 |
| 1,000 | SKA102M063 | 0.15 | 1100 | 630.0 | 16 | 40.0 | 0.8 |
| 2,200 | SKA222M063 | 0.08 | 1400 | 1386.0 | 22 | 40.0 | 0.8 |

Type SKA Axial Leaded Aluminum Electrolytic Capacitors

| Cap (μ F) | Catalog Part Number | Max ESR Max Ripple | | | Size | | |
|-----------------------------------|------------------------|-----------------------|---------------|----------------------|-----------|-----------|-------------|
| | | 120 Hz | 120 Hz | Max LC | Diameter | Length | Lead |
| | | 25 °C (Ω) | 85 °C (mA) | 5 Min. (μ A) | D (mm) | L (mm) | Wire (d) |
| 100 WVdc (125 Vdc Surge) | | | | | | | |
| 0.47 | SKAR47M100 | 250.80 | 5 | 3.0 | 5 | 12.5 | 0.6 |
| 1.0 | SKA010M100 | 117.90 | 12 | 3.0 | 5 | 12.5 | 0.6 |
| 2.2 | SKA2R2M100 | 53.59 | 21 | 3.0 | 6 | 12.5 | 0.6 |
| 3.3 | SKA3R3M100 | 35.73 | 30 | 3.3 | 6 | 12.5 | 0.6 |
| 4.7 | SKA4R7M100 | 25.08 | 39 | 4.7 | 6 | 12.5 | 0.6 |
| 10 | SKA100M100 | 11.79 | 68 | 10.0 | 6 | 16.0 | 0.6 |
| 22 | SKA220M100 | 5.36 | 111 | 22.0 | 8 | 16.0 | 0.6 |
| 33 | SKA330M100 | 3.57 | 136 | 33.0 | 8 | 20.0 | 0.6 |
| 47 | SKA470M100 | 2.51 | 189 | 47.0 | 10 | 21.0 | 0.6 |
| 68 | SKA680M100 | 1.98 | 1260 | 68.0 | 10 | 21.0 | 0.6 |
| 100 | SKA101M100 | 1.18 | 350 | 100.0 | 10 | 26.0 | 0.6 |
| 220 | SKA221M100 | 0.54 | 550 | 220.0 | 13 | 32.0 | 0.6 |
| 330 | SKA331M100 | 0.36 | 700 | 330.0 | 16 | 30.0 | 0.8 |
| 470 | SKA471M100 | 0.25 | 1031 | 470.0 | 25 | 43.0 | 0.8 |
| 1,000 | SKA102M100 | 0.12 | 1447 | 1000.0 | 22 | 40.0 | 0.8 |
| 160 WVdc (200 Vdc Surge) | | | | | | | |
| 1.0 | SKA010M160 | 266.00 | 13 | 101.6 | 6 | 16 | 0.6 |
| 2.2 | SKA2R2M160 | 121.00 | 22 | 103.5 | 6 | 16 | 0.6 |
| 3.3 | SKA3R3M160 | 80.40 | 31 | 105.3 | 8 | 16 | 0.6 |
| 4.7 | SKA4R7M160 | 56.50 | 40 | 107.5 | 8 | 16 | 0.6 |
| 10 | SKA100M160 | 26.60 | 63 | 116.0 | 8 | 20 | 0.6 |
| 22 | SKA220M160 | 12.10 | 108 | 135.2 | 10 | 20 | 0.6 |
| 33 | SKA330M160 | 8.04 | 144 | 152.8 | 10 | 25 | 0.6 |
| 47 | SKA470M160 | 5.65 | 180 | 175.2 | 13 | 30 | 0.6 |
| 100 | SKA101M160 | 2.66 | 270 | 260.0 | 13 | 22 | 0.6 |
| 150 | SKA151M160 | 1.21 | 400 | 340.0 | 16 | 33 | 0.8 |
| 200 WVdc (250 Vdc Surge) | | | | | | | |
| 1.0 | SKA010M200 | 332.0 | 17 | 102.5 | 6 | 16 | 0.6 |
| 2.2 | SKA2R2M200 | 151.0 | 30 | 105.5 | 8 | 16 | 0.6 |
| 3.3 | SKA3R3M200 | 101.0 | 40 | 108.3 | 8 | 16 | 0.6 |
| 4.7 | SKA4R7M200 | 70.6 | 50 | 111.7 | 8 | 16 | 0.6 |
| 10 | SKA100M200 | 33.2 | 80 | 125.0 | 8 | 20 | 0.6 |
| 15 | SKA150M200 | 25.6 | 105 | 137.5 | 10 | 17 | 0.6 |
| 22 | SKA220M200 | 15.1 | 140 | 155.0 | 10 | 20 | 0.6 |
| 33 | SKA330M200 | 10.1 | 175 | 182.5 | 10 | 25 | 0.6 |
| 47 | SKA470M200 | 7.06 | 215 | 217.5 | 13 | 22 | 0.6 |
| 68 | SKA680M200 | 5.58 | 265 | 270.0 | 13 | 32 | 0.6 |
| 100 | SKA101M200 | 3.32 | 340 | 350.0 | 16 | 33 | 0.8 |
| 150 | SKA151M200 | 1.34 | 403 | 475.0 | 16 | 33 | 0.8 |

| Cap (μ F) | Catalog Part Number | Max ESR Max Ripple | | | Size | | |
|-----------------------------------|------------------------|-----------------------|---------------|----------------------|-----------|-----------|-------------|
| | | 120 Hz | 120 Hz | Max LC | Diameter | Length | Lead |
| | | 25 °C (Ω) | 85 °C (mA) | 5 Min. (μ A) | D (mm) | L (mm) | Wire (d) |
| 250 WVdc (300 Vdc Surge) | | | | | | | |
| 1.0 | SKA010M250 | 332.0 | 13 | 102.5 | 6 | 16 | 0.6 |
| 2.2 | SKA2R2M250 | 151.0 | 23 | 105.5 | 8 | 16 | 0.6 |
| 3.3 | SKA3R3M250 | 101.0 | 31 | 108.3 | 8 | 16 | 0.6 |
| 4.7 | SKA4R7M250 | 70.6 | 37 | 111.7 | 8 | 20 | 0.6 |
| 10 | SKA100M250 | 33.2 | 67 | 125.0 | 10 | 17 | 0.6 |
| 22 | SKA220M250 | 15.1 | 118 | 155.0 | 10 | 25 | 0.6 |
| 33 | SKA330M250 | 10.1 | 161 | 182.5 | 13 | 21 | 0.6 |
| 47 | SKA470M250 | 7.06 | 211 | 217.5 | 13 | 32 | 0.6 |
| 100 | SKA101M250 | 3.32 | 419 | 350.0 | 16 | 33 | 0.8 |
| 150 | SKA151M250 | 1.34 | 764 | 475.0 | 18 | 42 | 0.8 |
| 350 WVdc (400 Vdc Surge) | | | | | | | |
| 0.47 | SKAR47M350 | 881.84 | 25 | 101.6 | 8 | 16.5 | 0.6 |
| 1.0 | SKA010M350 | 332.00 | 16 | 104.0 | 8 | 16.0 | 0.6 |
| 2.2 | SKA2R2M350 | 151.00 | 25 | 108.0 | 8 | 16.0 | 0.6 |
| 3.3 | SKA3R3M350 | 101.00 | 31 | 112.0 | 8 | 20.0 | 0.6 |
| 4.7 | SKA4R7M350 | 70.60 | 60 | 117.0 | 10 | 21.0 | 0.6 |
| 10 | SKA100M350 | 33.20 | 75 | 135.0 | 10 | 21.0 | 0.6 |
| 22 | SKA220M350 | 15.10 | 177 | 177.0 | 13 | 21.0 | 0.6 |
| 33 | SKA330M350 | 10.10 | 200 | 216.0 | 13 | 32.0 | 0.6 |
| 47 | SKA470M350 | 7.06 | 240 | 365.0 | 16 | 33.0 | 0.6 |
| 100 | SKA101M350 | 3.32 | 350 | 450.0 | 18 | 42.0 | 0.8 |
| 150 | SKA151M350 | 1.34 | 823 | 625.0 | 20 | 42.0 | 0.8 |
| 400 WVdc (450 Vdc Surge) | | | | | | | |
| 2.2 | SKA2R2M400 | 151 | 55 | 108.8 | 8 | 20 | 0.6 |
| 3.3 | SKA3R3M400 | 101 | 70 | 113.2 | 10 | 21 | 0.6 |
| 4.7 | SKA4R7M400 | 70.6 | 90 | 118.8 | 10 | 26 | 0.6 |
| 10 | SKA100M400 | 33.2 | 150 | 140.0 | 10 | 26 | 0.6 |
| 22 | SKA220M400 | 15.1 | 230 | 188.0 | 13 | 25 | 0.6 |
| 33 | SKA330M400 | 10.1 | 300 | 232.0 | 16 | 28 | 0.6 |
| 47 | SKA470M400 | 7.06 | 318 | 288.0 | 16 | 33 | 0.8 |
| 100 | SKA101M400 | 3.32 | 555 | 500.0 | 20 | 42 | 0.8 |
| 450 WVdc (500 Vdc Surge) | | | | | | | |
| 1.0 | SKA010M450 | 332 | 17 | 104.5 | 8 | 16 | 0.6 |
| 2.2 | SKA2R2M450 | 151 | 30 | 109.9 | 8 | 20 | 0.6 |
| 3.3 | SKA3R3M450 | 101 | 39 | 114.9 | 10 | 21 | 0.6 |
| 4.7 | SKA4R7M450 | 70.6 | 51 | 121.2 | 10 | 26 | 0.6 |
| 10 | SKA100M450 | 33.2 | 89 | 145.0 | 13 | 22 | 0.6 |
| 15 | SKA150M450 | 25.6 | 183 | 167.5 | 13 | 27 | 0.6 |
| 22 | SKA220M450 | 15.1 | 175 | 199.0 | 13 | 30 | 0.6 |
| 33 | SKA330M450 | 10.1 | 241 | 248.5 | 16 | 30 | 0.8 |
| 47 | SKA470M450 | 7.06 | 318 | 311.5 | 18 | 40 | 0.6 |
| 68 | SKA680M450 | 5.58 | 412 | 406.0 | 18 | 40 | 0.8 |
| 100 | SKA101M450 | 3.32 | 555 | 550.0 | 22 | 43 | 0.8 |

Type SKA Axial Leaded Aluminum Electrolytic Capacitors

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OBSOLETE