

Radial Aluminum Electrolytic Capacitor – JRW

FEATURES

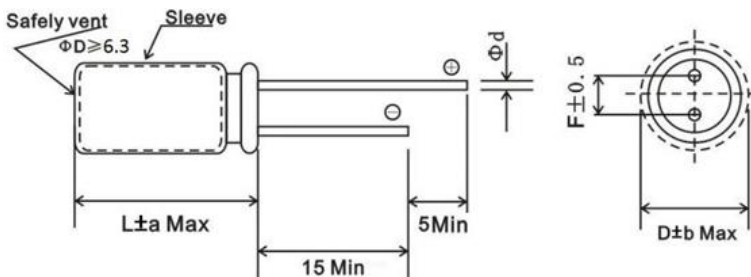
- Load life of 2000 hours at 105°C
- Extra Lower impedance at high frequency and high ripple current

SPECIFICATIONS



| | | | | | | | |
|---|---|-----------------------------------|------|----------------------------|------|-------|------|
| Operation Temperature Range | -40°C ~ +105°C | | | | | | |
| Rated Working Voltage (V) | 6.3 ~ 50 | | | | | | |
| Capacitance Range (μF) | 0.47 ~ 10000 | | | | | | |
| Capacitance Tolerance (20°C, 120Hz) | ±20% | | | | | | |
| Leakage Current (20°C) | I ≤ 0.01CV or 3 (μA) | | | | | | |
| | *Whichever is greater after 3 minutes | | | I : Leakage Current (μA) | | | |
| | | | | C : Rated Capacitance (μF) | | | |
| | | | | V : Working Voltage (V) | | | |
| Surge Voltage (20°C) | W.V. | 6.3 | 10 | 16 | 25 | 35 | 50 |
| | S.V. | 8 | 13 | 20 | 32 | 44 | 63 |
| Dissipation Factor (Tan δ) (20°C, 120Hz) | Add 0.02 per 1000μF for more than 1000μF | | | | | | |
| | W.V. | 6.3 | 10 | 16 | 25 | 35 | 50 |
| | Tan δ | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 |
| Low Temperature Stability | Impedance ratio at 120Hz | | | | | | |
| | Rated Voltage (V) | | | 6.3~16 | | 25~50 | |
| | -25°C / +20°C | | | 3 | | 2 | |
| | -55°C / +20°C | | | 6 | | 4 | |
| Load Life | After 2000 hours application of W.V. and +105°C ripple current value, the capacitor shall meet the following limits. (DC + ripple peak voltage ≤ rate working voltage) | | | | | | |
| | Capacitance Change | ≤ ±20% of initial value | | | | | |
| | Dissipation Factor | ≤ 200% of initial specified value | | | | | |
| Shelf Life | Leakage current | ≤ Initial specified value | | | | | |
| | At 105°C no voltage application after 1000 hours the capacitor shall meet the limits for load life characteristics. (with voltage treatment) | | | | | | |

DIMENSIONS (mm)



| | | | | | | | |
|---------|-----|---------|-----|-----|----|-----|----|
| ∅D | 5 | 6.3 | 8 | 10 | 13 | 16 | 18 |
| F | 2.0 | 2.5 | 3.5 | 5.0 | | 7.5 | |
| ∅d±0.05 | 0.5 | 0.5/0.6 | | 0.6 | | 0.8 | |

| | | | |
|-------|-----------|-----------|-----------|
| a Max | D < 18 | D = 18 | |
| | +1.5 -1.0 | L < 35.5 | L ≥ 35.5 |
| | | +1.5 -1.0 | +2.0 -1.0 |

| | | |
|-------|--------|-----|
| b Max | D < 18 | 0.5 |
| | D ≥ 18 | 1.0 |

RIPPLE CURRENT COEFFICIENTS

| | | | | | |
|-----------------|------|------|------|------|------|
| Temperature(°C) | 65 | 75 | 85 | 95 | 105 |
| Multiplier | 2.12 | 1.92 | 1.69 | 1.50 | 1.00 |

| | | | | | | |
|----------------|------------|------|------|------|------|------|
| Frequency (Hz) | 60 | 120 | 400 | 1k | 10k | 100k |
| W.V. | Multiplier | | | | | |
| 10 ~ 16V | 0.45 | 0.60 | 0.83 | 0.94 | 0.98 | 1.00 |
| 25 ~ 35V | 0.38 | 0.50 | 0.75 | 0.90 | 0.97 | 1.00 |
| 50V | 0.36 | 0.46 | 0.70 | 0.88 | 0.94 | 1.00 |

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STANDARD RATINGS

| V μF | 6.3V | | | | 10V | | | |
|-------------|----------------|--------------------------|----------------|---|----------------|--------------------------|----------------|---|
| | DxL | Impedance (Ω max) 100KHz | | Max Ripple Current mA(rms) 105°C 100KHz | DxL | Impedance (Ω max) 100KHz | | Max Ripple Current mA(rms) 105°C 100KHz |
| | | 20°C | -10 | | | 20°C | -10 | |
| 100 | -- | -- | -- | -- | 5x11 | 0.312 | 0.937 | 230 |
| 120 | -- | -- | -- | -- | 5x11 | 0.266 | 0.798 | 250 |
| 150 | 5x11 | 0.219 | 0.656 | 250 | 5x11 | 0.218 | 0.653 | 280 |
| 180 | 5x11 | 0.19 | 0.571 | 270 | 6.3x11 | 0.189 | 0.568 | 350 |
| 220 | 5x11 | 0.162 | 0.487 | 300 | 6.3x11 | 0.161 | 0.484 | 390 |
| 270 | 6.3x11 | 0.148 | 0.444 | 380 | 6.3x11 | 0.147 | 0.442 | 430 |
| 330 | 6.3x11 | 0.13 | 0.389 | 420 | 8x12 | 0.129 | 0.387 | 560 |
| 390 | 8x12 | 0.117 | 0.351 | 530 | 8x12 | 0.116 | 0.349 | 610 |
| 470 | 8x12 | 0.106 | 0.319 | 580 | 8x12 | 0.106 | 0.317 | 670 |
| 560 | 8x12 | 0.094 | 0.283 | 630 | 8x12 | 0.094 | 0.281 | 730 |
| 680 | 8x12 | 0.084 | 0.252 | 700 | 8x16 10x13 | 0.083 0.083 | 0.25 0.25 | 900 950 |
| 820 | 8x16 10x13 | 0.077 0.077 | 0.23 0.23 | 860 900 | 8x16 10x13 | 0.076 0.076 | 0.228 0.228 | 990 1040 |
| 1000 | 8x16 10x13 | 0.069 0.069 | 0.206 0.206 | 950 990 | 8x20 10x16 | 0.068 0.068 | 0.204 0.204 | 1240 1280 |
| 1200 | 8x20 10x16 | 0.059 0.059 | 0.178 0.178 | 1180 1210 | 10x20 | 0.059 | 0.177 | 1540 |
| 1500 | 10x20 | 0.036 | 0.107 | 1450 | 10x25 | 0.035 | 0.106 | 1830 |
| 1800 | 10x20 13x18 | 0.031 0.031 | 0.094 0.078 | 1590 1520 | 10x25 13x18 | 0.031 0.031 | 0.094 0.078 | 2000 1880 |
| 2200 | 10x25 13x18 | 0.028 0.028 | 0.083 0.069 | 1880 1770 | 10x28 | 0.027 | 0.082 | 2250 |
| 2700 | 10x25 | 0.025 | 0.075 | 2140 | 13x20 | 0.025 | 0.062 | 2250 |
| 3300 | 13x20 | 0.023 | 0.058 | 2150 | 13x25 | 0.023 | 0.057 | 2650 |
| 3900 | 13x25 | 0.022 | 0.055 | 2520 | 13x30 | 0.022 | 0.055 | 3030 |
| 4700 | 13x30 | 0.021 | 0.053 | 2860 | 13x35 | 0.021 | 0.053 | 3210 |
| 5600 | 13x35 16x25 | 0.02 0.02 | 0.05 0.05 | 3060 2900 | 13x40 18x20 | 0.02 0.02 | 0.049 0.049 | 3550 2940 |
| 6800 | 13x40 18x20 | 0.019 0.019 | 0.047 0.047 | 3450 2850 | 16x31 18x25 | 0.019 0.019 | 0.047 0.047 | 3680 3390 |
| 8200 | 16x31 18x25 | 0.018 0.018 | 0.045 0.045 | 3540 3260 | 16x36 18x31 | 0.018 0.018 | 0.044 0.044 | 4010 3870 |
| 10000 | 16x35 18x31 | 0.017 0.017 | 0.043 0.043 | 3880 3740 | 18x36 | 0.017 | 0.042 | 4190 |

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STANDARD RATINGS

| V μF | 16V | | | | 25V | | | |
|-------------|----------------|--------------------------|----------------|---|----------------|--------------------------|----------------|---|
| | DxL | Impedance (Ω max) 100KHz | | Max Ripple Current mA(rms) 105°C 100KHz | DxL | Impedance (Ω max) 100KHz | | Max Ripple Current mA(rms) 105°C 100KHz |
| | | 20°C | -10 | | | 20°C | -10 | |
| 47 | -- | -- | -- | -- | 5x11 | 0.283 | 0.085 | 220 |
| 56 | 5x11 | 0.253 | 0.759 | 190 | 5x11 | 0.253 | 0.758 | 240 |
| 68 | 5x11 | 0.221 | 0.662 | 210 | 5x11 | 0.22 | 0.661 | 270 |
| 82 | 5x11 | 0.203 | 0.61 | 230 | 6.3x11 | 0.203 | 0.609 | 330 |
| 100 | 5x11 | 0.183 | 0.55 | 250 | 5x15 6.3x11 | 0.183 0.183 | 0.549 0.549 | 370 370 |
| 120 | 6.3x11 | 0.156 | 0.469 | 320 | 6.3x11 | 0.156 | 0.468 | 400 |
| 150 | 6.3x11 | 0.128 | 0.383 | 350 | 8x12 | 0.128 | 0.383 | 520 |
| 180 | 6.3x11 | 0.111 | 0.333 | 390 | 8x12 | 0.111 | 0.333 | 570 |
| 220 | 6.3x11 | 0.095 | 0.284 | 430 | 8x12 | 0.095 | 0.284 | 630 |
| 270 | 8x11.5 | 0.086 | 0.259 | 550 | 10x13 | 0.086 | 0.259 | 830 |
| 330 | 8x11.5 | 0.076 | 0.227 | 610 | 10x13 | 0.076 | 0.227 | 910 |
| 390 | 8x16 10x13 | 0.068 0.068 | 0.205 0.205 | 750 790 | 8x20 10x16 | 0.068 0.068 | 0.205 0.205 | 1080 1100 |
| 470 | 8x16 10x13 | 0.062 0.062 | 0.186 0.186 | 820 860 | 8x20 10x16 | 0.062 0.062 | 0.186 0.186 | 1180 1210 |
| 560 | 8x20 10x16 | 0.055 0.055 | 0.165 0.165 | 1020 1050 | 8x20 10x16 | 0.055 0.055 | 0.165 0.165 | 1290 1320 |
| 680 | 8x20 10x16 | 0.049 0.049 | 0.147 0.147 | 1120 1150 | 10x20 | 0.049 | 0.147 | 1610 |
| 820 | 8x20 10x16 | 0.045 0.045 | 0.134 0.134 | 1230 1270 | 10x25 13x18 | 0.045 0.045 | 0.134 0.112 | 1950 1830 |
| 1000 | 10x20 | 0.04 | 0.12 | 1540 | 10x28 | 0.04 | 0.12 | 2270 |
| 1200 | 10x25 | 0.035 | 0.104 | 1870 | 13x20 | 0.035 | 0.104 | 2320 |
| 1500 | 10x28 | 0.029 | 0.088 | 2100 | 13x25 | 0.029 | 0.074 | 2710 |
| 1800 | 13x20 | 0.026 | 0.065 | 2140 | 13x30 16x20 | 0.026 0.026 | 0.065 0.065 | 3230 2840 |
| 2200 | 13x25 | 0.023 | 0.057 | 2500 | 13x35 16x25 | 0.023 0.023 | 0.057 0.057 | 3470 3290 |
| 2700 | 13x30 16x20 | 0.021 0.021 | 0.052 0.052 | 2890 2540 | 13x40 18x20 | 0.021 0.021 | 0.052 0.052 | 3910 3240 |
| 3300 | 13x35 16x25 | 0.019 0.019 | 0.048 0.048 | 3130 2970 | 16x31 18x25 | 0.019 0.019 | 0.047 0.047 | 4100 3770 |
| 3900 | 13x40 18x20 | 0.018 0.018 | 0.046 0.046 | 3500 2900 | 16x36 18x31 | 0.018 0.018 | 0.046 0.046 | 4530 4360 |
| 4700 | 16x31 18x25 | 0.016 0.016 | 0.04 0.04 | 3560 3280 | 18x36 | 0.016 | 0.04 | 4720 |
| 5600 | 16x35 18x31 | 0.015 0.015 | 0.038 0.038 | 3880 3740 | -- | -- | -- | -- |

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STANDARD RATINGS

| V μF | 35V | | | | 50V | | | |
|-------------|--------|--------------------------|-------|---|--------|--------------------------|-------|---|
| | DxL | Impedance (Ω max) 100KHz | | Max Ripple Current mA(rms) 105°C 100KHz | DxL | Impedance (Ω max) 100KHz | | Max Ripple Current mA(rms) 105°C 100KHz |
| | | 20°C | -10 | | | 20°C | -10 | |
| 0.47 | -- | -- | -- | -- | 5x11 | 3.006 | 9.017 | 27 |
| 1 | -- | -- | -- | -- | 5x11 | 2.825 | 8.476 | 40 |
| 2.2 | -- | -- | -- | -- | 5x11 | 1.511 | 4.533 | 60 |
| 3.3 | -- | -- | -- | -- | 5x11 | 1.259 | 3.777 | 70 |
| 4.7 | 5x11 | 1.062 | 3.185 | 75 | 5x11 | 1.061 | 3.182 | 85 |
| 6.8 | 5x11 | 0.917 | 2.752 | 90 | 5x11 | 0.916 | 2.749 | 100 |
| 10 | 5x11 | 0.832 | 2.495 | 110 | 5x11 | 0.831 | 2.493 | 130 |
| 15 | 5x11 | 0.61 | 1.829 | 130 | 5x11 | 0.609 | 1.828 | 150 |
| 18 | 5x11 | 0.531 | 1.594 | 150 | 5x11 | 0.531 | 1.593 | 170 |
| 22 | 5x11 | 0.454 | 1.361 | 160 | 5x11 | 0.453 | 1.36 | 190 |
| 27 | 5x11 | 0.4 | 1.201 | 180 | 5x11 | 0.4 | 1.2 | 210 |
| 33 | 5x11 | 0.353 | 1.058 | 200 | 5x11 | 0.353 | 1.058 | 230 |
| 39 | 5x11 | 0.32 | 0.096 | 210 | 6.3x11 | 0.32 | 0.959 | 280 |
| 47 | 5x11 | 0.283 | 0.849 | 230 | 6.3x11 | 0.283 | 0.849 | 310 |
| 56 | 6.3x11 | 0.252 | 0.757 | 290 | 6.3x11 | 0.252 | 0.757 | 340 |
| 68 | 6.3x11 | 0.22 | 0.66 | 320 | 8x12 | 0.22 | 0.66 | 430 |
| 82 | 6.3x11 | 0.203 | 0.608 | 350 | 8x12 | 0.203 | 0.608 | 480 |
| 100 | 8x12 | 0.183 | 0.549 | 450 | 10x13 | 0.183 | 0.548 | 620 |
| 120 | 8x12 | 0.109 | 0.327 | 500 | 10x13 | 0.109 | 0.327 | 680 |
| 150 | 8x12 | 0.089 | 0.268 | 550 | 10x16 | 0.089 | 0.268 | 840 |
| 180 | 10x13 | 0.078 | 0.233 | 720 | 10x16 | 0.078 | 0.233 | 920 |
| | 8x16 | 0.078 | 0.233 | 680 | | | | |
| 220 | 10x13 | 0.066 | 0.198 | 790 | 10x16 | 0.066 | 0.198 | 1020 |
| | 8x16 | 0.066 | 0.198 | 750 | | | | |
| 270 | 10x16 | 0.06 | 0.181 | 970 | 10x20 | 0.06 | 0.181 | 1250 |
| 330 | 8x20 | 0.053 | 0.159 | 1050 | 10x25 | 0.053 | 0.159 | 1530 |
| | 10x16 | 0.053 | 0.159 | 1080 | 13x18 | 0.053 | 0.132 | 1430 |
| 390 | 10x20 | 0.048 | 0.143 | 1290 | 10x25 | 0.048 | 0.143 | 1660 |
| 470 | 10x20 | 0.043 | 0.13 | 1420 | 13x21 | 0.043 | 0.108 | 1790 |
| 560 | 10x25 | 0.038 | 0.115 | 1710 | 13x25 | 0.038 | 0.096 | 2150 |
| 680 | 10x28 | 0.034 | 0.103 | 1990 | 13x30 | 0.034 | 0.086 | 2580 |
| 820 | 10x30 | 0.031 | 0.094 | 2250 | 13x35 | 0.031 | 0.078 | 2880 |
| 1000 | 13x25 | 0.028 | 0.07 | 2480 | 13x40 | 0.028 | 0.07 | 3390 |
| 1200 | 13x30 | 0.024 | 0.061 | 2940 | 16x31 | 0.024 | 0.061 | 3660 |
| 1500 | 13x35 | 0.021 | 0.051 | 3160 | 16x35 | 0.021 | 0.051 | 4040 |
| | 16x25 | 0.021 | 0.051 | 3000 | 18x31 | 0.021 | 0.051 | 3890 |
| 1800 | 13x40 | 0.018 | 0.045 | 3690 | -- | -- | -- | -- |
| 2200 | 16x31 | 0.016 | 0.04 | 3810 | -- | -- | -- | -- |
| | 16x25 | 0.016 | 0.04 | 3510 | | | | |

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STANDARD RATINGS

| μF \backslash v | 63V | | | |
|---|------------|---|------------|--|
| | DxL | Impedance (Ω max) 100KHz | | Max Ripple Current mA(rms) 105°C 100KHz |
| | | 20°C | -10 | |
| 1 | 5x11 | 3.158 | 9.473 | 40 |
| 2.2 | 5x11 | 1.813 | 5.439 | 60 |
| 3.3 | 5x11 | 1.511 | 4.533 | 70 |
| 4.7 | 5x11 | 1.273 | 3.819 | 85 |
| 10 | 5x11 | 0.997 | 2.991 | 130 |
| 22 | 6.3x11 | 0.544 | 1.632 | 190 |
| 33 | 6.3x11 | 0.423 | 1.269 | 260 |
| 47 | 8x12 | 0.339 | 1.018 | 360 |
| 68 | 8x16 | 0.22 | 0.66 | 490 |
| 100 | 10x13 | 0.183 | 0.548 | 620 |
| 220 | 10x20 | 0.094 | 0.283 | 1130 |
| 330 | 10x30 | 0.076 | 0.227 | 1660 |
| 470 | 13x25 | 0.062 | 0.155 | 1970 |
| 680 | 13x25 | 0.039 | 0.098 | 2760 |
| 1000 | 16x25 | 0.032 | 0.08 | 3020 |

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