



## CAWA SERIES: Large Can Size, Screw Terminal

- ◆ Used for air conditioner, general-purpose inverter, power supplies
- ◆ RoHS Compliant
- ◆ Endurance with ripple current: 85°C, 2,000 hours



## SPECIFICATIONS

| Item                                                                                                                                                                                                     | Performance                                                                                                                        |                                   |     |              |           |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----|--------------|-----------|--------|
| Operating Temp.                                                                                                                                                                                          | -40°C ~+85°C                                                                                                                       |                                   |     | -25°C ~+85°C |           |        |
|                                                                                                                                                                                                          | 10 ~ 100V                                                                                                                          |                                   |     | 160 ~ 450V   |           |        |
| Capacitance Tololerance                                                                                                                                                                                  | ± 20% (120Hz, 20°C)                                                                                                                |                                   |     |              |           |        |
| Leakage Current<br>(at 20°C)                                                                                                                                                                             | I = 0.01CV or 5 (mA) whichever is smaller (after 5 minutes)<br>Where, C= rated capacitance in F. V= rated DC working voltage in V. |                                   |     |              |           |        |
| Dissipation Factor Tan<br>at 120Hz, 20°C                                                                                                                                                                 | Rated Voltage                                                                                                                      | 10 ~ 100                          |     |              | 160 ~ 450 |        |
|                                                                                                                                                                                                          | Tan (max)                                                                                                                          | See the case size list            |     |              | 0.15      |        |
| Low Temperature<br>Characteristics (at 120Hz)                                                                                                                                                            | Capacitance change: C(-25°C)/ C(+20°C) 0.7                                                                                         |                                   |     |              |           |        |
| Load Life Test at 20°C after subjected<br>to DC voltage with rated rippled current<br>applied for 2000 hours at 85°C                                                                                     | Test Time                                                                                                                          | 2000 hours                        |     |              |           |        |
|                                                                                                                                                                                                          | Capacitance Change                                                                                                                 | Within ±15% of initial value      |     |              |           |        |
|                                                                                                                                                                                                          | Dissipation Factor                                                                                                                 | Less than 175% of specified value |     |              |           |        |
|                                                                                                                                                                                                          | Leakage Current                                                                                                                    | Within specified value            |     |              |           |        |
| Shelf Life Test at 20°C after exposing<br>them for 500 hours at 85°C without voltage<br>applied. The rated voltage shall be applied to<br>the capacitors before the measurements.<br>(Refer to JIS 5102) | Test Time                                                                                                                          | 500 hours                         |     |              |           |        |
|                                                                                                                                                                                                          | Capacitance Change                                                                                                                 | Within ±20% of initial value      |     |              |           |        |
|                                                                                                                                                                                                          | Dissipation Factor                                                                                                                 | Less than 200% of specified value |     |              |           |        |
|                                                                                                                                                                                                          | Leakage Current                                                                                                                    | Within specified value            |     |              |           |        |
| Ripple Current &<br>Frequency Multipliers                                                                                                                                                                | Frequency (Hz)                                                                                                                     | 50 / 60                           | 120 | 300          | 1K        | 10K up |
|                                                                                                                                                                                                          | Multiplier                                                                                                                         | 0.7                               | 1.0 | 1.1          | 1.3       | 1.4    |
| Ripple Current &<br>Temperature Multipliers                                                                                                                                                              | Temperature (°C)                                                                                                                   | 40                                | 60  | 70           | 85        |        |
|                                                                                                                                                                                                          | Mutipliers                                                                                                                         | 2.7                               | 2.0 | 1.7          | 1.0       |        |
| Standards                                                                                                                                                                                                | Satisfies Characteristic W of JIS C 5101-4                                                                                         |                                   |     |              |           |        |

## DIMENSIONS

| D  | P    | L1 | W1   | W2 | H  | h    |
|----|------|----|------|----|----|------|
| 35 | 12.7 | 2  | 10.0 | 48 | 58 | 15.0 |

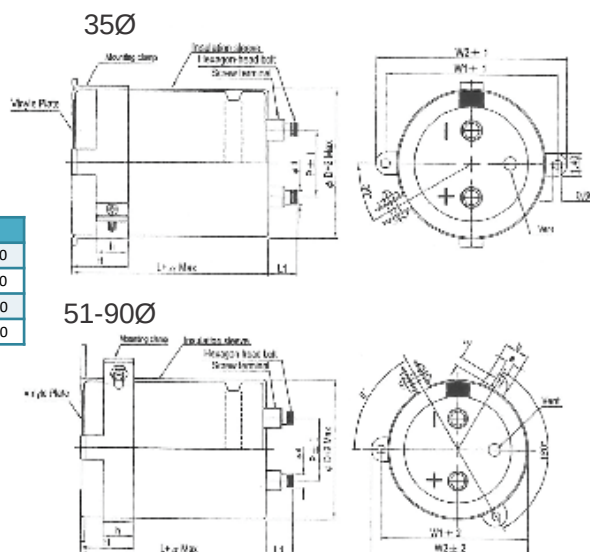
Screw Specifications:  
Plus hexagon-headed screw: M5 x 0.8 x 10  
Max. screw tightening torque: 3.23Nm

| D  | P    | L1 | W1 | W2   | H    | h    | a    | b   | c    | 60  |
|----|------|----|----|------|------|------|------|-----|------|-----|
| 51 | 22.0 | 2  | 10 | 61.0 | 65.5 | 21.5 | 15.0 | 7.0 | 12.0 | 4.5 |
| 64 | 28.6 | 2  | 10 | 72.5 | 78.0 | 25.0 | 20.0 | 7.0 | 14.0 | 4.5 |
| 77 | 32.0 | 2  | 10 | 85.5 | 91.0 | 35.0 | 20.0 | 8.0 | 16.0 | 4.5 |
| 90 | 32.0 | 2  | 10 | 101  | 106  | 34.5 | 20.0 | 8.0 | 16.0 | 5.0 |

## PART NUMBER EXAMPLE

CAWA 338 M 2C A121

- Case size: 35φ x 121L
- Rated voltage (160V)
- Capacitance tolerance (±20%)
- Capacitance (3300 μF)
- Series name





## CAWA SERIES: Large Can Size, Screw Terminal

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

Dimension:  $\phi D \times L$  (mm)

Tan $\delta$ : 120Hz, 20°C

Ripple Current: A/rms at 120Hz, 85°C

| V.DC<br>Item<br>uF | 10V (1A)  |        |      |                | 16V (1C)  |        |      |                | 25V (1E)  |        |      |                | 35V (1V)  |        |      |                |
|--------------------|-----------|--------|------|----------------|-----------|--------|------|----------------|-----------|--------|------|----------------|-----------|--------|------|----------------|
|                    | Size Code | D x L  | Tan  | Ripple Current | Size Code | D x L  | Tan  | Ripple Current | Size Code | D x L  | Tan  | Ripple Current | Size Code | D x L  | Tan  | Ripple Current |
| 10,000             |           |        |      |                |           |        |      |                |           |        |      |                | A053      | 35x53  | 0.30 | 3.5            |
| 12,000             |           |        |      |                |           |        |      |                |           |        |      |                | A053      | 35x53  | 0.30 | 3.7            |
| 15,000             |           |        |      |                |           |        |      |                |           |        |      |                | A065      | 35x65  | 0.30 | 3.9            |
| 18,000             |           |        |      |                |           |        |      |                | A053      | 35x53  | 0.35 | 4.0            | A065      | 35x65  | 0.35 | 4.2            |
| 22,000             |           |        |      |                |           |        |      |                | A065      | 35x65  | 0.35 | 4.5            | A083      | 35x83  | 0.35 | 4.9            |
| 27,000             |           |        |      |                | A053      | 35x53  | 0.45 | 4.2            | A065      | 35x65  | 0.40 | 5.0            | A083      | 35x83  | 0.40 | 5.2            |
| 33,000             | A053      | 35x53  | 0.60 | 4.4            | A065      | 35x65  | 0.50 | 5.5            | A083      | 35x83  | 0.40 | 5.5            | A121      | 35x121 | 0.40 | 7.1            |
| 39,000             | A053      | 35x53  | 0.60 | 4.7            | A065      | 35x65  | 0.50 | 5.8            | A083      | 35x83  | 0.40 | 6.2            | A121      | 35x121 | 0.40 | 7.3            |
| 47,000             | A065      | 35x65  | 0.60 | 5.6            | A083      | 35x83  | 0.55 | 7.2            | A121      | 35x121 | 0.40 | 7.4            | B083      | 51x83  | 0.45 | 8.3            |
| 56,000             | A065      | 35x65  | 0.60 | 5.9            | A083      | 35x83  | 0.60 | 7.5            | A121      | 35x121 | 0.45 | 8.3            | B083      | 51x83  | 0.50 | 8.7            |
| 68,000             | A083      | 35x83  | 0.60 | 7.5            | A121      | 35x121 | 0.60 | 10.2           | B100      | 51x100 | 0.50 | 9.3            | B100      | 51x100 | 0.50 | 10.2           |
| 82,000             | A083      | 35x83  | 0.60 | 7.7            | A121      | 35x121 | 0.70 | 10.4           | B121      | 51x121 | 0.50 | 9.7            | B100      | 51x100 | 0.55 | 10.5           |
| 100,000            | A121      | 35x121 | 0.70 | 9.2            | B083      | 51x83  | 0.70 | 10.9           | B121      | 51x121 | 0.60 | 10.5           | C100      | 64x100 | 0.60 | 10.9           |
| 120,000            | A121      | 35x121 | 0.70 | 9.4            | B083      | 51x83  | 0.80 | 11.3           | B121      | 51x121 | 0.60 | 11.5           | C121      | 64x121 | 0.60 | 12.8           |
| 150,000            | B083      | 51x83  | 0.90 | 10.2           | B121      | 51x121 | 0.90 | 12.6           | C100      | 64x100 | 0.70 | 12.9           | C144      | 64x144 | 0.70 | 15.3           |
| 180,000            | B083      | 51x83  | 0.90 | 10.7           | B121      | 51x121 | 0.90 | 13.0           | E121      | 64x121 | 0.75 | 14.7           | C144      | 64x144 | 0.70 | 15.8           |
| 220,000            | B121      | 51x121 | 1.00 | 13.9           | C100      | 64x100 | 1.00 | 14.7           | C144      | 64x144 | 0.80 | 18.0           | D144      | 77x144 | 0.75 | 17.3           |
| 270,000            | B121      | 51x121 | 1.20 | 15.2           | C100      | 64x100 | 1.20 | 15.3           | C144      | 64x144 | 0.90 | 18.3           |           |        |      |                |
| 330,000            | C121      | 64x121 | 1.40 | 17.2           | D121      | 77x121 | 1.30 | 18.2           | D144      | 77x144 | 1.00 | 19.5           |           |        |      |                |
| 390,000            | C121      | 64x121 | 1.50 | 18.1           | D121      | 77x121 | 1.60 | 18.6           | D144      | 77x144 | 1.20 | 20.8           |           |        |      |                |
| 470,000            | D121      | 77x121 | 2.00 | 19.2           | D121      | 77x121 | 1.80 | 19.3           |           |        |      |                |           |        |      |                |
| 560,000            | D121      | 77x121 | 2.50 | 19.8           | D124      | 77x124 | 2.00 | 20.7           |           |        |      |                |           |        |      |                |
| 680,000            | D121      | 77x121 | 3.00 | 21.0           |           |        |      |                |           |        |      |                |           |        |      |                |

| V.DC<br>Item<br>uF | 50V (1H)  |        |      |                | 63V (1J)  |        |      |                | 80V (1K)  |        |      |                | 100V (2A) |        |      |                |
|--------------------|-----------|--------|------|----------------|-----------|--------|------|----------------|-----------|--------|------|----------------|-----------|--------|------|----------------|
|                    | Size Code | D x L  | Tan  | Ripple Current | Size Code | D x L  | Tan  | Ripple Current | Size Code | D x L  | Tan  | Ripple Current | Size Code | D x L  | Tan  | Ripple Current |
| 2,200              |           |        |      |                |           |        |      |                |           |        |      |                | A053      | 35x53  | 0.15 | 2.5            |
| 2,700              |           |        |      |                |           |        |      |                |           |        |      |                | A053      | 35x53  | 0.15 | 2.5            |
| 3,300              |           |        |      |                |           |        |      |                | A053      | 35x53  | 0.15 | 2.5            | A065      | 35x65  | 0.15 | 2.9            |
| 3,900              |           |        |      |                |           |        |      |                | A053      | 35x53  | 0.15 | 2.7            | A083      | 35x83  | 0.15 | 3.5            |
| 4,700              |           |        |      |                |           |        |      |                | A065      | 35x65  | 0.15 | 2.9            | A083      | 35x83  | 0.15 | 3.7            |
| 5,600              |           |        |      |                | A053      | 35x53  | 0.20 | 3.0            | A065      | 35x65  | 0.20 | 3.7            | A100      | 35x100 | 0.15 | 4.6            |
| 6,800              | A053      | 35x53  | 0.25 | 3.2            | A053      | 35x53  | 0.20 | 3.7            | A083      | 35x83  | 0.20 | 4.3            | A100      | 35x100 | 0.20 | 4.9            |
| 8,200              | A053      | 35x53  | 0.25 | 3.4            | A065      | 35x65  | 0.25 | 4.4            | A083      | 35x83  | 0.20 | 4.5            | B083      | 51x83  | 0.20 | 5.8            |
| 10,000             | A065      | 35x65  | 0.25 | 4.3            | A083      | 35x83  | 0.25 | 4.5            | A100      | 35x100 | 0.20 | 5.4            | B083      | 51x83  | 0.20 | 6.2            |
| 12,000             | A065      | 35x65  | 0.25 | 4.5            | A083      | 35x83  | 0.25 | 4.7            | A100      | 35x100 | 0.20 | 5.6            | B100      | 51x100 | 0.20 | 7.5            |
| 15,000             | A083      | 35x83  | 0.25 | 4.7            | A100      | 35x100 | 0.25 | 5.6            | B083      | 51x83  | 0.25 | 7.3            | B121      | 51x121 | 0.20 | 8.5            |
| 18,000             | A083      | 35x83  | 0.25 | 4.9            | A100      | 35x100 | 0.25 | 6.2            | B083      | 51x83  | 0.25 | 7.7            | C100      | 64x100 | 0.20 | 8.8            |
| 22,000             | A121      | 35x121 | 0.30 | 6.3            | B083      | 51x83  | 0.30 | 7.7            | B100      | 51x100 | 0.30 | 8.5            | C100      | 64x100 | 0.25 | 9.6            |
| 27,000             | A121      | 35x121 | 0.35 | 6.6            | B083      | 51x83  | 0.30 | 8.2            | C100      | 64x100 | 0.30 | 8.6            | C121      | 64x121 | 0.25 | 10.3           |
| 33,000             | B083      | 51x83  | 0.40 | 7.5            | B100      | 51x100 | 0.35 | 8.7            | C100      | 64x100 | 0.35 | 10.5           | C144      | 64x144 | 0.25 | 12.1           |
| 39,000             | B083      | 51x83  | 0.40 | 7.7            | B100      | 51x100 | 0.35 | 9.6            | C121      | 64x121 | 0.35 | 11.8           | D144      | 77x144 | 0.25 | 12.4           |
| 47,000             | B083      | 51x100 | 0.40 | 9.6            | C100      | 64x100 | 0.40 | 11.5           | C144      | 64x144 | 0.35 | 14.0           | D144      | 77x144 | 0.25 | 13.9           |
| 56,000             | B083      | 51x100 | 0.40 | 9.8            | C100      | 64x100 | 0.40 | 11.8           | C144      | 64x144 | 0.35 | 14.2           | D144      | 77x144 | 0.30 | 15.3           |
| 68,000             | C100      | 64x100 | 0.45 | 11.9           | C144      | 64x144 | 0.40 | 13.7           | D144      | 77x144 | 0.35 | 16.7           |           |        |      |                |
| 82,000             | C100      | 64x100 | 0.50 | 12.2           | C144      | 64x144 | 0.45 | 14.2           | D144      | 77x144 | 0.35 | 17.1           |           |        |      |                |
| 100,000            | C144      | 64x144 | 0.50 | 14.2           | C144      | 77x144 | 0.45 | 15.2           |           |        |      |                |           |        |      |                |
| 120,000            | C144      | 64x144 | 0.50 | 14.5           | C144      | 77x144 | 0.50 | 15.8           |           |        |      |                |           |        |      |                |
| 150,000            | D144      | 77x144 | 0.60 | 16.5           |           |        |      |                |           |        |      |                |           |        |      |                |
| 180,000            | D144      | 77x144 | 0.70 | 16.8           |           |        |      |                |           |        |      |                |           |        |      |                |


**CAWA SERIES:** Large Can Size, Screw Terminal

**DIMENSION & PERMISSIBLE RIPPLE CURRENT**

| V.DC<br>Item<br>uF | 160V (2C) |        |      |                | 200V (2D) |        |      |                | 250V (2E) |        |      |                | 350V (2V) |        |      |                |
|--------------------|-----------|--------|------|----------------|-----------|--------|------|----------------|-----------|--------|------|----------------|-----------|--------|------|----------------|
|                    | Size Code | D x L  | Tan  | Ripple Current | Size Code | D x L  | Tan  | Ripple Current | Size Code | D x L  | Tan  | Ripple Current | Size Code | D x L  | Tan  | Ripple Current |
| 390                |           |        |      |                |           |        |      |                |           |        |      |                | A053      | 35x53  | 0.15 | 1.6            |
| 470                |           |        |      |                |           |        |      |                |           |        |      |                | A065      | 35x65  | 0.15 | 2.1            |
| 560                |           |        |      |                |           |        |      |                |           |        |      |                | A083      | 35x83  | 0.15 | 2.3            |
| 680                |           |        |      |                |           |        |      |                |           |        |      |                | A083      | 35x83  | 0.15 | 2.6            |
| 820                |           |        |      |                |           |        |      |                |           |        |      |                | A100      | 35x100 | 0.15 | 3.0            |
| 1000               |           |        |      |                |           |        |      |                |           |        |      |                | A100      | 35x100 | 0.15 | 3.4            |
| 1200               |           |        |      |                |           |        |      |                |           |        |      |                | B075      | 51x75  | 0.15 | 3.8            |
| 1500               |           |        |      |                |           |        |      |                | A100      | 35x100 | 0.15 | 3.2            | B075      | 51x75  | 0.15 | 4.2            |
| 1800               |           |        |      |                |           |        |      |                | A100      | 35x100 | 0.15 | 3.5            | B096      | 51x96  | 0.15 | 5.1            |
| 2200               |           |        |      |                | A100      | 35x100 | 0.15 | 3.9            | B075      | 51x75  | 0.15 | 4.0            | B096      | 51x96  | 0.15 | 5.7            |
| 2700               |           |        |      |                | A121      | 35x121 | 0.15 | 4.7            | B075      | 51x75  | 0.15 | 4.4            | B130      | 51x130 | 0.15 | 7.1            |
| 3300               | A121      | 35x121 | 0.15 | 5.2            | B075      | 51x75  | 0.15 | 4.9            | B096      | 51x96  | 0.15 | 5.4            | C115      | 64x115 | 0.15 | 7.9            |
| 3900               | B075      | 51x75  | 0.15 | 5.3            | B075      | 51x75  | 0.15 | 5.3            | B115      | 51x115 | 0.15 | 6.3            | C115      | 64x115 | 0.15 | 8.9            |
| 4700               | B075      | 51x75  | 0.15 | 5.8            | B096      | 51x96  | 0.15 | 6.4            | C096      | 64x96  | 0.15 | 7.1            | C130      | 64x130 | 0.15 | 10.3           |
| 5600               | B096      | 51x96  | 0.15 | 7.0            | B115      | 51x115 | 0.15 | 7.5            | C096      | 64x96  | 0.15 | 7.7            | D115      | 77x115 | 0.15 | 11.3           |
| 6800               | B096      | 51x96  | 0.15 | 7.7            | B130      | 51x130 | 0.15 | 8.7            | C115      | 64x115 | 0.15 | 9.1            | D130      | 77x130 | 0.15 | 13.1           |
| 8200               | B115      | 51x115 | 0.15 | 9.1            | C096      | 64x96  | 0.15 | 9.4            | C115      | 64x115 | 0.15 | 10.0           | D155      | 77x155 | 0.15 | 15.4           |
| 10000              | C096      | 64x96  | 0.15 | 10.3           | C096      | 64x96  | 0.15 | 10.3           | C130      | 64x130 | 0.15 | 11.6           | E157      | 90x157 | 0.15 | 18.1           |
| 12000              | C096      | 64x96  | 0.15 | 11.3           | D096      | 77x96  | 0.15 | 12.0           | D115      | 77x115 | 0.15 | 12.8           | E157      | 90x157 | 0.15 | 20.0           |
| 15000              | C130      | 64x130 | 0.15 | 14.3           | D096      | 77x96  | 0.15 | 14.4           | D130      | 77x130 | 0.15 | 15.1           |           |        |      |                |
| 18000              | C130      | 64x130 | 0.15 | 15.6           | D130      | 77x130 | 0.15 | 16.5           | D115      | 77x115 | 0.15 | 17.7           |           |        |      |                |
| 22000              | D130      | 77x130 | 0.15 | 18.2           | D155      | 77x155 | 0.15 | 19.6           | E157      | 90x157 | 0.15 | 20.9           |           |        |      |                |
| 27000              | D130      | 77x130 | 0.15 | 20.2           | E130      | 90x130 | 0.15 | 21.5           |           |        |      |                |           |        |      |                |
| 33000              | E130      | 90x130 | 0.15 | 23.7           | E157      | 90x157 | 0.15 | 25.5           |           |        |      |                |           |        |      |                |
| 39000              | E157      | 90x157 | 0.15 | 27.8           |           |        |      |                |           |        |      |                |           |        |      |                |

| V.DC<br>Item<br>uF | 400V (2G) |        |      |                | 450V (2W) |        |      |                |
|--------------------|-----------|--------|------|----------------|-----------|--------|------|----------------|
|                    | Size Code | D x L  | Tan  | Ripple Current | Size Code | D x L  | Tan  | Ripple Current |
| 270                |           |        |      |                | A053      | 35x53  | 0.15 | 1.3            |
| 330                | A053      | 35x53  | 0.15 | 1.5            | A065      | 35x65  | 0.15 | 1.8            |
| 390                | A065      | 35x65  | 0.15 | 2.0            | A083      | 35x83  | 0.15 | 2.0            |
| 470                | A083      | 35x83  | 0.15 | 2.1            | A083      | 35x83  | 0.15 | 2.1            |
| 560                | A083      | 35x83  | 0.15 | 2.3            | A100      | 35x100 | 0.15 | 2.5            |
| 680                | A100      | 35x100 | 0.15 | 2.8            | A100      | 35x100 | 0.15 | 2.8            |
| 820                | A100      | 35x100 | 0.15 | 3.1            | B075      | 51x75  | 0.15 | 3.2            |
| 1000               | B075      | 51x75  | 0.15 | 3.5            | B075      | 51x75  | 0.15 | 3.5            |
| 1200               | B075      | 51x75  | 0.15 | 3.8            | B096      | 51x96  | 0.15 | 4.2            |
| 1500               | B096      | 51x96  | 0.15 | 4.7            | B115      | 51x115 | 0.15 | 5.0            |
| 1800               | B096      | 51x96  | 0.15 | 5.1            | B130      | 51x130 | 0.15 | 5.8            |
| 2200               | B130      | 51x130 | 0.15 | 6.4            | C096      | 64x96  | 0.15 | 6.3            |
| 2700               | C096      | 64x96  | 0.15 | 6.9            | C115      | 64x115 | 0.15 | 7.5            |
| 3300               | C115      | 64x115 | 0.15 | 8.2            | C130      | 64x130 | 0.15 | 8.6            |
| 3900               | C130      | 64x130 | 0.15 | 9.4            | D115      | 77x115 | 0.15 | 9.5            |
| 4700               | D115      | 77x115 | 0.15 | 10.4           | D130      | 77x130 | 0.15 | 10.8           |
| 5600               | D130      | 77x130 | 0.15 | 11.9           | D155      | 77x155 | 0.15 | 12.8           |
| 6800               | E157      | 90x157 | 0.15 | 14.0           | E157      | 90x157 | 0.15 | 15.0           |
| 8200               | E157      | 90x157 | 0.15 | 16.4           | E157      | 90x157 | 0.15 | 16.4           |
| 10000              | E157      | 90x157 | 0.15 | 18.2           |           |        |      |                |