

Type 3199 Aluminum Electrolytic, Screw Terminals

Screw Terminal Capacitors for Power Output Filtering



With twice the capacitance of Type 3191 capacitor, Type 3199 extends output filtering performance into higher power, especially with cold temperature requirements. Standard encasement is with the capacitor element compressed onto an aluminum peg in the can bottom and a phenolic peg in the top. Optional Rilled construction is available. With rilled construction the element is secured by rills, spoon shaped dimples in the side of the can. Rilled construction offers the industries highest vibration and shock withstanding capability and excellent heat transfer.

Highlights

- Stud mount available
- High current application
- Industrial applications
- Smoothing and filtering
- Audio power supplies

Specifications

| Temperature Range | -55 °C to +85 °C | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--------|--------|---------|---------|-------|------|------|------|------|------|--|-------|--------|--------|---------|---------|------------|------|------|------|------|------|
| Rated Voltage Range | 7.5 Vdc to 75 Vdc | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Range | 3900 µF to 1.2 F | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | -10% +30% -10% +50% | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | $\leq 6\sqrt{CV}$ µA (6 mA max.) at 5 minutes | | | | | | | | | | | | | | | | | | | | | | |
| Ripple Current Multipliers | <p>Ambient Temperature</p> <table border="1"> <tr> <th>45 °C</th> <th>55 °C</th> <th>65 °C</th> <th>75 °C</th> <th>85 °C</th> </tr> <tr> <td>2.24</td> <td>2.00</td> <td>1.73</td> <td>1.41</td> <td>1.00</td> </tr> </table> <p>Frequency</p> <table border="1"> <tr> <th></th> <th>60 Hz</th> <th>120 Hz</th> <th>300 Hz</th> <th>1000 Hz</th> <th>≥10 kHz</th> </tr> <tr> <th>16 – 100 V</th> <td>0.90</td> <td>1.00</td> <td>1.05</td> <td>1.10</td> <td>1.15</td> </tr> </table> | 45 °C | 55 °C | 65 °C | 75 °C | 85 °C | 2.24 | 2.00 | 1.73 | 1.41 | 1.00 | | 60 Hz | 120 Hz | 300 Hz | 1000 Hz | ≥10 kHz | 16 – 100 V | 0.90 | 1.00 | 1.05 | 1.10 | 1.15 |
| 45 °C | 55 °C | 65 °C | 75 °C | 85 °C | | | | | | | | | | | | | | | | | | | |
| 2.24 | 2.00 | 1.73 | 1.41 | 1.00 | | | | | | | | | | | | | | | | | | | |
| | 60 Hz | 120 Hz | 300 Hz | 1000 Hz | ≥10 kHz | | | | | | | | | | | | | | | | | | |
| 16 – 100 V | 0.90 | 1.00 | 1.05 | 1.10 | 1.15 | | | | | | | | | | | | | | | | | | |
| Low Temperature Characteristics | <p>Impedance ratio: $Z_{-20^{\circ}\text{C}}/Z_{+25^{\circ}\text{C}}$</p> <p>$\leq 8$ (16–50 Vdc)</p> <p>≤ 4 (63–75Vdc)</p> | | | | | | | | | | | | | | | | | | | | | | |
| Endurance Life Test | <p>Endurance, 5000 h at rated voltage and 85 °C</p> <p>Δ Capacitance: ±10%</p> <p>ESR ≤ 200% of limit</p> <p>DCL ≤ 100% of limit</p> | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life Test | <p>Storage, 500 h at 85 °C</p> <p>Δ Capacitance: ±10%</p> <p>ESR ≤ 175% of limit</p> <p>DCL ≤ 200% of limit</p> | | | | | | | | | | | | | | | | | | | | | | |
| Vibration | <p>10 to 500 Hz, 0.75 mm or 10 g* if less, 3 directions, 2 h ea</p> <p>Δ Capacitance: ±5%</p> <p>no visible damage or leakage</p> <p>*15 g if rilled construction</p> | | | | | | | | | | | | | | | | | | | | | | |
| Regulatory Information | | | | | | | | | | | | | | | | | | | | | | | |

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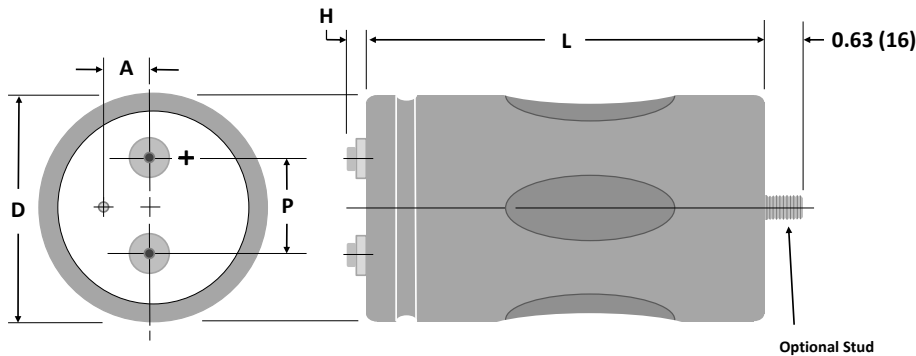
Screw Terminal Capacitors for Power Output Filtering

Part Numbering System

| | | | | | | | |
|-------------------|----------------------|--|---|--|---|---|--|
| 3199 ↓ Type | BA ↓ Case Code | 393 ↓ Capacitance 393=39000 μF 125=1.2 F | M ↓ Tolerance M= ±20% S= -10 +30% T= -10 +50% U= -10 +75% | 7R5 ↓ Voltage 7R5=7.5 Vdc 020=20 Vdc | M ↓ Terminal A=high post B=low post D=high current low post K=high current high post M=M5 high post J=M6 low post | P ↓ Insulation P = 0.008" PVC H = 0.012" PVC N = none With mounting bracket: R = 0.008" PVC J = 0.012" PVC X = None | A1 ↓ Construction* A1=compression R1=rilled S1=stud & compression T1=stud & rilled |
|-------------------|----------------------|--|---|--|---|---|--|

* Construction code is also a sequence number, e.g., A1, A2,--,A9, B1,B2,--, for customer specifications. Sequence number 1 in A1, R1, S1 and T1 denotes the standard catalog capacitor with no special requirements.

Outline Drawing



Stud Dimensions

| Case | Stud | P ± 0.039" |
|-------|--------|---------------|
| Diam. | Thread | (±1.0 mm) |
| 1.375 | M8 | 0.470" (12.0) |
| 1.750 | M8 | 0.470" (12.0) |
| 2.000 | M12 | 0.630" (16.0) |
| 2.500 | M12 | 0.630" (16.0) |
| 3.000 | M12 | 0.630" (16.0) |

Insulation Dimensions

| Code | Clamp Bracket | Insulation Type | Dimension Adders | | |
|----------------------|---------------|-----------------|------------------|--------|--------|
| | | | D | L | H |
| Dimensions in Inches | | | | | |
| P | no | 0.008" PVC | +0.02 | +0.032 | +0.024 |
| H | no | 0.012" PVC | +0.03 | +0.062 | +0.045 |
| N | no | none | - | - | - |
| R | yes | 0.008" PVC | +0.02 | +0.032 | +0.024 |
| J | yes | 0.012" PVC | +0.03 | +0.062 | +0.045 |
| X | yes | none | - | - | - |

Can Dimensions Insulation Adders

| | Diameter (D) | | Length (L) | | Standing Height (H) | |
|------------|--------------|------|------------|------|---------------------|------|
| | (in) | (mm) | (in) | (mm) | (in) | (mm) |
| 0.008" PVC | 0.02 | 0.51 | 0.032 | 0.81 | 0.024 | 0.61 |

Terminal Dimensions

| Terminal Style | For Case Diameters | Code | Post Diameter | | H max | | Thread | min Full Thread | | Torque | |
|--------------------|--------------------|------|---------------|------|-------|-----|--------|-----------------|------|--------|------|
| | | | in | mm | in | mm | | in | mm | in-lb | N-m |
| Low Post | 1 3/8 to 3 | B | 0.314 | 8.0 | 0.094 | 2.4 | 10-32 | 0.218 | 5.5 | 25 | 2.82 |
| High Post | 1 3/8 to 3 | A | 0.314 | 8.0 | 0.281 | 7.1 | 10-32 | 0.375 | 9.5 | 25 | 2.82 |
| High Current, Low | 2 1/2 & 3 | D | 0.684 | 17.4 | 0.125 | 3.2 | 1/4-28 | 0.344 | 8.7 | 50 | 5.65 |
| High Current, High | 2 1/2 & 3 | K | 0.684 | 17.4 | 0.281 | 7.1 | 1/4-28 | 0.469 | 11.9 | 60 | 6.78 |
| M5 High Post | 1 3/8 to 2 | M | 0.314 | 8.0 | 0.281 | 7.1 | M5 | 0.375 | 9.5 | 25 | 2.82 |
| M6 Low Post | 2 1/2 & 3 | J | 0.684 | 17.4 | 0.125 | 3.2 | M6 | 0.344 | 8.7 | 50 | 5.65 |

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Case Dimensions, Uninsulated Bare Can

| Case Code | Diameter (D) | | Length (L) | | Pitch (P) | | Plug (A) | | Typical | | Optional Bracket Part No. |
|-----------|-----------------|------------|-----------------|-------------|-----------------|-------------|------------|--------|-------------|------------|---------------------------|
| | ±0.031 (Inches) | ±0.79 (mm) | ±0.062 (Inches) | ±1.157 (mm) | ±0.014 (Inches) | ±0.356 (mm) | A (Inches) | A (mm) | Weight (oz) | Weight (g) | |
| BA | 1.375 | 34.9 | 2.125 | 54.0 | 0.500 | 12.7 | 0.390 | 9.9 | 2.53 | 72 | 115058-06 |
| BB | 1.375 | 34.9 | 2.625 | 66.7 | 0.500 | 12.7 | 0.390 | 9.9 | 3.17 | 90 | 115058-06 |
| BC | 1.375 | 34.9 | 3.125 | 79.4 | 0.500 | 12.7 | 0.390 | 9.9 | 3.70 | 105 | 115058-06 |
| BD | 1.375 | 34.9 | 3.625 | 92.1 | 0.500 | 12.7 | 0.390 | 9.9 | 4.22 | 120 | 115058-06 |
| BE | 1.375 | 34.9 | 4.125 | 104.8 | 0.500 | 12.7 | 0.390 | 9.9 | 4.75 | 135 | 115058-06 |
| BF | 1.375 | 34.9 | 4.625 | 117.5 | 0.500 | 12.7 | 0.390 | 9.9 | 5.98 | 170 | 115058-06 |
| BG | 1.375 | 34.9 | 5.125 | 130.2 | 0.500 | 12.7 | 0.390 | 9.9 | 7.74 | 220 | 115058-06 |
| BH | 1.375 | 34.9 | 5.625 | 142.9 | 0.500 | 12.7 | 0.390 | 9.9 | 9.50 | 270 | 115058-06 |
| DA | 1.75 | 44.5 | 2.125 | 54.0 | 0.750 | 19.1 | 0.453 | 11.5 | 5.63 | 160 | 115058-15 |
| DB | 1.75 | 44.5 | 2.625 | 66.7 | 0.750 | 19.1 | 0.453 | 11.5 | 6.16 | 175 | 115058-15 |
| DC | 1.75 | 44.5 | 3.125 | 79.4 | 0.750 | 19.1 | 0.453 | 11.5 | 6.34 | 180 | 115058-15 |
| DD | 1.75 | 44.5 | 3.625 | 92.1 | 0.750 | 19.1 | 0.453 | 11.5 | 7.22 | 205 | 115058-15 |
| DE | 1.75 | 44.5 | 4.125 | 104.8 | 0.750 | 19.1 | 0.453 | 11.5 | 7.74 | 220 | 115058-15 |
| DF | 1.75 | 44.5 | 4.625 | 117.5 | 0.750 | 19.1 | 0.453 | 11.5 | 8.27 | 235 | 115058-15 |
| DG | 1.75 | 44.5 | 5.125 | 130.2 | 0.750 | 19.1 | 0.453 | 11.5 | 8.80 | 250 | 115058-15 |
| DH | 1.75 | 44.5 | 5.625 | 142.9 | 0.750 | 19.1 | 0.453 | 11.5 | 9.50 | 270 | 115058-15 |
| EA | 2 | 50.8 | 2.125 | 54.0 | 0.875 | 22.2 | 0.500 | 12.7 | 5.98 | 170 | 115058-09 |
| EB | 2 | 50.8 | 2.625 | 66.7 | 0.875 | 22.2 | 0.500 | 12.7 | 6.34 | 180 | 115058-09 |
| EC | 2 | 50.8 | 3.125 | 79.4 | 0.875 | 22.2 | 0.500 | 12.7 | 6.69 | 190 | 115058-09 |
| ED | 2 | 50.8 | 3.625 | 92.1 | 0.875 | 22.2 | 0.500 | 12.7 | 7.74 | 220 | 115058-09 |
| EE | 2 | 50.8 | 4.125 | 104.8 | 0.875 | 22.2 | 0.500 | 12.7 | 8.98 | 255 | 115058-09 |
| EF | 2 | 50.8 | 4.625 | 117.5 | 0.875 | 22.2 | 0.500 | 12.7 | 10.21 | 290 | 115058-09 |
| EG | 2 | 50.8 | 5.125 | 130.2 | 0.875 | 22.2 | 0.500 | 12.7 | 11.26 | 320 | 115058-09 |
| EH | 2 | 50.8 | 5.625 | 142.9 | 0.875 | 22.2 | 0.500 | 12.7 | 8.80 | 250 | 115058-09 |
| FB | 2.5 | 63.5 | 2.625 | 66.7 | 1.125 | 28.6 | 0.625 | 15.9 | 10.56 | 300 | 115058-14 |
| FC | 2.5 | 63.5 | 3.125 | 79.4 | 1.125 | 28.6 | 0.625 | 15.9 | 13.02 | 370 | 115058-14 |
| FD | 2.5 | 63.5 | 3.625 | 92.1 | 1.125 | 28.6 | 0.625 | 15.9 | 14.08 | 400 | 115058-14 |
| FE | 2.5 | 63.5 | 4.125 | 104.8 | 1.125 | 28.6 | 0.625 | 15.9 | 15.66 | 445 | 115058-14 |
| FF | 2.5 | 63.5 | 4.625 | 117.5 | 1.125 | 28.6 | 0.625 | 15.9 | 21.12 | 600 | 115058-14 |
| FG | 2.5 | 63.5 | 5.125 | 130.2 | 1.125 | 28.6 | 0.625 | 15.9 | 22.88 | 650 | 115058-14 |
| FH | 2.5 | 63.5 | 5.625 | 142.9 | 1.125 | 28.6 | 0.625 | 15.9 | 21.12 | 600 | 115058-14 |
| GC | 3 | 76.2 | 3.125 | 79.4 | 1.250 | 31.8 | 0.750 | 19.1 | 18.30 | 520 | 115058-11 |
| GD | 3 | 76.2 | 3.625 | 92.1 | 1.250 | 31.8 | 0.750 | 19.1 | 20.06 | 570 | 115058-11 |
| GE | 3 | 76.2 | 4.125 | 104.8 | 1.250 | 31.8 | 0.750 | 19.1 | 21.12 | 600 | 115058-11 |
| GF | 3 | 76.2 | 4.625 | 117.5 | 1.250 | 31.8 | 0.750 | 19.1 | 25.34 | 720 | 115058-11 |
| GG | 3 | 76.2 | 5.125 | 130.2 | 1.250 | 31.8 | 0.750 | 19.1 | 29.92 | 850 | 115058-11 |
| GH | 3 | 76.2 | 5.625 | 142.9 | 1.250 | 31.8 | 0.750 | 19.1 | 34.14 | 970 | 115058-11 |
| GJ | 3 | 76.2 | 5.875 | 149.2 | 1.250 | 31.8 | 0.750 | 19.1 | 36.96 | 1050 | 115058-11 |
| GN | 3 | 76.2 | 8.625 | 219.1 | 1.250 | 31.8 | 0.750 | 19.1 | 51.39 | 1460 | 115058-11 |

Type 3199 Aluminum Electrolytic, Screw Terminals

Screw Terminal Capacitors for Power Output Filtering

Ratings

| Cap (μ F) | Catalog Part Number | ESR max 120 Hz 25 °C (m Ω) | Ripple max 120 Hz 85 °C | | Case Size DxL (in) |
|--------------------------------|------------------------|--|----------------------------|-----------|--------------------------|
| | | | compress(A) | rilled(A) | |
| 7.5 Vdc (9 Vdc Surge) | | | | | |
| 39000 | 3199BA393M7P5APA1 | 9.4 | 8.1 | 8.8 | 1.375x2.125 |
| 47000 | 3199BB473M7P5APA1 | 9.6 | 8.8 | 9.5 | 1.375x2.625 |
| 56000 | 3199BC563M7P5APA1 | 7.9 | 10.4 | 11.2 | 1.375x3.125 |
| 68000 | 3199BD683M7P5APA1 | 6.8 | 11.8 | 12.7 | 1.375x3.625 |
| 82000 | 3199BD823M7P5APA1 | 6.0 | 12.7 | 13.7 | 1.375x3.625 |
| 100000 | 3199BF104M7P5APA1 | 5.2 | 15.1 | 16.3 | 1.375x4.625 |
| 120000 | 3199BG124M7P5APA1 | 4.4 | 17.1 | 18.5 | 1.375x4.125 |
| 150000 | 3199DD154M7P5APA1 | 4.6 | 16.6 | 18.1 | 1.75x3.625 |
| 180000 | 3199DE184M7P5APA1 | 4.2 | 18.3 | 20.0 | 1.75x4.125 |
| 220000 | 3199DG224M7P5APA1 | 3.4 | 22.3 | 24.4 | 1.75x5.125 |
| 270000 | 3199EF274M7P5APA1 | 3.8 | 21.5 | 23.6 | 2.00x4.625 |
| 330000 | 3199EH334M7P5APA1 | 3.9 | 23.3 | 25.5 | 2.00x5.625 |
| 390000 | 3199FE394M7P5APA1 | 2.6 | 28.6 | 31.7 | 2.50x4.125 |
| 470000 | 3199FG474M7P5APA1 | 2.5 | 31.3 | 34.7 | 2.50x5.125 |
| 560000 | 3199FH564M7P5APA1 | 2.2 | 35.3 | 39.2 | 2.50x5.625 |
| 680000 | 3199GF684M7P5APA1 | 2.2 | 37.6 | 40.5 | 3.00x4.625 |
| 820000 | 3199GH824M7P5APA1 | 2.2 | 40.2 | 43.3 | 3.00x5.625 |
| 1200000 | 3199GN125M7P5APA1 | 1.9 | 46.4 | 50.0 | 3.00x8.625 |
| 10 Vdc (13 Vdc Surge) | | | | | |
| 33000 | 3199BA333M010APA1 | 9.6 | 8.1 | 8.8 | 1.375x2.125 |
| 39000 | 3199BB393M010APA1 | 8.4 | 9.4 | 10.2 | 1.375x2.625 |
| 47000 | 3199BC473M010APA1 | 7.5 | 10.3 | 11.1 | 1.375x3.125 |
| 56000 | 3199BC563M010APA1 | 6.9 | 11.1 | 12.0 | 1.375x3.125 |
| 68000 | 3199BD683M010APA1 | 6.1 | 12.6 | 13.6 | 1.375x3.625 |
| 82000 | 3199BE823M010APA1 | 5.5 | 4.7 | 5.1 | 1.375x4.125 |
| 100000 | 3199BG104M010APA1 | 4.5 | 17.1 | 18.5 | 1.375x5.125 |
| 120000 | 3199DD124M010APA1 | 4.6 | 16.5 | 18.0 | 1.75x3.625 |
| 150000 | 3199DE154M010APA1 | 4.2 | 18.2 | 19.9 | 1.75x4.125 |
| 180000 | 3199DG184M010APA1 | 3.8 | 12.0 | 13.1 | 1.75x5.125 |
| 220000 | 3199DH224M010APA1 | 3.2 | 23.8 | 26.0 | 1.75x5.625 |
| 270000 | 3199EG274M010APA1 | 3.6 | 23.2 | 25.4 | 2.00x5.125 |
| 330000 | 3199FE334M010APA1 | 2.6 | 28.5 | 31.6 | 2.50x4.125 |
| 390000 | 3199FF394M010APA1 | 2.4 | 30.9 | 34.3 | 2.50x4.625 |
| 470000 | 3199FH474M010APA1 | 2.4 | 33.3 | 37.0 | 2.50x5.625 |
| 560000 | 3199GF564M010APA1 | 2.2 | 37.5 | 40.4 | 3.00x4.625 |
| 680000 | 3199GH684M010APA1 | 2.2 | 40.1 | 43.2 | 3.00x5.625 |
| 1200000 | 3199GN125M010APA1 | 1.7 | 46.4 | 50.0 | 3.00x8.625 |
| 16 Vdc (20.8 Vdc Surge) | | | | | |
| 22000 | 3199BA223M016APA1 | 24.6 | 5.0 | 5.4 | 1.375x2.125 |
| 27000 | 3199BB273M016APA1 | 21.3 | 5.9 | 6.4 | 1.375x2.625 |
| 39000 | 3199BC393M016APA1 | 17.1 | 7.0 | 7.6 | 1.375x3.125 |
| 47000 | 3199BD473M016APA1 | 14.8 | 8.1 | 8.7 | 1.375x3.625 |
| 56000 | 3199BE563M016APA1 | 13.3 | 9.0 | 9.7 | 1.375x4.125 |
| 68000 | 3199BG683M016APA1 | 10.3 | 11.2 | 12.1 | 1.375x5.125 |
| 82000 | 3199BH823M016APA1 | 9.8 | 12.0 | 13.0 | 1.375x5.625 |
| 100000 | 3199DE104M016APA1 | 7.0 | 14.1 | 15.4 | 1.75x4.125 |
| 120000 | 3199DF124M016APA1 | 5.8 | 16.2 | 17.7 | 1.75x4.625 |
| 150000 | 3199DH154M016APA1 | 5.2 | 18.7 | 20.4 | 1.75x5.625 |
| 180000 | 3199EG184M016APA1 | 3.7 | 23.0 | 25.2 | 2.00x5.125 |

Type 3199 Aluminum Electrolytic, Screw Terminals

Screw Terminal Capacitors for Power Output Filtering

| Cap (μ F) | Catalog Part Number | ESR max 120 Hz 25 °C (m Ω) | Ripple max 120 Hz 85 °C compress(A) rilled(A) | | Case Size DxL (in) |
|--------------------------------|------------------------|--|---|------|--------------------------|
| 16 Vdc (20.8 Vdc Surge) | | | | | |
| 220000 | 3199FE224M016APA1 | 3.5 | 24.4 | 27.1 | 2.50x4.125 |
| 270000 | 3199FF274M016APA1 | 3.2 | 26.7 | 29.6 | 2.50x4.625 |
| 330000 | 3199GE334M016APA1 | 3.1 | 30.2 | 32.5 | 3.00x4.125 |
| 390000 | 3199GF394M016APA1 | 2.8 | 32.9 | 35.5 | 3.00x4.625 |
| 470000 | 3199GH474M016APA1 | 2.5 | 37.7 | 40.6 | 3.00x5.625 |
| 820000 | 3199GN824M016APA1 | 2.2 | 46.4 | 50.0 | 3.00x8.625 |
| 25 Vdc (32.5 Vdc Surge) | | | | | |
| 18000 | 3199BA183M025APA1 | 24.8 | 5.0 | 5.4 | 1.375x2.125 |
| 27000 | 3199BC273M025APA1 | 17.4 | 6.9 | 7.5 | 1.375x3.125 |
| 33000 | 3199BD333M025APA1 | 15.0 | 8.0 | 8.6 | 1.375x3.625 |
| 39000 | 3199BE393M025APA1 | 13.5 | 8.9 | 9.6 | 1.375x4.125 |
| 47000 | 3199BG473M025APA1 | 10.5 | 11.1 | 12.0 | 1.375x5.125 |
| 56000 | 3199BH563M025APA1 | 9.9 | 2.7 | 2.9 | 1.375x5.625 |
| 68000 | 3199DE683M025APA1 | 7.1 | 14.0 | 15.3 | 1.75x4.125 |
| 82000 | 3199DF823M025APA1 | 5.9 | 16.0 | 17.5 | 1.75x4.625 |
| 100000 | 3199DG104M025APA1 | 5.5 | 17.4 | 19.0 | 1.75x5.125 |
| 120000 | 3199EF124M025APA1 | 4.0 | 21.3 | 23.3 | 2.00x4.625 |
| 150000 | 3199EH154M025APA1 | 3.5 | 24.4 | 26.7 | 2.00x5.625 |
| 180000 | 3199FF184M025APA1 | 3.3 | 26.4 | 29.3 | 2.50x4.625 |
| 220000 | 3199FG224M025APA1 | 3.0 | 28.5 | 31.6 | 2.50x5.125 |
| 270000 | 3199FG274M025APA1 | 2.8 | 31.7 | 35.2 | 2.50x5.125 |
| 330000 | 3199GG334M025APA1 | 2.6 | 35.3 | 38.0 | 3.00x5.125 |
| 560000 | 3199GN564M025APA1 | 2.2 | 46.4 | 50.0 | 3.00x8.625 |
| 40 Vdc (50.2 Vdc Surge) | | | | | |
| 10000 | 3199BA103M040APA1 | 32.0 | 4.4 | 4.8 | 1.375x2.125 |
| 12000 | 3199BB123M040APA1 | 27.4 | 5.2 | 5.6 | 1.375x2.625 |
| 15000 | 3199BC153M040APA1 | 18.2 | 6.8 | 7.4 | 1.375x3.125 |
| 18000 | 3199BD183M040APA1 | 15.7 | 7.9 | 8.5 | 1.375x3.625 |
| 22000 | 3199BE223M040APA1 | 14.0 | 8.7 | 9.4 | 1.375x4.125 |
| 27000 | 3199BF273M040APA1 | 13.5 | 9.3 | 10.1 | 1.375x4.625 |
| 33000 | 3199BH333M040APA1 | 11.8 | 10.9 | 11.8 | 1.375x5.625 |
| 39000 | 3199DD393M040APA1 | 9.4 | 11.5 | 12.6 | 1.75x3.625 |
| 47000 | 3199DE473M040APA1 | 8.4 | 12.9 | 14.1 | 1.75x4.125 |
| 56000 | 3199DG563M040APA1 | 6.6 | 15.9 | 17.4 | 1.75x5.125 |
| 68000 | 3199DH683M040APA1 | 6.1 | 17.2 | 18.8 | 1.75x5.625 |
| 82000 | 3199EG823M040APA1 | 4.3 | 21.2 | 23.2 | 2.00x5.125 |
| 100000 | 3199FE104M040APA1 | 4.3 | 22.2 | 24.6 | 2.50x4.125 |
| 120000 | 3199FF124M040APA1 | 3.9 | 24.3 | 27.0 | 2.50x4.625 |
| 150000 | 3199FH154M040APA1 | 3.4 | 28.1 | 31.2 | 2.50x5.625 |
| 180000 | 3199GG184M040APA1 | 3.1 | 32.3 | 34.8 | 3.00x5.125 |
| 220000 | 3199GH224M040APA1 | 2.9 | 34.6 | 37.3 | 3.00x5.625 |
| 330000 | 3199GN334M040APA1 | 2.2 | 46.4 | 50.0 | 3.00x8.625 |
| 50 Vdc (65 Vdc Surge) | | | | | |
| 8200 | 3199BA822M050APA1 | 41.0 | 3.9 | 4.2 | 1.375x2.125 |
| 10000 | 3199BB103M050APA1 | 34.9 | 4.6 | 5.0 | 1.375x2.625 |
| 12000 | 3199BC123M050APA1 | 27.6 | 5.6 | 6.0 | 1.375x3.125 |
| 15000 | 3199BD153M050APA1 | 23.2 | 6.4 | 6.9 | 1.375x3.625 |
| 18000 | 3199BE183M050APA1 | 20.3 | 7.2 | 7.8 | 1.375x4.125 |
| 22000 | 3199BF223M050APA1 | 16.6 | 8.4 | 9.1 | 1.375x4.625 |

Type 3199 Aluminum Electrolytic, Screw Terminals

Screw Terminal Capacitors for Power Output Filtering

| Cap (μ F) | Catalog Part Number | ESR max 120 Hz 25 °C (m Ω) | Ripple max 120 Hz 85 °C | | Case Size DxL (in) |
|--------------------------------|------------------------|--|----------------------------|-----------|--------------------------|
| | | | compress(A) | rilled(A) | |
| 50 Vdc (65 Vdc Surge) | | | | | |
| 27000 | 3199BH273M050APA1 | 14.2 | 9.9 | 10.7 | 1.375x5.625 |
| 33000 | 3199DE333M050APA1 | 9.8 | 11.9 | 13.0 | 1.75x4.125 |
| 39000 | 3199DF393M050APA1 | 8.2 | 13.6 | 14.9 | 1.75x4.625 |
| 47000 | 3199DG473M050APA1 | 7.5 | 14.9 | 16.3 | 1.75x5.125 |
| 56000 | 3199EF563M050APA1 | 9.6 | 13.6 | 14.9 | 2.00x4.625 |
| 68000 | 3199EH683M050APA1 | 8.1 | 16.1 | 17.6 | 2.00x5.625 |
| 82000 | 3199FF823M050APA1 | 6.6 | 18.6 | 20.6 | 2.50x4.625 |
| 100000 | 3199FH104M050APA1 | 5.6 | 21.7 | 24.1 | 2.50x5.625 |
| 120000 | 3199GF124M050APA1 | 5.3 | 23.8 | 25.7 | 3.00x4.625 |
| 150000 | 3199GH154M050APA1 | 4.5 | 27.9 | 30.1 | 3.00x5.625 |
| 220000 | 3199GN224M050APA1 | 3.5 | 37.7 | 40.6 | 3.00x8.625 |
| 63 Vdc (81.9 Vdc Surge) | | | | | |
| 4700 | 3199BA472M063APA1 | 41.5 | 3.9 | 4.2 | 1.375x2.125 |
| 5600 | 3199BB562M063APA1 | 35.4 | 4.5 | 4.9 | 1.375x2.625 |
| 6800 | 3199BB682M063APA1 | 32.4 | 5.0 | 5.4 | 1.375x2.625 |
| 8200 | 3199BC822M063APA1 | 27.5 | 5.6 | 6.0 | 1.375x3.125 |
| 10000 | 3199BD103M063APA1 | 23.2 | 6.5 | 7.0 | 1.375x3.625 |
| 12000 | 3199BE123M063APA1 | 20.3 | 7.3 | 7.9 | 1.375x4.125 |
| 15000 | 3199BG153M063APA1 | 15.5 | 9.2 | 9.9 | 1.375x5.125 |
| 18000 | 3199BH183M063APA1 | 14.3 | 9.9 | 10.7 | 1.375x5.625 |
| 22000 | 3199DE223M063APA1 | 10.0 | 11.8 | 12.9 | 1.75x4.125 |
| 27000 | 3199DG273M063APA1 | 7.8 | 14.7 | 16.0 | 1.75x5.125 |
| 33000 | 3199DH333M063APA1 | 7.2 | 15.8 | 17.3 | 1.75x5.625 |
| 39000 | 3199EG393M063APA1 | 8.6 | 15.0 | 16.4 | 2.00x5.125 |
| 47000 | 3199FE473M063APA1 | 7.5 | 16.6 | 18.4 | 2.50x4.125 |
| 56000 | 3199FF563M063APA1 | 6.7 | 18.4 | 20.4 | 2.50x4.625 |
| 68000 | 3199FH683M063APA1 | 5.7 | 21.5 | 23.9 | 2.50x5.625 |
| 82000 | 3199GF823M063APA1 | 5.3 | 23.7 | 25.6 | 3.00x4.625 |
| 100000 | 3199GH104M063APA1 | 4.5 | 27.7 | 29.9 | 3.00x5.625 |
| 150000 | 3199GN154M063APA1 | 3.6 | 37.4 | 40.3 | 3.00x8.625 |
| 75 Vdc (97.5 Vdc Surge) | | | | | |
| 3900 | 3199BA392M075APA1 | 42.5 | 3.8 | 4.1 | 1.375x2.125 |
| 4700 | 3199BB472M075APA1 | 36.2 | 4.5 | 4.9 | 1.375x2.625 |
| 5600 | 3199BB562M075APA1 | 32.6 | 5.0 | 5.4 | 1.375x2.625 |
| 6800 | 3199BC682M075APA1 | 28.1 | 5.5 | 5.9 | 1.375x3.125 |
| 8200 | 3199BD822M075APA1 | 23.7 | 6.4 | 6.9 | 1.375x3.625 |
| 10000 | 3199BE103M075APA1 | 20.7 | 7.2 | 7.8 | 1.375x4.125 |
| 12000 | 3199BG123M075APA1 | 15.8 | 9.1 | 9.8 | 1.375x5.125 |
| 15000 | 3199DD153M075APA1 | 11.6 | 10.3 | 11.3 | 1.75x3.625 |
| 18000 | 3199DE183M075APA1 | 10.2 | 11.6 | 12.7 | 1.75x4.125 |
| 22000 | 3199DG223M075APA1 | 8.0 | 14.5 | 15.8 | 1.75x5.125 |
| 27000 | 3199EF273M075APA1 | 9.6 | 13.6 | 14.9 | 2.00x4.625 |
| 33000 | 3199EH333M075APA1 | 8.2 | 16.0 | 17.5 | 2.00x5.625 |
| 39000 | 3199FF393M075APA1 | 6.9 | 18.1 | 20.1 | 2.50x4.625 |
| 47000 | 3199FG473M075APA1 | 6.3 | 19.7 | 21.9 | 2.50x5.125 |
| 56000 | 3199FH563M075APA1 | 5.8 | 21.3 | 23.7 | 2.50x5.625 |
| 68000 | 3199GG683M075APA1 | 5.0 | 25.5 | 27.5 | 3.00x5.125 |
| 82000 | 3199GH823M075APA1 | 4.6 | 27.6 | 29.7 | 3.00x5.625 |
| 120000 | 3199GN124M075APA1 | 3.6 | 37.2 | 40.1 | 3.00x8.625 |

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