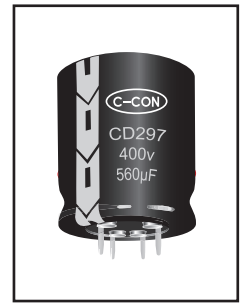


5000h at 105°C

- Extended Lifetime at 105°C
- High Ripple Current
- High Professional Switch Mode Power Supplies
- Frequency Converters



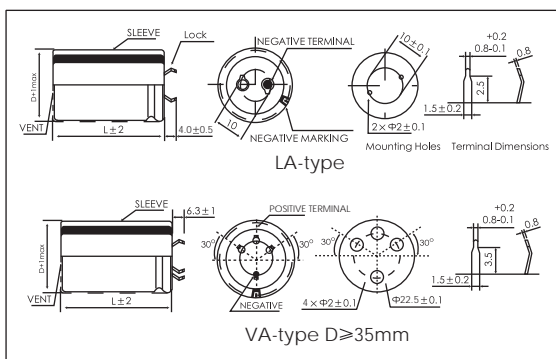
SNAP-IN/LUG

| Items | Characteristics | |
|---|---|---|
| Operating Temperature Range (°C) | -40 ~ +105 | -25 ~ +105 |
| Voltage Range (V) | 25 ~ 100 | 160 ~ 550 |
| Capacitance Range (µF) | 100 ~ 27000 | |
| Capacitance Tolerance (20°C, 120Hz) | ± 20% | |
| Leakage Current (µA) | After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 1.5mA, whichever is smaller. C: Nominal Capacitance (µF) V: Rated Voltage (V) | |
| Dissipation Factor (20°C, 120Hz) | Rated Voltage (V) | 25 35 50 63 80 100 160~400 450~550 |
| | Tan δ (max) | 0.45 0.40 0.35 0.30 0.25 0.20 0.15 0.20 |
| Stability at Low Temperature (Impedance Ratio at 120Hz) | Rated Voltage (V) | 25~100 160~250 315~550 |
| | Z _{-25°C} / Z _{+20°C} | 4 3 8 |
| | Z _{-40°C} / Z _{+20°C} | 15 - - |

| | Useful Life | | Load Life | Endurance Test | Shelf Life |
|---|---|--|---|---|--|
| Lifetime | 7000h | >200000h | 5000h | 5000h | 1000h |
| Leakage Current | Not more than specified value | | Not more than specified value | Not more than specified value | Not more than specified value |
| Capacitance Change | Within ± 30% of initial value | | Within ± 20% of initial value | Within ± 20% of initial value | Within ± 20% of initial value |
| Dissipation Factor | Not more than 300% of specified value | | Not more than 200% of specified value | Not more than 200% of specified value | Not more than 200% of specified value |
| Condition: Applied Voltage Applied Current Applied Temperature | U _R I _R 105°C | U _R 1.6 x I _R 40°C | U _R I _R 105°C | U _R I _R = 0 105°C | After test: U _R to be applied for 30min >24h before measurement |

Dimensions

mm



Frequency Coefficient

| Rated Voltage (V) | Frequency | | | | | |
|-------------------|-----------|-------|-------|------|-------|--------|
| | 50/60Hz | 120Hz | 500Hz | 1kHz | 10kHz | ≥40kHz |
| 25 ~ 100 | 0.90 | 1.00 | 1.10 | 1.15 | 1.15 | 1.15 |
| 160 ~ 250 | 0.80 | 1.00 | 1.20 | 1.30 | 1.45 | 1.50 |
| ≥315 | 0.80 | 1.00 | 1.20 | 1.30 | 1.42 | 1.45 |

Temperature Coefficient

| Temperature (°C) | +40 | +55 | +70 | +85 | +105 |
|------------------|-----|-----|-----|-----|------|
| Coefficient | 2.7 | 2.5 | 2.1 | 1.7 | 1.0 |

Ratings for CD 297 Series

SNAP-IN/LUG

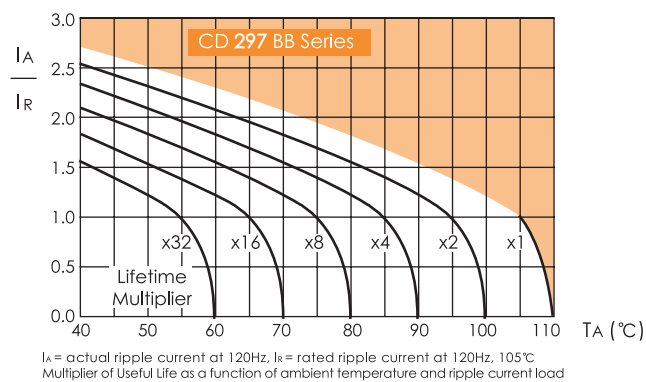
| U _r (Surge Voltage) Code | Rated Capa- cance | Max ESR 20°C, 120Hz | Typ ESR 20°C, 120Hz | Rated Ripple Current 105°C, 120Hz | Size ΦD x L |
|--|-------------------------|---------------------------|---------------------------|---|----------------|
| (V) | (μF) | (mΩ) | (mΩ) | (Arms) | (mm) |
| 25 (32) 1E | 8200 | 73 | 51 | 2.18 | 25×35 |
| | | 73 | 51 | 2.19 | 30×25 |
| | 10000 | 60 | 42 | 2.56 | 22×50 |
| | | 60 | 42 | 2.53 | 25×40 |
| | | 60 | 42 | 2.38 | 30×30 |
| | 12000 | 50 | 35 | 2.79 | 25×45 |
| | | 50 | 35 | 2.70 | 30×35 |
| | | 50 | 35 | 2.76 | 35×30 |
| | 15000 | 40 | 28 | 3.13 | 30×40 |
| | | 33 | 23 | 3.52 | 30×45 |
| | 18000 | 33 | 23 | 3.50 | 35×35 |
| | | 27 | 19 | 3.92 | 30×50 |
| 22000 | 27 | 19 | 3.95 | 35×40 | |
| | 22 | 16 | 4.72 | 35×50 | |
| 35 (44) 1V | 6800 | 78 | 55 | 2.49 | 22×50 |
| | | 78 | 55 | 2.45 | 25×40 |
| | | 78 | 55 | 2.28 | 30×30 |
| | 8200 | 65 | 45 | 2.80 | 25×45 |
| | | 65 | 45 | 2.69 | 30×30 |
| | | 53 | 37 | 3.04 | 30×40 |
| | 10000 | 53 | 37 | 2.78 | 35×30 |
| | | 44 | 31 | 3.38 | 30×45 |
| | 12000 | 44 | 31 | 3.30 | 35×35 |
| | | 35 | 25 | 3.98 | 30×45 |
| | 18000 | 30 | 21 | 4.40 | 35×45 |
| | | 119 | 83 | 2.20 | 25×35 |
| 50 (63) 1H | 3900 | 119 | 83 | 2.19 | 30×30 |
| | | 99 | 69 | 2.43 | 25×40 |
| | 5600 | 83 | 58 | 2.72 | 25×45 |
| | | 83 | 58 | 2.58 | 30×35 |
| | | 83 | 58 | 2.35 | 35×30 |
| | 6800 | 68 | 48 | 3.01 | 30×40 |
| | | 68 | 48 | 2.91 | 35×35 |
| | 8200 | 57 | 40 | 3.63 | 30×50 |
| | | 57 | 40 | 3.36 | 35×40 |
| | 10000 | 46 | 33 | 3.79 | 35×45 |
| | | 39 | 27 | 4.06 | 35×50 |
| | 63 (79) 1J | 2700 | 147 | 103 | 2.10 |
| 147 | | | 103 | 2.03 | 25×35 |
| 147 | | | 103 | 2.01 | 30×30 |
| 3300 | | 121 | 84 | 2.33 | 25×40 |
| | | 102 | 72 | 2.58 | 25×45 |
| 3900 | | 102 | 72 | 2.46 | 30×35 |
| | | 102 | 72 | 2.31 | 35×30 |
| 4700 | | 85 | 59 | 2.82 | 30×40 |
| | | 85 | 59 | 2.77 | 35×35 |
| 5600 | | 71 | 50 | 3.22 | 30×45 |
| | | 71 | 50 | 3.20 | 35×40 |
| 6800 | | 59 | 41 | 3.61 | 35×45 |
| | 49 | 34 | 3.94 | 35×50 | |
| 80 (100) 1K | 1500 | 221 | 155 | 1.70 | 22×40 |
| | | 151 | 106 | 2.22 | 25×45 |
| | 2200 | 151 | 106 | 2.02 | 30×30 |
| | | 123 | 86 | 2.50 | 30×35 |
| | 2700 | 123 | 86 | 2.45 | 35×30 |
| | | 101 | 70 | 2.69 | 30×40 |
| | 3300 | 101 | 70 | 2.60 | 35×35 |
| | | 85 | 60 | 2.94 | 30×45 |
| | 3900 | 85 | 60 | 3.00 | 35×40 |
| | | 71 | 49 | 3.44 | 35×45 |
| | 5600 | 59 | 42 | 3.72 | 35×50 |
| | | 51 | 36 | 3.93 | 35×60 |
| 100 (125) 2A | 1200 | 221 | 155 | 1.76 | 25×35 |
| | | 221 | 155 | 1.76 | 30×30 |
| | 1500 | 177 | 124 | 2.00 | 22×50 |
| | | 177 | 124 | 2.03 | 25×40 |
| | 1800 | 147 | 103 | 2.29 | 25×45 |
| | | 147 | 103 | 2.19 | 30×35 |
| | 2200 | 147 | 103 | 2.15 | 35×30 |
| | | 121 | 84 | 2.52 | 30×40 |
| | 2700 | 121 | 84 | 2.48 | 35×35 |
| | | 98 | 69 | 2.86 | 30×45 |
| | 3300 | 98 | 69 | 2.87 | 35×40 |
| | | 80 | 56 | 3.25 | 35×45 |
| 3900 | 68 | 48 | 3.56 | 35×50 | |
| | 4700 | 56 | 39 | 3.72 | 35×50 |
| 160 (200) 2C | 560 | 355 | 249 | 1.26 | 22×45 |
| | | 293 | 205 | 1.44 | 22×45 |
| | | 293 | 205 | 1.43 | 25×40 |
| | 680 | 293 | 205 | 1.50 | 30×35 |
| | | 243 | 170 | 1.63 | 25×45 |
| | 820 | 243 | 170 | 1.66 | 30×40 |
| | | 199 | 139 | 1.89 | 30×45 |
| | 1000 | 199 | 139 | 1.89 | 35×35 |
| | | 1200 | 166 | 116 | 2.16 |

| U _r (Surge Voltage) Code | Rated Capa- cance | Max ESR 20°C, 120Hz | Typ ESR 20°C, 120Hz | Rated Ripple Current 105°C, 120Hz | Size ΦD x L |
|--|-------------------------|---------------------------|---------------------------|---|----------------|
| (V) | (μF) | (mΩ) | (mΩ) | (Arms) | (mm) |
| 160 (200) 2C | 1200 | 166 | 116 | 2.23 | 35×40 |
| | 1500 | 133 | 93 | 2.61 | 35×45 |
| | 1800 | 111 | 77 | 2.97 | 35×50 |
| | 2200 | 90 | 62 | 3.22 | 30×55 |
| | 3300 | 61 | 42 | 3.51 | 35×60 |
| 200 (250) 2D | 470 | 424 | 296 | 1.17 | 22×45 |
| | | 424 | 296 | 1.22 | 25×40 |
| | | 424 | 296 | 1.17 | 30×30 |
| | 560 | 355 | 249 | 1.39 | 25×45 |
| | | 355 | 249 | 1.38 | 30×35 |
| | | 293 | 205 | 1.58 | 25×50 |
| | 680 | 293 | 205 | 1.61 | 30×40 |
| | | 293 | 205 | 1.49 | 35×30 |
| | | 243 | 170 | 1.85 | 30×45 |
| | 820 | 243 | 170 | 1.75 | 35×35 |
| | | 199 | 139 | 2.11 | 30×50 |
| | | 199 | 139 | 2.07 | 35×40 |
| 1200 | 166 | 116 | 2.38 | 30×50 | |
| | 1500 | 133 | 93 | 2.76 | 35×50 |
| | 330 | 603 | 422 | 1.01 | 22×45 |
| 250 (300) 2E | 390 | 603 | 422 | 1.00 | 30×30 |
| | | 510 | 357 | 1.13 | 22×50 |
| | 470 | 510 | 357 | 1.13 | 25×40 |
| | | 510 | 357 | 1.15 | 30×35 |
| | 560 | 424 | 296 | 1.29 | 25×45 |
| | | 424 | 296 | 1.24 | 35×30 |
| | | 355 | 249 | 1.45 | 25×50 |
| | 680 | 355 | 249 | 1.48 | 30×40 |
| | | 355 | 249 | 1.49 | 35×35 |
| | | 293 | 205 | 1.71 | 30×45 |
| | 820 | 293 | 205 | 1.74 | 35×40 |
| | | 243 | 170 | 1.94 | 30×50 |
| 199 | | 139 | 2.20 | 35×45 | |
| 315 (365) 2F | 1200 | 166 | 111 | 2.45 | 35×45 |
| | 220 | 1206 | 844 | 0.72 | 22×30 |
| | 270 | 983 | 688 | 0.81 | 25×30 |
| | 330 | 804 | 563 | 0.90 | 30×25 |
| | 390 | 681 | 476 | 1.04 | 22×45 |
| | 470 | 681 | 476 | 1.05 | 25×35 |
| | 560 | 565 | 395 | 1.15 | 30×30 |
| | 680 | 474 | 332 | 1.34 | 25×50 |
| | 820 | 390 | 274 | 1.72 | 30×50 |
| | 1000 | 390 | 274 | 1.78 | 35×40 |
| | 1200 | 324 | 227 | 1.95 | 30×50 |
| | 1500 | 268 | 186 | 2.35 | 35×45 |
| 2200 | 224 | 157 | 2.70 | 35×50 | |
| 3300 | 178 | 125 | 3.15 | 35×60 | |
| 4700 | 178 | 120 | 3.46 | 35×75 | |
| 400 (450) 2G | 150 | 1769 | 1239 | 0.65 | 25×30 |
| | 220 | 1206 | 844 | 0.79 | 22×50 |
| | | 1206 | 844 | 0.85 | 25×35 |
| | 270 | 1206 | 844 | 0.89 | 35×20 |
| | | 983 | 688 | 0.96 | 35×25 |
| | 330 | 804 | 563 | 1.07 | 30×35 |
| | | 804 | 563 | 1.12 | 30×50 |
| | 390 | 804 | 563 | 1.18 | 35×30 |
| | | 681 | 476 | 1.21 | 30×35 |
| | 470 | 681 | 476 | 1.27 | 30×50 |
| | | 565 | 395 | 1.31 | 30×50 |
| | 560 | 565 | 395 | 1.33 | 35×50 |
| 476 | | 333 | 1.49 | 30×50 | |
| 680 | 476 | 333 | 1.53 | 35×50 | |
| | 395 | 276 | 1.82 | 30×50 | |
| 820 | 395 | 276 | 1.88 | 30×55 | |
| | 328 | 228 | 2.16 | 35×55 | |
| 1000 | 270 | 188 | 2.57 | 35×60 | |
| | 265 | 182 | 2.82 | 35×75 | |
| 1200 | 223 | 155 | 3.28 | 35×75 | |
| 450 (500) 2W | 120 | 2212 | 1548 | 0.58 | 22×30 |
| | 150 | 1769 | 1239 | 0.66 | 22×35 |
| | | 1769 | 1239 | 0.68 | 25×40 |
| | 180 | 1474 | 1032 | 0.74 | 25×45 |
| | | 1474 | 1032 | 0.77 | 30×30 |
| | 220 | 1206 | 844 | 0.88 | 30×30 |
| | | 983 | 688 | 0.99 | 25×50 |
| | 270 | 983 | 688 | 1.01 | 30×30 |
| | | 804 | 563 | 1.12 | 30×35 |
| | 330 | 804 | 563 | 1.15 | 35×30 |
| | | 681 | 476 | 1.26 | 30×40 |
| | 390 | 681 | 476 | 1.28 | 35×35 |
| 565 | | 394 | 1.47 | 35×40 | |
| 470 | 565 | 394 | 1.50 | 35×45 | |
| | 476 | 333 | 1.68 | 35×50 | |
| 560 | 395 | 276 | 1.92 | 35×50 | |
| | 395 | 276 | 1.97 | 35×60 | |

Ratings for CD 297 Series

| U_R (Surge Voltage) Code | Rated Capacitance | Max ESR 20°C, 120Hz | Typ ESR 20°C, 120Hz | Rated Ripple Current 105°C, 120Hz | Size $\Phi D \times L$ |
|----------------------------------|-------------------|---------------------------|---------------------------|---|---------------------------|
| (V) | (μF) | (m Ω) | (m Ω) | (Arms) | (mm) |
| 450 (500) 2W | 820 | 328 | 228 | 2.18 | 35×60 |
| | 1000 | 270 | 182 | 2.56 | 35×70 |
| | 1000 | 270 | 182 | 2.66 | 35×75 |
| 500 (550) 2H | 100 | 2654 | 1327 | 0.67 | 25×30 |
| | 120 | 2212 | 1106 | 0.77 | 25×30 |
| | 180 | 1474 | 737 | 0.98 | 25×50 |
| | 220 | 1206 | 603 | 1.12 | 30×35 |
| | 270 | 983 | 492 | 1.25 | 30×50 |
| | 330 | 804 | 402 | 1.36 | 35×45 |
| | 390 | 681 | 340 | 1.54 | 35×50 |
| | 470 | 565 | 282 | 1.69 | 35×60 |
| | 560 | 476 | 238 | 1.86 | 35×60 |
| | 680 | 395 | 198 | 2.17 | 35×70 |
| | 150 | 1769 | 885 | 0.92 | 30×35 |
| 550 (600) 2Y | 180 | 1474 | 737 | 1.03 | 30×40 |
| | 220 | 1026 | 603 | 1.15 | 30×50 |
| | 270 | 983 | 492 | 1.30 | 35×45 |
| | 330 | 804 | 402 | 1.48 | 35×55 |
| | 390 | 681 | 340 | 1.65 | 35×60 |
| | 470 | 565 | 282 | 1.90 | 35×60 |
| | 470 | 565 | 282 | 1.92 | 35×70 |
| | 560 | 473 | 237 | 2.05 | 35×80 |
| | 680 | 390 | 196 | 2.39 | 40×75 |

Lifetime Diagram



SNAP-IN/LUG