

HP Series 105°C

Features

Standard capacitors

Applications

- ◆ Switch-mode power supplies in industrial and entertainment electronics
- ◆ Uninterruptible power supplies

Features

- ◆ High reliability
- ◆ Long useful life
- ◆ High ripple current capability
- ◆ Aluminum case designed explosion-proof vent
- ◆ RoHS-compatible

Construction

- ◆ Charge-discharge proof, polar
- ◆ Aluminum case with insulating sleeve
- ◆ Aluminum case designed explosion-proof vent
- ◆ Snap-in solder pins to hold component in place on PC-board

Specifications

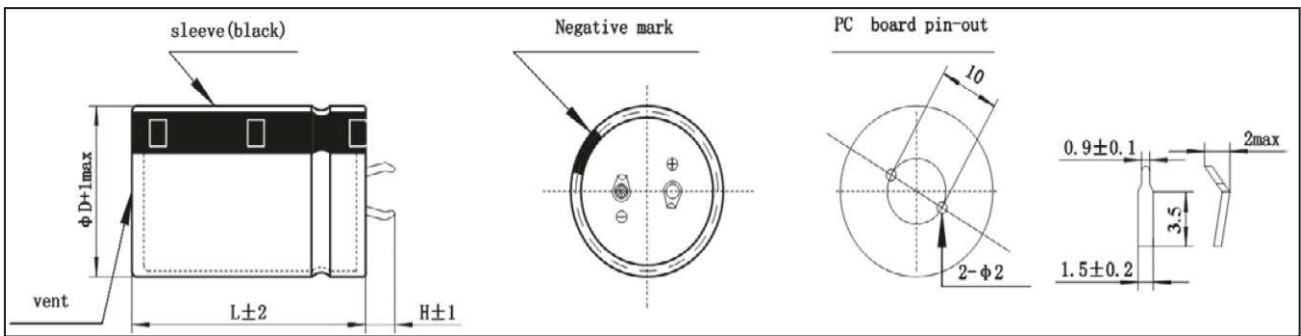
| Item | Performance Characteristics | | | | | | | | | | | | |
|---|---|-------------------------------------|--|----|--------|---------|-------------------------|---------|--------------|--|---------|---------|--|
| Operating Temperature Range | -40 to +105°C | | | | | | -25 to +105°C | | | | | | |
| Rated voltage V_R | 6.3 to 450 V DC | | | | | | 500 to 550 V DC | | | | | | |
| Surge voltage V_S | $V_R \leq 315V$ 1.15 V_R | | | | | | $V_R > 315V$ 1.10 V_R | | | | | | |
| Rated capacitance C_R | 33 to 100000 μF | | | | | | | | | | | | |
| Capacitance tolerance | $\pm 20\%$ (120Hz, +20°C) | | | | | | | | | | | | |
| Leakage Current I_{leak} (+20°C .max.) | $I \leq 3\sqrt{CV}$ (μA) After 5 minutes with rated working voltage applied | | | | | | | | | | | | |
| Dissipation Factor ($\tan\delta$, at 20°C, 120Hz) | Less than the value under table(%) | | | | | | | | | | | | |
| | $\mu F/Vdc$ | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | 160~420 | 450~600 | |
| | ≤ 8200 | - | 35 | 35 | 30 | 25 | 20 | 20 | 15 | 15 | 15 | 20 | |
| | 10000 to 22000 | 55 | 40 | 40 | 35 | 30 | 30 | 25 | 15 | - | - | - | |
| | ≥ 27000 | 60 | 50 | 40 | 35 | 35 | 30 | 25 | - | - | - | - | |
| Self-inductance ESL | approx. 20 nH | | | | | | | | | | | | |
| Useful life 105 °C; $V_R, I_{AC,R}$ 105 °C; $V_R, I_{AC,R}$ | $V_R \leq 100V$: | Requirements: | | | | | | | | | | | |
| | >3000 h | $V_R \leq 100V$ | DC/C $\leq \pm 30\%$ of initial value ESR ≤ 3 times initial specified limit $I_{leak} \leq$ initial specified limit | | | | | | $V_R > 100V$ | DC/C $\leq \pm 20\%$ of initial value ESR ≤ 2 times initial specified limit $I_{leak} \leq$ initial specified limit | | | |
| | $V_R > 100V$: | Failure rate : $\leq 1\%/1000$ hour | | | | | | | | | | | |
| Voltage Endurance test 105 °C; V_R | 2000 h | Post test requirements: | | | | | | | | | | | |
| | | $V_R \leq 100V$ | DC/C $\leq \pm 15\%$ of initial value ESR ≤ 1.3 times initial specified limit $I_{leak} \leq$ initial specified limit | | | | | | $V_R > 100V$ | DC/C $\leq \pm 10\%$ of initial value ESR ≤ 1.3 times initial specified limit $I_{leak} \leq$ initial specified limit | | | |
| Shelf Life 105 °C | 1000 h | Post test requirements: | | | | | | | | | | | |
| | | $V_R \leq 100V$ | DC/C $\leq \pm 15\%$ of initial value ESR ≤ 1.3 times initial specified limit $I_{leak} \leq$ initial specified limit | | | | | | $V_R > 100V$ | DC/C $\leq \pm 10\%$ of initial value ESR ≤ 1.3 times initial specified limit $I_{leak} \leq$ initial specified limit | | | |
| Vibration Resistance test | To IEC 60068-2-6, test Fc: | | | | | | | | | | | | |
| | Displacement amplitude 0.75 mm, frequency range 10 ... 55 Hz, acceleration max. 10 g, duration 3 ' 2 h. Capacitor mounted by its body which is rigidly clamped to the work surface. | | | | | | | | | | | | |
| Characteristics at low temperature | Max. impedance ratio at 120 Hz | | | | | | | | | | | | |
| | $V_R(V)$ | 6.3~16 | 25 | 35 | 50~100 | 160~250 | 315~450 | 500~600 | | | | | |
| | $Z_{-25^\circ C} / Z_{20^\circ C}$ | 4 | 3 | 3 | 3 | 3 | 8 | 8 | | | | | |
| | $Z_{-40^\circ C} / Z_{20^\circ C}$ | 15 | 10 | 8 | 6 | 7 | 10 | - | | | | | |
| Sectional specification | IEC 60384-4 and JIS-C-5101 | | | | | | | | | | | | |

Multiplier for Ripple Current vs. Frequency

| $V_R(V)/$ Frequency(Hz) | 50(60) | 120 | 300 | 1K | 10K | 50K-100K |
|-------------------------|--------|-----|------|------|------|----------|
| $10 \leq V_R \leq 100$ | 0.88 | 1 | 1.07 | 1.15 | 1.15 | 1.15 |
| $160 \leq V_R \leq 250$ | 0.81 | 1 | 1.17 | 1.32 | 1.45 | 1.5 |
| $315 \leq V_R \leq 600$ | 0.77 | 1 | 1.16 | 1.30 | 1.41 | 1.43 |

Dimensional drawings

Standard 2 terminals



Standard snap-in terminals: length (6.0 ± 1) mm

Also available with length of (4.0 ± 1) mm

Packing

| Capacitor diameter D(mm) | Length L(mm) | Terminal length H(mm) | Each carton packing Qty units(pcs.) | Box/carton units(pcs.) | Each box packing Qty units(pcs.) |
|--------------------------|-------------------|-----------------------|-------------------------------------|------------------------|----------------------------------|
| 20 | all | / | 720 | 6 | 120 |
| 22 | <55 | / | 600 | 6 | 100 |
| 22 | ≥ 55 | / | 400 | 4 | 100 |
| 25 | <65 | / | 500 | 5 | 100 |
| 25 | ≥ 65 | / | 400 | 4 | 100 |
| 30 | ≤ 36 | <6(L=35、36) | 400 | 8 | 50 |
| 30 | $35\leq L\leq 65$ | ≥ 6 (L=35、36) | 300 | 6 | 50 |
| 30 | >65 | / | 200 | 4 | 50 |
| 35 | ≤ 25 | / | 400 | 8 | 50 |
| 35 | $25<L<45$ | / | 300 | 6 | 50 |
| 35 | $45\leq L\leq 85$ | / | 200 | 4 | 50 |
| 35 | >85 | / | 100 | 2 | 50 |
| 40 | 35 | <6 | 200 | 5 | 40 |
| 40 | 35 | ≥ 6 | 160 | 4 | 40 |
| 40 | $40\leq L\leq 45$ | / | 160 | 4 | 40 |
| 40 | $45<L\leq 75$ | / | 120 | 3 | 40 |
| 40 | >75 | / | 80 | 2 | 40 |
| 45 | $40\leq L\leq 65$ | / | 140 | 4 | 35 |
| 45 | $65<L\leq 100$ | / | 70 | 2 | 35 |

Packing of snap-in



Case Size

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 6.3 | 12000 | 22×25 | 1.54 | 47 | 61 |
| 6.3 | 15000 | 22×25 | 1.72 | 37 | 49 |
| 6.3 | 18000 | 22×30 | 1.95 | 31 | 41 |
| 6.3 | 18000 | 25×25 | 1.96 | 31 | 41 |
| 6.3 | 22000 | 22×35 | 2.23 | 26 | 33 |
| 6.3 | 22000 | 25×30 | 2.25 | 26 | 33 |
| 6.3 | 22000 | 30×25 | 2.28 | 26 | 33 |
| 6.3 | 27000 | 22×40 | 2.54 | 23 | 29 |
| 6.3 | 27000 | 25×35 | 2.57 | 23 | 29 |
| 6.3 | 27000 | 30×25 | 2.59 | 23 | 29 |
| 6.3 | 33000 | 22×45 | 2.88 | 19 | 24 |
| 6.3 | 33000 | 25×40 | 2.93 | 19 | 24 |
| 6.3 | 33000 | 30×30 | 2.89 | 19 | 24 |
| 6.3 | 33000 | 35×25 | 2.93 | 19 | 24 |
| 6.3 | 39000 | 25×40 | 3.18 | 16 | 20 |
| 6.3 | 39000 | 30×35 | 3.26 | 16 | 20 |
| 6.3 | 39000 | 35×30 | 3.4 | 16 | 20 |
| 6.3 | 47000 | 25×50 | 3.69 | 13 | 17 |
| 6.3 | 47000 | 30×40 | 3.69 | 13 | 17 |
| 6.3 | 47000 | 35×30 | 3.73 | 13 | 17 |
| 6.3 | 56000 | 30×45 | 4.16 | 11 | 14 |
| 6.3 | 56000 | 35×35 | 4.17 | 11 | 14 |
| 6.3 | 68000 | 30×50 | 4.71 | 9 | 12 |
| 6.3 | 68000 | 35×40 | 4.71 | 9 | 12 |
| 6.3 | 82000 | 35×45 | 5.32 | 8 | 10 |
| 10 | 4700 | 22×25 | 1.24 | 76 | 99 |
| 10 | 6800 | 22×25 | 1.4 | 53 | 68 |
| 10 | 8200 | 22×25 | 1.65 | 44 | 57 |
| 10 | 10000 | 22×25 | 1.9 | 36 | 46 |
| 10 | 12000 | 22×30 | 2.48 | 34 | 44 |
| 10 | 12000 | 25×25 | 2.48 | 34 | 44 |
| 10 | 15000 | 22×35 | 2.71 | 27 | 35 |
| 10 | 15000 | 25×25 | 2.6 | 27 | 35 |
| 10 | 18000 | 22×35 | 2.89 | 23 | 29 |
| 10 | 18000 | 25×30 | 2.94 | 23 | 29 |
| 10 | 18000 | 30×25 | 2.94 | 23 | 29 |
| 10 | 22000 | 22×40 | 2.96 | 19 | 24 |
| 10 | 22000 | 25×30 | 2.96 | 19 | 24 |
| 10 | 22000 | 30×25 | 3.08 | 19 | 24 |
| 10 | 27000 | 22×50 | 3.12 | 19 | 25 |
| 10 | 27000 | 25×40 | 3.12 | 19 | 25 |
| 10 | 27000 | 30×30 | 3.13 | 19 | 25 |
| 10 | 27000 | 35×25 | 3.21 | 19 | 25 |
| 10 | 33000 | 25×45 | 3.32 | 15 | 20 |
| 10 | 33000 | 35×30 | 3.85 | 15 | 20 |
| 10 | 39000 | 30×40 | 3.85 | 13 | 17 |
| 10 | 47000 | 30×45 | 3.98 | 11 | 14 |
| 10 | 47000 | 35×35 | 4.05 | 11 | 14 |
| 10 | 56000 | 30×50 | 4.21 | 9 | 12 |
| 10 | 56000 | 35×40 | 4.32 | 9 | 12 |
| 10 | 68000 | 35×45 | 5.12 | 8 | 10 |
| 10 | 100000 | 35×50 | 6.14 | 5 | 7 |
| 16 | 4700 | 22×25 | 1.55 | 76 | 99 |
| 16 | 6800 | 22×25 | 1.78 | 53 | 68 |
| 16 | 8200 | 22×25 | 2.14 | 44 | 57 |
| 16 | 10000 | 22×30 | 2.48 | 36 | 46 |
| 16 | 10000 | 25×25 | 2.56 | 36 | 46 |
| 16 | 12000 | 22×35 | 2.8 | 34 | 44 |
| 16 | 12000 | 25×30 | 2.9 | 34 | 44 |
| 16 | 12000 | 30×25 | 2.97 | 34 | 44 |

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 16 | 15000 | 22×40 | 3.17 | 27 | 35 |
| 16 | 15000 | 25×35 | 3.29 | 27 | 35 |
| 16 | 15000 | 30×30 | 3.38 | 27 | 35 |
| 16 | 18000 | 22×45 | 3.5 | 23 | 29 |
| 16 | 18000 | 25×40 | 3.65 | 23 | 29 |
| 16 | 18000 | 30×30 | 3.65 | 23 | 29 |
| 16 | 22000 | 22×45 | 3.65 | 19 | 24 |
| 16 | 22000 | 25×40 | 3.71 | 19 | 24 |
| 16 | 22000 | 30×35 | 3.83 | 19 | 24 |
| 16 | 27000 | 25×40 | 3.95 | 15 | 20 |
| 16 | 27000 | 30×35 | 3.96 | 15 | 20 |
| 16 | 33000 | 25×45 | 4.32 | 12 | 16 |
| 16 | 33000 | 30×35 | 4.41 | 12 | 16 |
| 16 | 33000 | 35×30 | 4.43 | 12 | 16 |
| 16 | 39000 | 30×40 | 4.9 | 10 | 14 |
| 16 | 39000 | 35×35 | 5.1 | 10 | 14 |
| 16 | 47000 | 30×45 | 5.3 | 9 | 11 |
| 16 | 47000 | 35×40 | 5.52 | 9 | 11 |
| 16 | 56000 | 30×50 | 6 | 7 | 10 |
| 16 | 56000 | 35×40 | 6.05 | 7 | 10 |
| 16 | 68000 | 35×50 | 6.4 | 6 | 8 |
| 25 | 2200 | 22×25 | 1.03 | 140 | 180 |
| 25 | 3300 | 22×25 | 1.48 | 92 | 120 |
| 25 | 4700 | 22×25 | 1.73 | 65 | 85 |
| 25 | 5600 | 22×25 | 1.85 | 55 | 71 |
| 25 | 6800 | 22×30 | 2.05 | 45 | 59 |
| 25 | 6800 | 25×25 | 2.1 | 45 | 59 |
| 25 | 8200 | 22×30 | 2.31 | 37 | 49 |
| 25 | 8200 | 25×25 | 2.31 | 37 | 49 |
| 25 | 10000 | 22×35 | 2.65 | 31 | 40 |
| 25 | 10000 | 25×30 | 2.68 | 31 | 40 |
| 25 | 12000 | 22×40 | 2.92 | 30 | 39 |
| 25 | 12000 | 25×30 | 2.91 | 30 | 39 |
| 25 | 12000 | 30×25 | 2.93 | 30 | 39 |
| 25 | 15000 | 22×45 | 3.18 | 24 | 31 |
| 25 | 15000 | 25×35 | 3.1 | 24 | 31 |
| 25 | 15000 | 30×30 | 3.32 | 24 | 31 |
| 25 | 18000 | 22×45 | 3.51 | 20 | 26 |
| 25 | 18000 | 25×40 | 3.6 | 20 | 26 |
| 25 | 18000 | 30×30 | 3.8 | 20 | 26 |
| 25 | 22000 | 25×45 | 4.04 | 16 | 21 |
| 25 | 22000 | 30×35 | 4.04 | 16 | 21 |
| 25 | 22000 | 35×30 | 4.04 | 16 | 21 |
| 25 | 27000 | 30×40 | 4.74 | 13 | 17 |
| 25 | 27000 | 35×35 | 4.76 | 13 | 17 |
| 25 | 33000 | 30×45 | 5.5 | 11 | 14 |
| 25 | 33000 | 35×40 | 5.7 | 11 | 14 |
| 25 | 39000 | 35×45 | 5.8 | 9 | 12 |
| 25 | 47000 | 35×50 | 6.3 | 8 | 10 |
| 35 | 1500 | 22×25 | 1.26 | 170 | 220 |
| 35 | 2200 | 22×25 | 1.35 | 120 | 150 |
| 35 | 2700 | 22×25 | 1.36 | 92 | 120 |
| 35 | 3300 | 22×25 | 1.49 | 77 | 100 |
| 35 | 3900 | 22×30 | 1.82 | 65 | 85 |
| 35 | 4700 | 22×30 | 2.02 | 54 | 71 |
| 35 | 4700 | 25×25 | 2.12 | 54 | 71 |
| 35 | 5600 | 22×30 | 2.25 | 46 | 59 |
| 35 | 5600 | 25×25 | 2.35 | 46 | 59 |
| 35 | 6800 | 22×35 | 2.36 | 38 | 49 |
| 35 | 6800 | 25×30 | 2.41 | 38 | 49 |

Case Size

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 35 | 6800 | 30×25 | 2.5 | 38 | 49 |
| 35 | 8200 | 22×40 | 2.55 | 31 | 40 |
| 35 | 8200 | 25×35 | 2.61 | 31 | 40 |
| 35 | 8200 | 30×25 | 2.65 | 31 | 40 |
| 35 | 10000 | 22×40 | 3 | 26 | 33 |
| 35 | 10000 | 25×35 | 3.15 | 26 | 33 |
| 35 | 10000 | 30×30 | 3.35 | 26 | 33 |
| 35 | 12000 | 22×45 | 3.47 | 26 | 33 |
| 35 | 12000 | 25×40 | 3.5 | 26 | 33 |
| 35 | 12000 | 30×35 | 3.52 | 26 | 33 |
| 35 | 12000 | 35×30 | 3.58 | 26 | 33 |
| 35 | 15000 | 25×45 | 3.65 | 20 | 27 |
| 35 | 15000 | 30×40 | 3.69 | 20 | 27 |
| 35 | 15000 | 35×35 | 3.75 | 20 | 27 |
| 35 | 18000 | 25×50 | 3.82 | 17 | 22 |
| 35 | 18000 | 30×40 | 3.95 | 17 | 22 |
| 35 | 18000 | 35×35 | 4.12 | 17 | 22 |
| 35 | 22000 | 30×45 | 4.38 | 14 | 18 |
| 35 | 22000 | 35×40 | 4.78 | 14 | 18 |
| 35 | 27000 | 30×50 | 4.86 | 13 | 17 |
| 35 | 27000 | 35×45 | 5.12 | 13 | 17 |
| 35 | 33000 | 35×50 | 5.9 | 11 | 14 |
| 50 | 1000 | 22×25 | 0.84 | 210 | 270 |
| 50 | 1500 | 22×25 | 1.27 | 140 | 180 |
| 50 | 1800 | 22×25 | 1.35 | 120 | 150 |
| 50 | 2200 | 22×25 | 1.48 | 92 | 120 |
| 50 | 2700 | 22×25 | 1.68 | 76 | 98 |
| 50 | 3300 | 22×30 | 1.75 | 62 | 80 |
| 50 | 3300 | 25×25 | 1.87 | 62 | 80 |
| 50 | 3900 | 22×30 | 2.12 | 52 | 68 |
| 50 | 3900 | 25×25 | 2.21 | 52 | 68 |
| 50 | 4700 | 22×35 | 2.25 | 43 | 56 |
| 50 | 4700 | 25×30 | 2.31 | 43 | 56 |
| 50 | 4700 | 30×25 | 2.33 | 43 | 56 |
| 50 | 5600 | 22×40 | 2.49 | 36 | 47 |
| 50 | 5600 | 25×35 | 2.76 | 36 | 47 |
| 50 | 5600 | 30×30 | 2.85 | 36 | 47 |
| 50 | 6800 | 22×50 | 3.1 | 30 | 39 |
| 50 | 6800 | 25×40 | 3.05 | 30 | 39 |
| 50 | 6800 | 30×35 | 3.34 | 30 | 39 |
| 50 | 6800 | 35×30 | 3.42 | 30 | 39 |
| 50 | 8200 | 25×45 | 3.48 | 25 | 32 |
| 50 | 8200 | 30×35 | 3.51 | 25 | 32 |
| 50 | 8200 | 35×30 | 3.6 | 25 | 32 |
| 50 | 10000 | 25×50 | 3.91 | 20 | 27 |
| 50 | 10000 | 30×40 | 3.98 | 20 | 27 |
| 50 | 10000 | 35×30 | 4.05 | 20 | 27 |
| 50 | 12000 | 30×45 | 4.31 | 26 | 33 |
| 50 | 12000 | 35×35 | 4.38 | 26 | 33 |
| 50 | 15000 | 35×50 | 4.8 | 20 | 27 |
| 50 | 18000 | 35×50 | 5.3 | 17 | 22 |
| 50 | 22000 | 35×60 | 5.5 | 14 | 18 |
| 63 | 680 | 22×25 | 0.7 | 300 | 390 |
| 63 | 1000 | 22×25 | 1 | 210 | 270 |
| 63 | 1200 | 22×25 | 1.21 | 170 | 220 |
| 63 | 1500 | 22×25 | 1.36 | 140 | 180 |
| 63 | 1800 | 22×30 | 1.41 | 120 | 150 |
| 63 | 1800 | 25×25 | 1.46 | 120 | 150 |
| 63 | 2200 | 22×30 | 1.54 | 92 | 120 |
| 63 | 2200 | 25×25 | 1.61 | 92 | 120 |

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 63 | 2700 | 22×35 | 2.02 | 76 | 98 |
| 63 | 2700 | 25×30 | 2.05 | 76 | 98 |
| 63 | 2700 | 30×25 | 2.1 | 76 | 98 |
| 63 | 3300 | 22×40 | 2.12 | 62 | 80 |
| 63 | 3300 | 25×35 | 2.2 | 62 | 80 |
| 63 | 3300 | 30×25 | 2.25 | 62 | 80 |
| 63 | 3300 | 35×25 | 2.32 | 62 | 80 |
| 63 | 3900 | 22×40 | 2.34 | 52 | 68 |
| 63 | 3900 | 25×35 | 2.42 | 52 | 68 |
| 63 | 3900 | 30×25 | 2.43 | 52 | 68 |
| 63 | 4700 | 22×45 | 2.59 | 43 | 56 |
| 63 | 4700 | 25×40 | 2.65 | 43 | 56 |
| 63 | 4700 | 30×30 | 2.71 | 43 | 56 |
| 63 | 5600 | 25×45 | 2.93 | 36 | 47 |
| 63 | 5600 | 30×35 | 3.05 | 36 | 47 |
| 63 | 5600 | 35×30 | 3.09 | 36 | 47 |
| 63 | 6800 | 30×40 | 3.72 | 30 | 39 |
| 63 | 6800 | 35×35 | 3.78 | 30 | 39 |
| 63 | 8200 | 30×40 | 3.82 | 25 | 32 |
| 63 | 8200 | 35×35 | 3.92 | 25 | 32 |
| 63 | 10000 | 30×45 | 4.05 | 20 | 27 |
| 63 | 10000 | 35×40 | 4.1 | 20 | 27 |
| 63 | 12000 | 35×45 | 4.76 | 21 | 28 |
| 63 | 15000 | 35×50 | 5.4 | 17 | 22 |
| 80 | 680 | 22×25 | 0.75 | 220 | 290 |
| 80 | 820 | 22×25 | 1.11 | 180 | 240 |
| 80 | 1000 | 22×25 | 1.22 | 150 | 200 |
| 80 | 1200 | 22×30 | 1.32 | 130 | 170 |
| 80 | 1200 | 25×25 | 1.39 | 130 | 170 |
| 80 | 1500 | 22×30 | 1.59 | 100 | 130 |
| 80 | 1500 | 25×25 | 1.6 | 100 | 130 |
| 80 | 1800 | 22×35 | 1.71 | 85 | 110 |
| 80 | 1800 | 25×30 | 1.75 | 85 | 110 |
| 80 | 1800 | 30×25 | 1.95 | 85 | 110 |
| 80 | 2200 | 22×40 | 2.12 | 70 | 90 |
| 80 | 2200 | 25×30 | 2.05 | 70 | 90 |
| 80 | 2700 | 22×45 | 2.41 | 57 | 74 |
| 80 | 2700 | 25×40 | 2.45 | 57 | 74 |
| 80 | 2700 | 30×30 | 2.49 | 57 | 74 |
| 80 | 3300 | 25×45 | 2.6 | 46 | 60 |
| 80 | 3300 | 30×35 | 2.64 | 46 | 60 |
| 80 | 3300 | 35×25 | 2.62 | 46 | 60 |
| 80 | 3900 | 30×35 | 2.95 | 39 | 51 |
| 80 | 3900 | 35×30 | 3.05 | 39 | 51 |
| 80 | 4700 | 30×45 | 3.21 | 33 | 42 |
| 80 | 4700 | 35×30 | 3.45 | 33 | 42 |
| 80 | 4700 | 35×35 | 3.51 | 33 | 42 |
| 80 | 5600 | 30×45 | 3.55 | 27 | 36 |
| 80 | 5600 | 35×35 | 3.65 | 27 | 36 |
| 80 | 6800 | 30×50 | 3.72 | 23 | 29 |
| 80 | 6800 | 35×45 | 3.9 | 23 | 29 |
| 80 | 8200 | 35×50 | 4.3 | 19 | 24 |
| 80 | 10000 | 35×50 | 4.4 | 15 | 20 |
| 100 | 330 | 22×25 | 0.55 | 460 | 600 |
| 100 | 470 | 22×25 | 0.79 | 320 | 420 |
| 100 | 560 | 22×25 | 1.06 | 280 | 360 |
| 100 | 680 | 22×25 | 1.16 | 220 | 290 |
| 100 | 680 | 22×30 | 1.18 | 220 | 290 |
| 100 | 680 | 25×25 | 1.2 | 220 | 290 |
| 100 | 680 | 30×25 | 1.25 | 220 | 290 |

Case Size

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 100 | 820 | 22×25 | 1.41 | 180 | 240 |
| 100 | 820 | 22×30 | 1.46 | 180 | 240 |
| 100 | 820 | 25×25 | 1.51 | 180 | 240 |
| 100 | 820 | 30×25 | 1.55 | 180 | 240 |
| 100 | 1000 | 22×30 | 1.71 | 150 | 200 |
| 100 | 1000 | 25×30 | 1.77 | 150 | 200 |
| 100 | 1000 | 25×35 | 1.8 | 150 | 200 |
| 100 | 1000 | 30×25 | 1.81 | 150 | 200 |
| 100 | 1200 | 22×30 | 1.83 | 130 | 170 |
| 100 | 1200 | 25×25 | 1.85 | 130 | 170 |
| 100 | 1200 | 25×35 | 1.94 | 130 | 170 |
| 100 | 1200 | 30×25 | 1.95 | 130 | 170 |
| 100 | 1500 | 22×35 | 2.11 | 100 | 130 |
| 100 | 1500 | 25×30 | 2.15 | 100 | 130 |
| 100 | 1500 | 25×35 | 2.19 | 100 | 130 |
| 100 | 1500 | 30×25 | 2.2 | 100 | 130 |
| 100 | 1500 | 35×25 | 2.26 | 100 | 130 |
| 100 | 1800 | 22×40 | 2.31 | 85 | 110 |
| 100 | 1800 | 25×35 | 2.32 | 85 | 110 |
| 100 | 1800 | 25×40 | 2.38 | 85 | 110 |
| 100 | 1800 | 30×25 | 2.33 | 85 | 110 |
| 100 | 1800 | 30×30 | 2.36 | 85 | 110 |
| 100 | 1800 | 35×25 | 2.4 | 85 | 110 |
| 100 | 2200 | 22×45 | 2.62 | 70 | 90 |
| 100 | 2200 | 25×40 | 2.65 | 70 | 90 |
| 100 | 2200 | 30×35 | 2.75 | 70 | 90 |
| 100 | 2200 | 35×25 | 2.7 | 70 | 90 |
| 100 | 2700 | 25×45 | 2.91 | 57 | 74 |
| 100 | 2700 | 30×35 | 2.93 | 57 | 74 |
| 100 | 2700 | 35×35 | 3.25 | 57 | 74 |
| 100 | 3300 | 25×50 | 3.31 | 46 | 60 |
| 100 | 3300 | 30×40 | 3.37 | 46 | 60 |
| 100 | 3300 | 35×35 | 3.45 | 46 | 60 |
| 100 | 3300 | 35×40 | 3.56 | 46 | 60 |
| 100 | 3900 | 30×45 | 3.68 | 39 | 51 |
| 100 | 3900 | 35×35 | 3.7 | 39 | 51 |
| 100 | 4700 | 30×50 | 3.82 | 33 | 42 |
| 100 | 4700 | 35×40 | 3.84 | 33 | 42 |
| 100 | 4700 | 35×50 | 3.97 | 33 | 42 |
| 100 | 5600 | 35×45 | 4.11 | 27 | 36 |
| 100 | 6800 | 35×50 | 4.51 | 23 | 29 |
| 100 | 8200 | 40×60 | 4.95 | 19 | 24 |
| 100 | 10000 | 40×60 | 5.24 | 15 | 20 |
| 160 | 220 | 22×25 | 0.42 | 500 | 900 |
| 160 | 270 | 22×25 | 0.95 | 410 | 740 |
| 160 | 330 | 22×25 | 1.11 | 330 | 600 |
| 160 | 330 | 22×30 | 1.12 | 330 | 600 |
| 160 | 330 | 25×25 | 1.13 | 330 | 600 |
| 160 | 390 | 22×25 | 1.15 | 280 | 510 |
| 160 | 390 | 22×30 | 1.22 | 280 | 510 |
| 160 | 390 | 25×25 | 1.25 | 280 | 510 |
| 160 | 470 | 22×25 | 1.41 | 230 | 420 |
| 160 | 470 | 22×30 | 1.45 | 230 | 420 |
| 160 | 470 | 25×25 | 1.5 | 230 | 420 |
| 160 | 560 | 22×25 | 1.62 | 200 | 360 |
| 160 | 560 | 25×30 | 1.75 | 200 | 360 |
| 160 | 680 | 22×30 | 1.84 | 160 | 290 |
| 160 | 680 | 25×25 | 1.86 | 160 | 290 |
| 160 | 680 | 30×25 | 2.01 | 160 | 290 |
| 160 | 820 | 22×35 | 2 | 130 | 240 |

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 160 | 820 | 25×30 | 2.01 | 130 | 240 |
| 160 | 820 | 25×45 | 2.2 | 130 | 240 |
| 160 | 820 | 30×25 | 2.05 | 130 | 240 |
| 160 | 820 | 30×30 | 2.1 | 130 | 240 |
| 160 | 1000 | 22×40 | 2.34 | 110 | 200 |
| 160 | 1000 | 22×50 | 2.41 | 110 | 200 |
| 160 | 1000 | 25×35 | 2.36 | 110 | 200 |
| 160 | 1000 | 25×45 | 2.47 | 110 | 200 |
| 160 | 1000 | 30×25 | 2.06 | 110 | 200 |
| 160 | 1000 | 30×35 | 2.47 | 110 | 200 |
| 160 | 1200 | 22×45 | 2.62 | 94 | 170 |
| 160 | 1200 | 25×35 | 2.61 | 94 | 170 |
| 160 | 1200 | 30×30 | 2.66 | 94 | 170 |
| 160 | 1200 | 35×25 | 2.7 | 94 | 170 |
| 160 | 1500 | 25×40 | 2.83 | 72 | 130 |
| 160 | 1500 | 30×35 | 2.89 | 72 | 130 |
| 160 | 1500 | 35×25 | 2.88 | 72 | 130 |
| 160 | 1500 | 35×30 | 2.96 | 72 | 130 |
| 160 | 1800 | 25×50 | 3.25 | 61 | 110 |
| 160 | 1800 | 30×35 | 3.2 | 61 | 110 |
| 160 | 1800 | 35×30 | 3.25 | 61 | 110 |
| 160 | 2200 | 30×45 | 3.26 | 50 | 90 |
| 160 | 2200 | 35×35 | 3.32 | 50 | 90 |
| 160 | 2700 | 30×50 | 3.67 | 41 | 74 |
| 160 | 2700 | 35×40 | 3.68 | 41 | 74 |
| 160 | 3300 | 35×45 | 3.71 | 33 | 60 |
| 180 | 270 | 22×25 | 0.98 | 410 | 740 |
| 180 | 330 | 22×25 | 1.14 | 330 | 600 |
| 180 | 390 | 22×25 | 1.31 | 280 | 510 |
| 180 | 470 | 22×25 | 1.46 | 230 | 420 |
| 180 | 470 | 22×30 | 1.5 | 230 | 420 |
| 180 | 560 | 22×30 | 1.67 | 200 | 360 |
| 180 | 560 | 25×25 | 1.69 | 200 | 360 |
| 180 | 680 | 22×35 | 1.88 | 160 | 290 |
| 180 | 680 | 25×30 | 1.9 | 160 | 290 |
| 180 | 820 | 22×40 | 2.12 | 130 | 240 |
| 180 | 820 | 25×30 | 2.12 | 130 | 240 |
| 180 | 820 | 30×25 | 2.15 | 130 | 240 |
| 180 | 1000 | 22×45 | 2.39 | 110 | 200 |
| 180 | 1000 | 25×35 | 2.39 | 110 | 200 |
| 180 | 1000 | 30×25 | 2.36 | 110 | 200 |
| 180 | 1000 | 35×25 | 2.47 | 110 | 200 |
| 180 | 1200 | 22×50 | 2.7 | 94 | 170 |
| 180 | 1200 | 25×40 | 2.7 | 94 | 170 |
| 180 | 1200 | 30×35 | 2.75 | 94 | 170 |
| 180 | 1500 | 25×50 | 3 | 72 | 130 |
| 180 | 1500 | 30×40 | 3.05 | 72 | 130 |
| 180 | 1500 | 35×30 | 3.07 | 72 | 130 |
| 180 | 1800 | 30×45 | 3.2 | 61 | 110 |
| 180 | 1800 | 35×35 | 3.25 | 61 | 110 |
| 180 | 2200 | 30×50 | 3.33 | 50 | 90 |
| 180 | 2200 | 35×40 | 3.35 | 50 | 90 |
| 180 | 2700 | 35×45 | 3.69 | 41 | 74 |
| 180 | 3300 | 35×50 | 3.72 | 33 | 60 |
| 200 | 100 | 22×20 | 0.52 | 1110 | 1990 |
| 200 | 120 | 22×20 | 0.53 | 920 | 1660 |
| 200 | 150 | 22×20 | 0.7 | 740 | 1330 |
| 200 | 150 | 22×25 | 0.72 | 740 | 1330 |
| 200 | 150 | 25×20 | 0.72 | 740 | 1330 |
| 200 | 150 | 25×25 | 0.73 | 740 | 1330 |

Case Size

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 200 | 180 | 22×25 | 0.84 | 620 | 1110 |
| 200 | 180 | 25×20 | 0.85 | 620 | 1110 |
| 200 | 180 | 30×20 | 0.87 | 620 | 1110 |
| 200 | 220 | 22×25 | 0.96 | 500 | 900 |
| 200 | 220 | 25×20 | 0.96 | 500 | 900 |
| 200 | 220 | 25×25 | 1.14 | 500 | 900 |
| 200 | 220 | 30×20 | 1.14 | 500 | 900 |
| 200 | 270 | 22×25 | 1.1 | 410 | 740 |
| 200 | 270 | 25×30 | 1.2 | 410 | 740 |
| 200 | 270 | 25×25 | 1.2 | 410 | 740 |
| 200 | 270 | 30×20 | 1.2 | 410 | 740 |
| 200 | 270 | 30×25 | 1.25 | 410 | 740 |
| 200 | 330 | 22×25 | 1.15 | 330 | 600 |
| 200 | 330 | 22×30 | 1.22 | 330 | 600 |
| 200 | 330 | 25×25 | 1.23 | 330 | 600 |
| 200 | 330 | 25×30 | 1.3 | 330 | 600 |
| 200 | 330 | 30×25 | 1.3 | 330 | 600 |
| 200 | 330 | 35×20 | 1.27 | 330 | 600 |
| 200 | 390 | 22×25 | 1.31 | 280 | 510 |
| 200 | 390 | 22×30 | 1.37 | 280 | 510 |
| 200 | 390 | 25×25 | 1.37 | 280 | 510 |
| 200 | 390 | 25×30 | 1.45 | 280 | 510 |
| 200 | 390 | 30×25 | 1.45 | 280 | 510 |
| 200 | 470 | 22×30 | 1.51 | 230 | 420 |
| 200 | 470 | 22×35 | 1.6 | 230 | 420 |
| 200 | 470 | 25×30 | 1.6 | 230 | 420 |
| 200 | 470 | 25×35 | 1.65 | 230 | 420 |
| 200 | 470 | 30×25 | 1.65 | 230 | 420 |
| 200 | 560 | 22×30 | 1.67 | 200 | 360 |
| 200 | 560 | 22×35 | 1.71 | 200 | 360 |
| 200 | 560 | 25×30 | 1.71 | 200 | 360 |
| 200 | 560 | 25×35 | 1.8 | 200 | 360 |
| 200 | 560 | 30×25 | 1.75 | 200 | 360 |
| 200 | 560 | 30×30 | 1.8 | 200 | 360 |
| 200 | 560 | 35×25 | 1.76 | 200 | 360 |
| 200 | 680 | 22×35 | 1.89 | 160 | 290 |
| 200 | 680 | 22×40 | 2 | 160 | 290 |
| 200 | 680 | 25×30 | 2 | 160 | 290 |
| 200 | 680 | 25×35 | 2.15 | 160 | 290 |
| 200 | 680 | 30×30 | 2.15 | 160 | 290 |
| 200 | 680 | 35×25 | 2.15 | 160 | 290 |
| 200 | 820 | 22×40 | 2.13 | 130 | 240 |
| 200 | 820 | 22×45 | 2.25 | 130 | 240 |
| 200 | 820 | 25×35 | 2.25 | 130 | 240 |
| 200 | 820 | 25×40 | 2.4 | 130 | 240 |
| 200 | 820 | 30×30 | 2.4 | 130 | 240 |
| 200 | 820 | 35×25 | 2.4 | 130 | 240 |
| 200 | 820 | 35×30 | 2.49 | 130 | 240 |
| 200 | 1000 | 22×50 | 2.45 | 110 | 200 |
| 200 | 1000 | 25×40 | 2.43 | 110 | 200 |
| 200 | 1000 | 25×45 | 2.56 | 110 | 200 |
| 200 | 1000 | 30×30 | 2.45 | 110 | 200 |
| 200 | 1000 | 30×35 | 2.58 | 110 | 200 |
| 200 | 1000 | 35×25 | 2.47 | 110 | 200 |
| 200 | 1000 | 35×30 | 2.58 | 110 | 200 |
| 200 | 1200 | 25×45 | 2.66 | 94 | 170 |
| 200 | 1200 | 25×50 | 2.78 | 94 | 170 |
| 200 | 1200 | 30×35 | 2.66 | 94 | 170 |
| 200 | 1200 | 30×40 | 2.8 | 94 | 170 |
| 200 | 1200 | 35×25 | 2.7 | 94 | 170 |

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 200 | 1200 | 35×30 | 2.83 | 94 | 170 |
| 200 | 1500 | 25×50 | 2.97 | 72 | 130 |
| 200 | 1500 | 30×40 | 3.06 | 72 | 130 |
| 200 | 1500 | 35×30 | 3.08 | 72 | 130 |
| 200 | 1500 | 35×45 | 3.2 | 72 | 130 |
| 200 | 1800 | 30×45 | 3.26 | 61 | 110 |
| 200 | 1800 | 35×35 | 3.26 | 61 | 110 |
| 200 | 1800 | 35×40 | 3.37 | 61 | 110 |
| 200 | 2200 | 30×50 | 3.51 | 50 | 90 |
| 200 | 2200 | 35×40 | 3.51 | 50 | 90 |
| 200 | 2200 | 35×45 | 3.63 | 50 | 90 |
| 200 | 2700 | 35×45 | 3.7 | 41 | 74 |
| 200 | 2700 | 35×50 | 3.83 | 41 | 74 |
| 220 | 150 | 22×25 | 0.73 | 740 | 1330 |
| 220 | 180 | 22×25 | 0.85 | 620 | 1110 |
| 220 | 180 | 25×25 | 0.9 | 620 | 1110 |
| 220 | 220 | 22×25 | 0.97 | 500 | 900 |
| 220 | 220 | 25×25 | 1.05 | 500 | 900 |
| 220 | 220 | 30×20 | 1.14 | 500 | 900 |
| 220 | 270 | 22×25 | 1.11 | 410 | 740 |
| 220 | 270 | 25×25 | 1.23 | 410 | 740 |
| 220 | 330 | 22×35 | 1.36 | 330 | 600 |
| 220 | 330 | 25×25 | 1.36 | 330 | 600 |
| 220 | 330 | 30×25 | 1.47 | 330 | 600 |
| 220 | 390 | 22×35 | 1.48 | 280 | 510 |
| 220 | 390 | 25×30 | 1.48 | 280 | 510 |
| 220 | 390 | 30×25 | 1.45 | 280 | 510 |
| 220 | 470 | 22×35 | 1.53 | 230 | 420 |
| 220 | 470 | 25×30 | 1.54 | 230 | 420 |
| 220 | 470 | 30×25 | 1.56 | 230 | 420 |
| 220 | 560 | 22×40 | 1.69 | 200 | 360 |
| 220 | 560 | 25×35 | 1.73 | 200 | 360 |
| 220 | 560 | 30×30 | 1.73 | 200 | 360 |
| 220 | 560 | 35×25 | 1.73 | 200 | 360 |
| 220 | 680 | 22×45 | 1.91 | 160 | 290 |
| 220 | 680 | 25×40 | 1.93 | 160 | 290 |
| 220 | 680 | 30×35 | 2.05 | 160 | 290 |
| 220 | 680 | 35×30 | 2.06 | 160 | 290 |
| 220 | 820 | 22×50 | 2.17 | 130 | 240 |
| 220 | 820 | 25×40 | 2.17 | 130 | 240 |
| 220 | 820 | 30×35 | 2.18 | 130 | 240 |
| 220 | 820 | 35×30 | 2.2 | 130 | 240 |
| 220 | 1000 | 25×45 | 2.46 | 110 | 200 |
| 220 | 1000 | 30×35 | 2.49 | 110 | 200 |
| 220 | 1000 | 35×30 | 2.51 | 110 | 200 |
| 220 | 1200 | 25×50 | 2.79 | 94 | 170 |
| 220 | 1200 | 30×40 | 2.8 | 94 | 170 |
| 220 | 1200 | 35×35 | 2.84 | 94 | 170 |
| 220 | 1500 | 30×45 | 3.07 | 72 | 130 |
| 220 | 1500 | 35×40 | 3.09 | 72 | 130 |
| 220 | 1800 | 30×50 | 3.27 | 61 | 110 |
| 220 | 2200 | 35×50 | 3.54 | 50 | 90 |
| 250 | 68 | 22×25 | 0.38 | 1630 | 2930 |
| 250 | 82 | 22×25 | 0.48 | 1350 | 2430 |
| 250 | 100 | 22×25 | 0.53 | 1110 | 1990 |
| 250 | 100 | 25×25 | 0.65 | 1110 | 1990 |
| 250 | 120 | 22×25 | 0.75 | 920 | 1660 |
| 250 | 150 | 22×25 | 0.78 | 740 | 1330 |
| 250 | 150 | 25×25 | 0.85 | 740 | 1330 |

Case Size

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 250 | 150 | 30×25 | 0.89 | 740 | 1330 |
| 250 | 180 | 22×25 | 0.89 | 620 | 1110 |
| 250 | 180 | 30×25 | 0.95 | 620 | 1110 |
| 250 | 220 | 22×25 | 1.01 | 500 | 900 |
| 250 | 220 | 22×30 | 1.07 | 500 | 900 |
| 250 | 220 | 25×25 | 1.07 | 500 | 900 |
| 250 | 220 | 30×25 | 1.15 | 500 | 900 |
| 250 | 270 | 22×25 | 1.15 | 410 | 740 |
| 250 | 270 | 22×30 | 1.2 | 410 | 740 |
| 250 | 270 | 25×25 | 1.2 | 410 | 740 |
| 250 | 270 | 25×30 | 1.25 | 410 | 740 |
| 250 | 270 | 30×25 | 1.25 | 410 | 740 |
| 250 | 270 | 30×30 | 1.32 | 410 | 740 |
| 250 | 330 | 22×35 | 1.26 | 330 | 600 |
| 250 | 330 | 25×25 | 1.27 | 330 | 600 |
| 250 | 330 | 25×30 | 1.38 | 330 | 600 |
| 250 | 330 | 30×25 | 1.38 | 330 | 600 |
| 250 | 330 | 35×25 | 1.45 | 330 | 600 |
| 250 | 390 | 22×35 | 1.42 | 280 | 510 |
| 250 | 390 | 25×30 | 1.45 | 280 | 510 |
| 250 | 390 | 30×25 | 1.45 | 280 | 510 |
| 250 | 390 | 30×30 | 1.54 | 280 | 510 |
| 250 | 390 | 35×25 | 1.56 | 280 | 510 |
| 250 | 470 | 22×35 | 1.57 | 230 | 420 |
| 250 | 470 | 22×40 | 1.7 | 230 | 420 |
| 250 | 470 | 25×30 | 1.67 | 230 | 420 |
| 250 | 470 | 25×35 | 1.72 | 230 | 420 |
| 250 | 470 | 30×25 | 1.72 | 230 | 420 |
| 250 | 470 | 30×30 | 1.79 | 230 | 420 |
| 250 | 470 | 35×25 | 1.79 | 230 | 420 |
| 250 | 560 | 22×40 | 1.87 | 200 | 360 |
| 250 | 560 | 22×45 | 1.97 | 200 | 360 |
| 250 | 560 | 25×35 | 1.88 | 200 | 360 |
| 250 | 560 | 25×40 | 1.97 | 200 | 360 |
| 250 | 560 | 30×25 | 1.88 | 200 | 360 |
| 250 | 560 | 30×30 | 1.97 | 200 | 360 |
| 250 | 560 | 35×25 | 1.98 | 200 | 360 |
| 250 | 560 | 35×30 | 2.1 | 200 | 360 |
| 250 | 680 | 22×45 | 2.15 | 160 | 290 |
| 250 | 680 | 25×40 | 2.2 | 160 | 290 |
| 250 | 680 | 30×35 | 2.24 | 160 | 290 |
| 250 | 680 | 35×30 | 2.25 | 160 | 290 |
| 250 | 820 | 25×45 | 2.56 | 130 | 240 |
| 250 | 820 | 30×35 | 2.56 | 130 | 240 |
| 250 | 820 | 35×30 | 2.57 | 130 | 240 |
| 250 | 1000 | 25×50 | 2.85 | 110 | 200 |
| 250 | 1000 | 30×40 | 2.85 | 110 | 200 |
| 250 | 1000 | 35×30 | 2.86 | 110 | 200 |
| 250 | 1200 | 30×45 | 3.2 | 94 | 170 |
| 250 | 1200 | 35×35 | 2.25 | 94 | 170 |
| 250 | 1500 | 30×50 | 3.83 | 72 | 130 |
| 250 | 1500 | 35×40 | 3.91 | 72 | 130 |
| 250 | 1800 | 35×45 | 4.3 | 61 | 110 |
| 250 | 1800 | 35×50 | 4.56 | 61 | 110 |
| 250 | 1800 | 35×55 | 4.88 | 61 | 110 |
| 250 | 2200 | 35×50 | 5 | 50 | 90 |
| 250 | 2200 | 35×55 | 5.19 | 50 | 90 |
| 315 | 120 | 22×25 | 0.76 | 920 | 1660 |
| 315 | 150 | 22×25 | 0.83 | 740 | 1330 |
| 315 | 180 | 22×30 | 0.92 | 620 | 1110 |

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 315 | 220 | 22×30 | 1.07 | 500 | 900 |
| 315 | 270 | 22×35 | 1.21 | 410 | 740 |
| 315 | 270 | 25×30 | 1.25 | 410 | 740 |
| 315 | 330 | 22×45 | 1.28 | 330 | 600 |
| 315 | 330 | 25×35 | 1.31 | 330 | 600 |
| 315 | 330 | 30×25 | 1.28 | 330 | 600 |
| 315 | 390 | 22×45 | 1.53 | 280 | 510 |
| 315 | 390 | 25×40 | 1.55 | 280 | 510 |
| 315 | 390 | 30×30 | 1.56 | 280 | 510 |
| 315 | 390 | 35×25 | 1.57 | 280 | 510 |
| 315 | 470 | 25×45 | 1.73 | 230 | 420 |
| 315 | 470 | 30×35 | 1.8 | 230 | 420 |
| 315 | 470 | 35×25 | 1.83 | 230 | 420 |
| 315 | 560 | 25×50 | 1.94 | 200 | 360 |
| 315 | 560 | 30×40 | 1.95 | 200 | 360 |
| 315 | 560 | 35×30 | 2.03 | 200 | 360 |
| 315 | 680 | 30×45 | 2.25 | 160 | 290 |
| 315 | 680 | 35×35 | 2.26 | 160 | 290 |
| 315 | 820 | 30×50 | 2.58 | 130 | 240 |
| 315 | 820 | 35×40 | 2.58 | 130 | 240 |
| 315 | 1000 | 35×45 | 2.87 | 110 | 200 |
| 315 | 1000 | 35×50 | 2.88 | 110 | 200 |
| 315 | 1200 | 35×45 | 2.92 | 94 | 170 |
| 315 | 1200 | 35×50 | 2.95 | 94 | 170 |
| 350 | 82 | 22×25 | 0.52 | 1350 | 2430 |
| 350 | 100 | 22×25 | 0.55 | 1110 | 1990 |
| 350 | 120 | 22×30 | 0.77 | 920 | 1660 |
| 350 | 150 | 22×30 | 0.82 | 740 | 1330 |
| 350 | 180 | 22×30 | 0.9 | 620 | 1110 |
| 350 | 180 | 25×30 | 0.97 | 620 | 1110 |
| 350 | 220 | 22×35 | 1.08 | 500 | 900 |
| 350 | 220 | 25×30 | 1.09 | 500 | 900 |
| 350 | 270 | 22×40 | 1.22 | 410 | 740 |
| 350 | 270 | 25×35 | 1.26 | 410 | 740 |
| 350 | 270 | 30×30 | 1.27 | 410 | 740 |
| 350 | 330 | 22×45 | 1.29 | 330 | 600 |
| 350 | 330 | 25×40 | 1.32 | 330 | 600 |
| 350 | 330 | 30×30 | 1.32 | 330 | 600 |
| 350 | 390 | 25×45 | 1.56 | 280 | 510 |
| 350 | 390 | 30×35 | 1.57 | 280 | 510 |
| 350 | 390 | 35×30 | 1.56 | 280 | 510 |
| 350 | 470 | 25×45 | 1.74 | 230 | 420 |
| 350 | 470 | 30×40 | 1.81 | 230 | 420 |
| 350 | 470 | 35×35 | 1.84 | 230 | 420 |
| 350 | 560 | 30×45 | 1.96 | 200 | 360 |
| 350 | 560 | 35×40 | 2.04 | 200 | 360 |
| 350 | 680 | 30×45 | 2.26 | 160 | 290 |
| 350 | 680 | 35×40 | 2.27 | 160 | 290 |
| 350 | 680 | 40×35 | 2.28 | 160 | 290 |
| 350 | 820 | 30×50 | 2.27 | 130 | 240 |
| 350 | 820 | 35×45 | 2.59 | 130 | 240 |
| 350 | 1000 | 35×50 | 2.89 | 110 | 200 |
| 350 | 1000 | 40×45 | 2.9 | 110 | 200 |
| 350 | 1200 | 35×50 | 2.87 | 94 | 170 |
| 350 | 1200 | 40×45 | 2.87 | 94 | 170 |
| 400 | 56 | 22×20 | 0.46 | 1970 | 3550 |
| 400 | 68 | 22×20 | 0.51 | 1630 | 2930 |
| 400 | 82 | 22×25 | 0.64 | 1350 | 2430 |
| 400 | 82 | 25×25 | 0.69 | 1350 | 2430 |
| 400 | 100 | 22×25 | 0.69 | 1110 | 1990 |

Case Size

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ | WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|----------|----------|---------|---|------------------------|-----------------------|
| 400 | 100 | 25×25 | 0.75 | 1110 | 1990 | 420 | 270 | 22×50 | 1.27 | 540 | 980 |
| 400 | 120 | 22×25 | 0.78 | 920 | 1660 | 420 | 270 | 25×40 | 1.26 | 540 | 980 |
| 400 | 120 | 22×30 | 0.83 | 920 | 1660 | 420 | 270 | 30×30 | 1.28 | 540 | 980 |
| 400 | 120 | 25×25 | 0.83 | 920 | 1660 | 420 | 270 | 35×25 | 1.3 | 540 | 980 |
| 400 | 150 | 22×30 | 0.86 | 740 | 1330 | 420 | 330 | 22×50 | 1.41 | 440 | 800 |
| 400 | 150 | 25×25 | 0.86 | 740 | 1330 | 420 | 330 | 25×45 | 1.49 | 440 | 800 |
| 400 | 150 | 25×30 | 0.9 | 740 | 1330 | 420 | 330 | 30×35 | 1.49 | 440 | 800 |
| 400 | 150 | 30×25 | 0.89 | 740 | 1330 | 420 | 330 | 30×40 | 1.54 | 440 | 800 |
| 400 | 180 | 22×35 | 1 | 620 | 1110 | 420 | 330 | 35×30 | 1.54 | 440 | 800 |
| 400 | 180 | 25×30 | 1.05 | 620 | 1110 | 420 | 330 | 35×35 | 1.67 | 440 | 800 |
| 400 | 180 | 30×25 | 1.07 | 620 | 1110 | 420 | 390 | 22×55 | 1.62 | 380 | 680 |
| 400 | 220 | 22×40 | 1.09 | 500 | 900 | 420 | 390 | 25×50 | 1.7 | 380 | 680 |
| 400 | 220 | 25×30 | 1.1 | 500 | 900 | 420 | 390 | 30×40 | 1.72 | 380 | 680 |
| 400 | 220 | 30×25 | 1.1 | 500 | 900 | 420 | 390 | 35×35 | 1.75 | 380 | 680 |
| 400 | 220 | 30×30 | 1.16 | 500 | 900 | 420 | 470 | 25×50 | 1.85 | 310 | 560 |
| 400 | 270 | 25×35 | 1.26 | 410 | 740 | 420 | 470 | 30×45 | 1.9 | 310 | 560 |
| 400 | 270 | 30×30 | 1.28 | 410 | 740 | 420 | 470 | 35×35 | 1.9 | 310 | 560 |
| 400 | 330 | 22×45 | 1.46 | 330 | 600 | 420 | 470 | 35×40 | 1.97 | 310 | 560 |
| 400 | 330 | 25×40 | 1.48 | 330 | 600 | 420 | 560 | 30×50 | 2.23 | 260 | 470 |
| 400 | 330 | 30×35 | 1.52 | 330 | 600 | 420 | 560 | 35×40 | 2.24 | 260 | 470 |
| 400 | 330 | 35×30 | 1.52 | 330 | 600 | 420 | 560 | 35×45 | 2.32 | 260 | 470 |
| 400 | 390 | 25×45 | 1.69 | 280 | 510 | 420 | 680 | 35×45 | 2.76 | 220 | 390 |
| 400 | 390 | 30×40 | 1.72 | 280 | 510 | 420 | 680 | 35×50 | 2.77 | 220 | 390 |
| 400 | 390 | 35×35 | 1.74 | 280 | 510 | 420 | 820 | 35×55 | 2.98 | 180 | 320 |
| 400 | 470 | 25×50 | 1.84 | 230 | 420 | 420 | 1000 | 35×60 | 3.15 | 150 | 270 |
| 400 | 470 | 30×40 | 1.92 | 230 | 420 | 420 | 1000 | 40×50 | 3.25 | 150 | 270 |
| 400 | 470 | 35×35 | 1.95 | 230 | 420 | 450 | 68 | 22×25 | 0.53 | 2170 | 3900 |
| 400 | 560 | 30×45 | 2.32 | 200 | 360 | 450 | 82 | 22×25 | 0.66 | 1790 | 3230 |
| 400 | 560 | 35×40 | 2.33 | 200 | 360 | 450 | 82 | 22×30 | 0.71 | 1790 | 3230 |
| 400 | 680 | 30×50 | 2.68 | 160 | 290 | 450 | 82 | 25×25 | 0.71 | 1790 | 3230 |
| 400 | 680 | 35×45 | 2.75 | 160 | 290 | 450 | 100 | 22×25 | 0.72 | 1470 | 2650 |
| 400 | 820 | 35×45 | 2.92 | 130 | 240 | 450 | 100 | 22×30 | 0.75 | 1470 | 2650 |
| 400 | 820 | 35×50 | 2.97 | 130 | 240 | 450 | 100 | 25×25 | 0.75 | 1470 | 2650 |
| 400 | 1000 | 35×50 | 3.15 | 110 | 200 | 450 | 100 | 25×30 | 0.82 | 1470 | 2650 |
| 400 | 1200 | 35×60 | 3.29 | 94 | 170 | 450 | 100 | 30×25 | 0.83 | 1470 | 2650 |
| 400 | 1200 | 40×50 | 3.29 | 94 | 170 | 450 | 120 | 22×30 | 0.82 | 1230 | 2210 |
| 420 | 68 | 22×25 | 0.53 | 2170 | 3900 | 450 | 120 | 22×35 | 0.86 | 1230 | 2210 |
| 420 | 82 | 22×25 | 0.65 | 1790 | 3230 | 450 | 120 | 25×25 | 0.82 | 1230 | 2210 |
| 420 | 82 | 25×25 | 0.7 | 1790 | 3230 | 450 | 120 | 25×30 | 0.86 | 1230 | 2210 |
| 420 | 100 | 22×25 | 0.71 | 1470 | 2650 | 450 | 120 | 30×25 | 0.86 | 1230 | 2210 |
| 420 | 100 | 22×30 | 0.75 | 1470 | 2650 | 450 | 120 | 35×25 | 0.95 | 1230 | 2210 |
| 420 | 100 | 25×25 | 0.75 | 1470 | 2650 | 450 | 150 | 22×30 | 0.91 | 980 | 1770 |
| 420 | 120 | 22×25 | 0.79 | 1230 | 2210 | 450 | 150 | 22×35 | 0.93 | 980 | 1770 |
| 420 | 120 | 22×30 | 0.83 | 1230 | 2210 | 450 | 150 | 22×40 | 0.95 | 980 | 1770 |
| 420 | 120 | 25×25 | 0.84 | 1230 | 2210 | 450 | 150 | 25×30 | 0.94 | 980 | 1770 |
| 420 | 120 | 25×30 | 0.89 | 1230 | 2210 | 450 | 150 | 25×35 | 0.97 | 980 | 1770 |
| 420 | 150 | 22×30 | 0.87 | 980 | 1770 | 450 | 150 | 30×25 | 0.98 | 980 | 1770 |
| 420 | 150 | 22×35 | 0.93 | 980 | 1770 | 450 | 150 | 30×30 | 1.06 | 980 | 1770 |
| 420 | 150 | 25×30 | 0.93 | 980 | 1770 | 450 | 150 | 35×25 | 1.08 | 980 | 1770 |
| 420 | 150 | 30×25 | 0.93 | 980 | 1770 | 450 | 180 | 22×35 | 1.02 | 820 | 1470 |
| 420 | 180 | 22×35 | 0.96 | 820 | 1470 | 450 | 180 | 22×40 | 1.05 | 820 | 1470 |
| 420 | 180 | 22×40 | 1.02 | 820 | 1470 | 450 | 180 | 25×30 | 1.05 | 820 | 1470 |
| 420 | 180 | 25×30 | 1.02 | 820 | 1470 | 450 | 180 | 25×35 | 1.1 | 820 | 1470 |
| 420 | 180 | 30×25 | 1 | 820 | 1470 | 450 | 180 | 30×25 | 1.1 | 820 | 1470 |
| 420 | 220 | 22×40 | 1.13 | 670 | 1210 | 450 | 180 | 30×30 | 1.19 | 820 | 1470 |
| 420 | 220 | 22×45 | 1.19 | 670 | 1210 | 450 | 180 | 35×25 | 1.2 | 820 | 1470 |
| 420 | 220 | 25×35 | 1.15 | 670 | 1210 | 450 | 180 | 35×30 | 1.28 | 820 | 1470 |
| 420 | 220 | 30×25 | 1.16 | 670 | 1210 | 450 | 220 | 22×40 | 1.12 | 670 | 1210 |
| 420 | 220 | 30×30 | 1.21 | 670 | 1210 | 450 | 220 | 22×45 | 1.2 | 670 | 1210 |
| 420 | 220 | 35×25 | 1.23 | 670 | 1210 | 450 | 220 | 25×35 | 1.2 | 670 | 1210 |

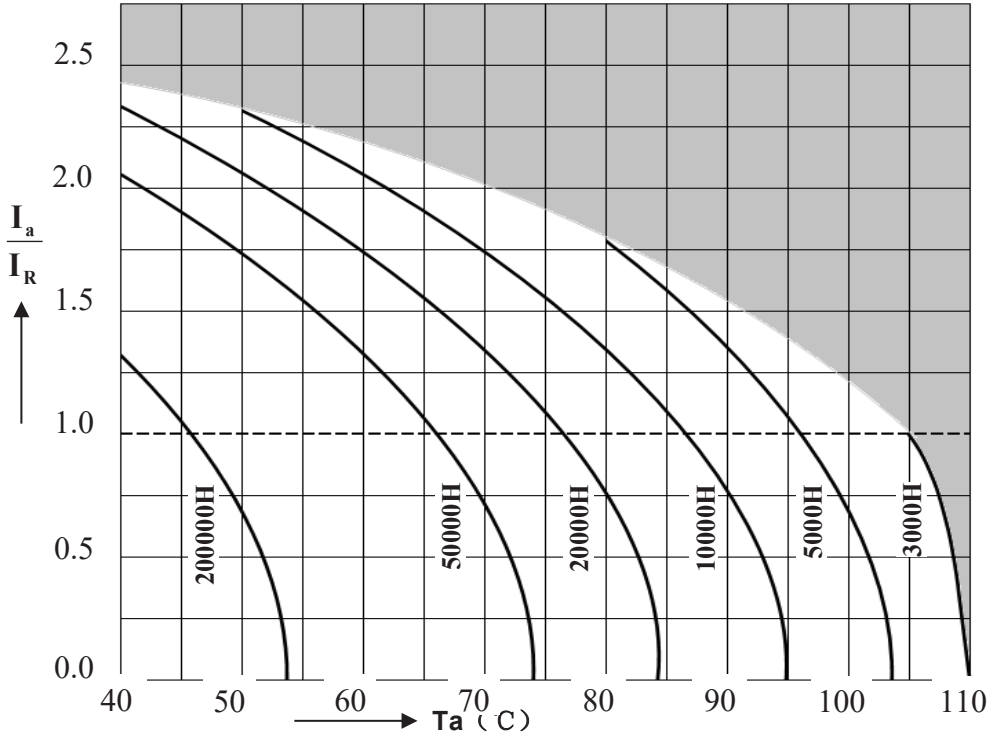
Case Size

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 450 | 220 | 25×40 | 1.25 | 670 | 1210 |
| 450 | 220 | 30×25 | 1.17 | 670 | 1210 |
| 450 | 220 | 30×30 | 1.25 | 670 | 1210 |
| 450 | 220 | 35×25 | 1.24 | 670 | 1210 |
| 450 | 220 | 35×30 | 1.33 | 670 | 1210 |
| 450 | 270 | 22×50 | 1.3 | 540 | 980 |
| 450 | 270 | 25×40 | 1.3 | 540 | 980 |
| 450 | 270 | 30×30 | 1.29 | 540 | 980 |
| 450 | 270 | 30×35 | 1.42 | 540 | 980 |
| 450 | 270 | 35×25 | 1.35 | 540 | 980 |
| 450 | 270 | 35×30 | 1.42 | 540 | 980 |
| 450 | 330 | 25×50 | 1.68 | 440 | 800 |
| 450 | 330 | 30×35 | 1.54 | 440 | 800 |
| 450 | 330 | 30×40 | 1.69 | 440 | 800 |
| 450 | 330 | 35×30 | 1.7 | 440 | 800 |
| 450 | 330 | 35×35 | 1.87 | 440 | 800 |
| 450 | 390 | 25×50 | 1.71 | 380 | 680 |
| 450 | 390 | 30×40 | 1.69 | 380 | 680 |
| 450 | 390 | 30×45 | 1.9 | 380 | 680 |
| 450 | 390 | 35×35 | 1.91 | 380 | 680 |
| 450 | 390 | 35×40 | 2.07 | 380 | 680 |
| 450 | 470 | 30×45 | 1.94 | 310 | 560 |
| 450 | 470 | 30×50 | 2.23 | 310 | 560 |
| 450 | 470 | 35×35 | 1.97 | 310 | 560 |
| 450 | 470 | 35×40 | 2.1 | 310 | 560 |
| 450 | 470 | 35×45 | 2.5 | 310 | 560 |
| 450 | 560 | 30×50 | 2.44 | 260 | 470 |
| 450 | 560 | 35×40 | 2.4 | 260 | 470 |
| 450 | 560 | 35×45 | 2.5 | 260 | 470 |
| 450 | 560 | 35×50 | 2.79 | 260 | 470 |
| 450 | 680 | 35×45 | 2.77 | 220 | 390 |
| 450 | 680 | 35×50 | 2.9 | 220 | 390 |
| 450 | 820 | 35×55 | 3.08 | 180 | 320 |
| 450 | 820 | 35×60 | 3.22 | 180 | 320 |
| 450 | 1000 | 35×65 | 3.31 | 150 | 270 |
| 450 | 1000 | 40×60 | 3.4 | 150 | 270 |
| 450 | 1200 | 35×80 | 3.62 | 120 | 220 |
| 450 | 1200 | 40×70 | 3.67 | 120 | 220 |
| 500 | 47 | 22×25 | 0.42 | 3130 | 5640 |
| 500 | 56 | 22×30 | 0.5 | 2630 | 4740 |
| 500 | 56 | 25×25 | 0.51 | 2630 | 4740 |
| 500 | 68 | 22×30 | 0.55 | 2170 | 3900 |
| 500 | 68 | 25×25 | 0.55 | 2170 | 3900 |
| 500 | 82 | 22×35 | 0.73 | 1790 | 3230 |
| 500 | 82 | 25×30 | 0.75 | 1790 | 3230 |
| 500 | 82 | 30×25 | 0.76 | 1790 | 3230 |
| 500 | 100 | 22×40 | 0.9 | 1470 | 2650 |
| 500 | 100 | 22×45 | 0.94 | 1470 | 2650 |
| 500 | 100 | 25×35 | 0.92 | 1470 | 2650 |
| 500 | 100 | 30×25 | 0.93 | 1470 | 2650 |
| 500 | 100 | 30×30 | 0.96 | 1470 | 2650 |
| 500 | 120 | 22×50 | 0.94 | 1230 | 2210 |
| 500 | 120 | 25×35 | 0.93 | 1230 | 2210 |
| 500 | 120 | 25×40 | 0.94 | 1230 | 2210 |
| 500 | 120 | 30×30 | 0.94 | 1230 | 2210 |
| 500 | 120 | 35×25 | 0.94 | 1230 | 2210 |
| 500 | 150 | 22×50 | 1.1 | 980 | 1770 |
| 500 | 150 | 25×40 | 1.1 | 980 | 1770 |
| 500 | 150 | 30×35 | 1.13 | 980 | 1770 |
| 500 | 150 | 35×25 | 1 | 980 | 1770 |

| WV (Vdc) | Cap (uF) | Size mm | Rated Ripple current (Arms/105 °C /120Hz) | Typ. ESR 20°C 120Hz mΩ | MAX ESR 20°C 120Hz mΩ |
|----------|----------|---------|---|------------------------|-----------------------|
| 500 | 150 | 35×30 | 1.14 | 980 | 1770 |
| 500 | 180 | 25×50 | 1.39 | 820 | 1470 |
| 500 | 180 | 30×35 | 1.31 | 820 | 1470 |
| 500 | 180 | 30×40 | 1.4 | 820 | 1470 |
| 500 | 180 | 35×30 | 1.41 | 820 | 1470 |
| 500 | 220 | 25×55 | 1.62 | 670 | 1210 |
| 500 | 220 | 30×40 | 1.59 | 670 | 1210 |
| 500 | 220 | 30×45 | 1.63 | 670 | 1210 |
| 500 | 220 | 35×35 | 1.65 | 670 | 1210 |
| 500 | 270 | 30×50 | 1.75 | 540 | 980 |
| 500 | 270 | 35×40 | 1.76 | 540 | 980 |
| 500 | 330 | 30×55 | 2.03 | 440 | 800 |
| 500 | 330 | 35×45 | 2.05 | 440 | 800 |
| 500 | 390 | 35×50 | 2.47 | 380 | 680 |
| 500 | 470 | 35×55 | 2.63 | 310 | 560 |
| 500 | 680 | 35×65 | 3.19 | 220 | 390 |
| 500 | 820 | 35×75 | 3.85 | 180 | 320 |
| 500 | 820 | 40×65 | 3.85 | 180 | 320 |
| 500 | 1000 | 40×80 | 4.7 | 150 | 270 |
| 550 | 47 | 25×25 | 0.48 | 3130 | 5640 |
| 550 | 56 | 25×30 | 0.55 | 2630 | 4740 |
| 550 | 68 | 25×35 | 0.63 | 2170 | 3900 |
| 550 | 68 | 30×25 | 0.65 | 2170 | 3900 |
| 550 | 82 | 25×35 | 0.76 | 1790 | 3230 |
| 550 | 82 | 30×30 | 0.77 | 1790 | 3230 |
| 550 | 100 | 25×40 | 0.93 | 1470 | 2650 |
| 550 | 100 | 30×35 | 0.94 | 1470 | 2650 |
| 550 | 100 | 35×25 | 0.93 | 1470 | 2650 |
| 550 | 120 | 25×50 | 0.96 | 1230 | 2210 |
| 550 | 120 | 30×35 | 0.98 | 1230 | 2210 |
| 550 | 120 | 35×30 | 1.06 | 1230 | 2210 |
| 550 | 150 | 25×55 | 1.13 | 980 | 1770 |
| 550 | 150 | 30×45 | 1.18 | 980 | 1770 |
| 550 | 150 | 35×35 | 1.22 | 980 | 1770 |
| 550 | 180 | 30×50 | 1.35 | 820 | 1470 |
| 550 | 180 | 35×40 | 1.38 | 820 | 1470 |
| 550 | 220 | 30×55 | 1.56 | 670 | 1210 |
| 550 | 220 | 35×45 | 1.58 | 670 | 1210 |
| 550 | 270 | 35×50 | 1.8 | 540 | 980 |

Useful life

depending on ambient temperature T_a versus under ripple current operating conditions $V_R \leq 100V$



depending on ambient temperature T_a versus under ripple current operating conditions $V_R \geq 160V$

