

GHS Snap-in Type, 105°C Standard

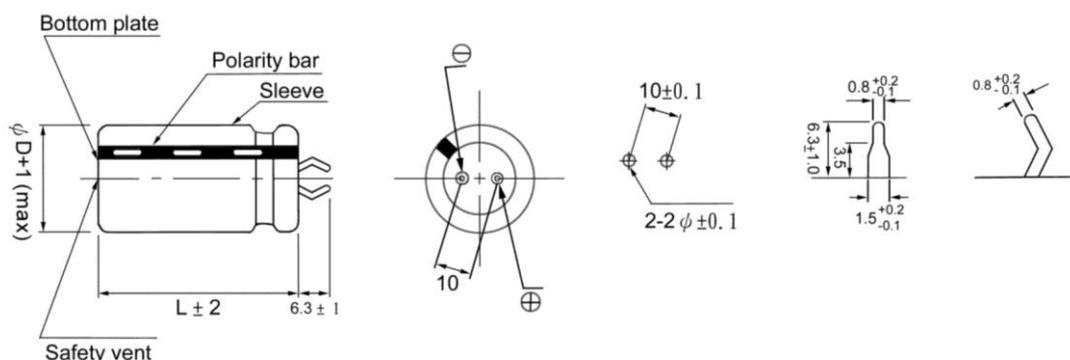
- Rated voltage range : 16 ~ 450V
- Capacitance range : 56 ~ 47,000 μ F
- Life guaranteed 2,000 hours/105°C
- Suitable for general power unit application
- RoHS compliant/Non-solvent proof type



Specifications

| Item | Performance Characteristics | | | | | | | | | | |
|---|---|---|------|------|-----------|------|--------|-----------|---------|--------------|--|
| Operating Temperature range | -40 + 105°C (16~250V), -25 + 105°C (315~450V) | | | | | | | | | | |
| Rated Voltage Range | 16V ~ 450V | | | | | | | | | | |
| Capacitance Range | 56 ~ 56,000 μ F | | | | | | | | | | |
| Capacitance Tolerance | $\pm 20\%$ / M (120Hz, 20°C) | | | | | | | | | | |
| Leakage Current | $I \leq 3 \sqrt{CV}$ after 5 minutes application of rated voltage. C: Capacitance (μ F), V: Working voltage (v) | | | | | | | | | | |
| Dissipation Factor (120 Hz, 20°C) | Rated voltage (V) | 16 | 25 | 35 | 50 | 63 | 80-100 | 160-250 | 315-450 | 120 Hz, 20°C | |
| | Tan δ (max.) | 0.50 | 0.40 | 0.35 | 0.30 | 0.25 | 0.20 | 0.15 | 0.25 | | |
| Low Temperature Characteristics (120 Hz) | Impedance Ratio / Stability at Low Temperature | | | | | | | | | | |
| | Rated voltage (V) | 16 ~ 100 | | | 160 ~ 250 | | | 315 ~ 450 | | | |
| | Z (-25°C) / Z (20°C) | 4 | | | 3 | | | 8 | | | |
| | Z (-40°C) / Z (20°C) | 15 | | | 12 | | | - | | | |
| Load Life | After 2,000 hours application of WV & rated ripple current at 105°C, the tested capacitor shall meet the characteristics requirement mentioned below. | | | | | | | | | | |
| | Capacitance change | Within $\pm 20\%$ of initial value | | | | | | | | | |
| | Tan δ | 200% or less of initial specified value | | | | | | | | | |
| | Leakage current | Initial specified value or less | | | | | | | | | |
| Shelf Life | After stored at 105°C, no voltage applied for 1,000 hours, the capacitor shall meet the characteristics requirement below. | | | | | | | | | | |
| | Capacitance change | Within $\pm 15\%$ of initial value | | | | | | | | | |
| | Tan δ | 150% or less of initial specified value | | | | | | | | | |
| | Leakage current | Initial specified value or less | | | | | | | | | |

Dimension (mm)



Frequency coefficient of allowable ripple current

| Frequency (Hz) | 50/60 | 120 | 300 | 1K | 10K | 50K |
|----------------|-------|------|------|------|------|------|
| 16 ~ 50V | 0.95 | 1.00 | 1.03 | 1.05 | 1.08 | 1.08 |
| 63 ~ 100V | 0.95 | 1.00 | 1.07 | 1.13 | 1.19 | 1.20 |
| 160 ~ 250V | 0.81 | 1.00 | 1.17 | 1.32 | 1.45 | 1.50 |
| 315 ~ 450V | 0.77 | 1.00 | 1.16 | 1.30 | 1.41 | 1.43 |

• Standard Products Table

| WV. DC Cap.(μ F) | 16V | | 25V | | 35V | |
|--------------------------|--------------------|------------------------------------|--------------------|--------------------------------------|--------------------|--------------------------------------|
| | Size (D x L mm) | Ripple current Arms/105° 120 Hz | Size (D x L mm) | Ripple current Arms/105°C, 120 Hz | Size (D x L mm) | Ripple current Arms/105°C, 120 Hz |
| 3300 | | | | | 22 x 25 | 1.43 |
| 3900 | | | | | 22 x 30 | 1.65 |
| 4700 | | | 22 x 25 | 1.55 | 22 x 30 | 1.89 |
| 4700 | | | | | 25 x 25 | 1.78 |
| 5600 | | | 22 x 30 | 1.76 | 22 x 35 | 2.02 |
| 5600 | | | | | 25 x 30 | 2.04 |
| 6800 | 22 x 25 | 1.60 | 22 x 30 | 1.91 | 22 x 40 | 2.28 |
| 6800 | | | 25 x 25 | 1.91 | 25 x 35 | 2.31 |
| 8200 | 22 x 30 | 1.85 | 22 x 35 | 2.14 | 22 x 50 | 2.67 |
| 8200 | | | 25 x 30 | 2.16 | 25 x 40 | 2.60 |
| 10000 | 22 x 30 | 2.28 | 22 x 40 | 2.40 | 25 x 45 | 2.92 |
| 10000 | 25 x 25 | 1.99 | 25 x 35 | 2.44 | 30 x 35 | 2.92 |
| 12000 | 22 x 35 | 2.28 | 22 x 45 | 2.69 | 25 x 50 | 3.26 |
| 12000 | 25 x 30 | 2.30 | 25 x 40 | 2.74 | 30 x 40 | 3.28 |
| 15000 | 22 x 40 | 2.64 | 25 x 45 | 3.15 | 30 x 45 | 3.74 |
| 15000 | 25 x 35 | 2.68 | 30 x 35 | 3.13 | 35 x 35 | 3.69 |
| 18000 | 22 x 45 | 2.98 | 25 x 50 | 3.54 | 35 x 40 | 4.16 |
| 18000 | 25 x 40 | 3.04 | 30 x 40 | 3.54 | | |
| 22000 | 25 x 45 | 3.40 | 30 x 45 | 4.24 | 35 x 50 | 4.92 |
| 22000 | 30 x 35 | 3.39 | 35 x 35 | 3.96 | | |
| 27000 | 30 x 40 | 3.83 | 35 x 45 | 4.75 | | |
| 33000 | 30 x 45 | 4.30 | 35 x 50 | 5.39 | | |
| 33000 | 35 x 35 | 4.24 | | | | |
| 39000 | 30 x 50 | 4.74 | | | | |
| 47000 | 35 x 45 | 5.27 | | | | |

| WV. DC Cap.(μ F) | 50V | | 63V | | 80V | |
|--------------------------|--------------------|------------------------------------|--------------------|--------------------------------------|--------------------|--------------------------------------|
| | Size (D x L mm) | Ripple current Arms/105° 120 Hz | Size (D x L mm) | Ripple current Arms/105°C, 120 Hz | Size (D x L mm) | Ripple current Arms/105°C, 120 Hz |
| 1000 | | | | | 22 x 30 | 1.29 |
| 1000 | | | | | 25 x 25 | 1.29 |
| 1200 | | | 22 x 25 | 1.25 | 22 x 30 | 1.39 |
| 1200 | | | | | 25 x 25 | 1.39 |
| 1500 | | | 22 x 30 | 1.44 | 22 x 35 | 1.61 |
| 1500 | | | 25 x 25 | 1.44 | 25 x 30 | 1.62 |
| 1800 | | | 22 x 30 | 1.52 | 22 x 40 | 1.83 |
| 1800 | | | 25 x 25 | 1.52 | 25 x 35 | 1.86 |
| 2200 | | | 22 x 35 | 1.73 | 22 x 45 | 2.09 |
| 2200 | | | 25 x 30 | 1.75 | 25 x 35 | 2.01 |
| 2700 | 22 x 30 | 1.70 | 22 x 40 | 1.97 | 25 x 45 | 2.43 |
| 2700 | 25 x 25 | 1.70 | 25 x 35 | 1.99 | 30 x 35 | 2.43 |
| 3300 | 22 x 35 | 1.98 | 22 x 50 | 2.32 | 25 x 50 | 2.76 |
| 3300 | 25 x 30 | 2.00 | 25 x 40 | 2.27 | 30 x 40 | 2.78 |
| 3900 | 22 x 40 | 2.25 | 25 x 45 | 2.54 | 30 x 45 | 3.12 |
| 3900 | 25 x 35 | 2.28 | 30 x 35 | 2.55 | 33 x 35 | 3.07 |
| 4700 | 22 x 45 | 2.56 | 25 x 50 | 2.88 | 30 x 50 | 3.52 |
| 4700 | 25 x 40 | 2.61 | 30 x 40 | 2.90 | 35 x 40 | 3.50 |
| 5600 | 22 x 50 | 2.89 | 30 x 45 | 3.28 | 35 x 45 | 3.87 |
| 5600 | 25 x 40 | 2.81 | 35 x 35 | 3.24 | | |
| 6800 | 35 x 50 | 3.37 | 30 x 50 | 3.73 | 35 x 50 | 4.19 |
| 6800 | 30 x 40 | 3.39 | 35 x 40 | 3.71 | | |
| 8200 | 30 x 45 | 3.71 | 35 x 45 | 4.16 | | |
| 8200 | 35 x 35 | 3.66 | | | | |
| 10000 | 30 x 50 | 4.09 | 35 x 50 | 4.69 | | |
| 10000 | 35 x 40 | 4.07 | | | | |
| 12000 | 35 x 45 | 4.50 | | | | |

• Standard Products Table

| WV. DC Cap.(μ F) | 100V | | 160V | | 180V | |
|--------------------------|--------------------|------------------------------------|--------------------|--------------------------------------|--------------------|--------------------------------------|
| | Size (D x L mm) | Ripple current Arms/105° 120 Hz | Size (D x L mm) | Ripple current Arms/105°C, 120 Hz | Size (D x L mm) | Ripple current Arms/105°C, 120 Hz |
| 270 | | | 22 x 25 | 0.90 | 22 x 25 | 0.90 |
| 330 | | | 25 x 25 | 1.00 | 22 x 30 | 1.05 |
| 390 | | | 22 x 30 | 1.15 | 22 x 30 | 1.20 |
| 470 | | | 22 x 35 | 1.30 | 22 x 35 | 1.30 |
| 470 | | | 25 x 25 | 1.30 | 25 x 30 | 1.30 |
| 560 | | | 22 x 40 | 1.45 | 22 x 40 | 1.40 |
| 560 | | | 25 x 30 | 1.45 | 25 x 35 | 1.40 |
| 680 | | | 22 x 45 | 1.65 | 22 x 45 | 1.65 |
| 680 | | | 25 x 35 | 1.65 | 25 x 40 | 1.65 |
| 820 | | | 22 x 50 | 1.80 | 22 x 50 | 1.85 |
| 820 | | | 25 x 40 | 1.80 | 25 x 45 | 1.85 |
| 820 | | | 30 x 30 | 1.80 | 30 x 35 | 1.85 |
| 1000 | 22 x 35 | 1.54 | 25 x 45 | 2.00 | 25 x 50 | 2.05 |
| 1000 | 25 x 30 | 1.56 | 30 x 35 | 2.00 | 30 x 40 | 2.05 |
| 1200 | 22 x 40 | 1.74 | 25 x 50 | 2.30 | 30 x 45 | 2.30 |
| 1200 | 25 x 35 | 1.76 | 30 x 40 | 2.30 | 35 x 35 | 2.30 |
| 1500 | 22 x 45 | 1.99 | 30 x 45 | 2.65 | 30 x 50 | 2.70 |
| 1500 | 25 x 40 | 2.03 | 35 x 35 | 2.65 | 35 x 40 | 2.70 |
| 1800 | 25 x 45 | 2.28 | 30 x 50 | 3.05 | 35 x 45 | 3.15 |
| 1800 | 30 x 35 | 2.27 | 35 x 45 | 3.05 | | |
| 2200 | 25 x 50 | 2.57 | 35 x 50 | 3.50 | 35 x 50 | 3.60 |
| 2200 | 30 x 40 | 2.59 | | | | |
| 2700 | 30 x 45 | 2.94 | | | | |
| 3300 | 30 x 50 | 3.32 | | | | |
| 3300 | 35 x 40 | 3.31 | | | | |
| 3900 | 35 x 45 | 3.69 | | | | |
| 4700 | 35 x 50 | 4.14 | | | | |

| WV. DC Cap.(μ F) | 200V | | 250V | | 315V | |
|--------------------------|--------------------|------------------------------------|--------------------|--------------------------------------|--------------------|--------------------------------------|
| | Size (D x L mm) | Ripple current Arms/105° 120 Hz | Size (D x L mm) | Ripple current Arms/105°C, 120 Hz | Size (D x L mm) | Ripple current Arms/105°C, 120 Hz |
| 82 | | | | | 22 x 25 | 0.46 |
| 100 | | | | | 22 x 30 | 0.55 |
| 120 | | | | | 22 x 30 | 0.60 |
| 150 | | | 22 x 25 | 0.65 | 25 x 30 | 0.70 |
| 180 | | | 22 x 25 | 0.75 | 22 x 40 | 0.83 |
| 220 | | | 22 x 30 | 0.85 | 22 x 45 | 0.90 |
| 220 | | | 25 x 25 | 0.85 | 25 x 35 | 0.90 |
| 270 | 22 x 25 | 0.90 | 22 x 35 | 1.00 | 22 x 50 | 1.00 |
| 270 | | | 25 x 30 | 1.00 | 25 x 40 | 1.00 |
| 330 | 22 x 30 | 1.05 | 22 x 40 | 1.10 | 25 x 50 | 1.25 |
| 330 | 25 x 25 | 1.05 | 25 x 30 | 1.10 | 30 x 35 | 1.25 |
| 390 | 22 x 35 | 1.25 | 22 x 45 | 1.25 | 30 x 40 | 1.35 |
| 390 | 25 x 30 | 1.25 | 25 x 40 | 1.25 | 35 x 35 | 1.35 |
| 470 | 22 x 40 | 1.35 | 22 x 50 | 1.30 | 30 x 50 | 1.45 |
| 470 | 25 x 30 | 1.35 | 25 x 40 | 1.30 | 35 x 40 | 1.45 |
| 560 | 22 x 45 | 1.50 | 25 x 50 | 1.55 | 35 x 45 | 1.65 |
| 560 | 25 x 35 | 1.50 | 30 x 35 | 1.55 | | |
| 680 | 22 x 50 | 1.70 | 30 x 45 | 1.80 | 35 x 50 | 1.90 |
| 680 | 25 x 45 | 1.70 | 35 x 35 | 1.80 | | |
| 820 | 25 x 50 | 1.90 | 35 x 40 | 1.95 | | |
| 820 | 30 x 35 | 1.90 | | | | |
| 1000 | 30 x 45 | 2.15 | 35 x 45 | 2.30 | | |
| 1000 | 35 x 35 | 2.15 | | | | |
| 1200 | 30 x 50 | 2.30 | 35 x 50 | 2.65 | | |
| 1500 | 35 x 45 | 2.75 | | | | |
| 1800 | 35 x 50 | 3.25 | | | | |

• Standard Products Table

| WV. DC Cap.(μ F) | 350V | | 400V | | 450V | |
|--------------------------|--------------------|------------------------------------|--------------------|--------------------------------------|--------------------|--------------------------------------|
| | Size (D x L mm) | Ripple current Arms/105° 120 Hz | Size (D x L mm) | Ripple current Arms/105°C, 120 Hz | Size (D x L mm) | Ripple current Arms/105°C, 120 Hz |
| 56 | | | | | 22 x 25 | 0.41 |
| 68 | 22 x 25 | 0.51 | 22 x 25 | 0.40 | 22 x 30 | 0.48 |
| 82 | 22 x 25 | 0.56 | 22 x 30 | 0.50 | 22 x 35 | 0.56 |
| 100 | 22 x 30 | 0.69 | 22 x 35 | 0.55 | 22 x 40 | 0.64 |
| 100 | 25 x 25 | 0.69 | 25 x 30 | 0.55 | 25 x 30 | 0.61 |
| 120 | 22 x 35 | 0.75 | 22 x 40 | 0.60 | 22 x 45 | 0.72 |
| 120 | 25 x 25 | 0.75 | 25 x 30 | 0.60 | 25 x 35 | 0.71 |
| 150 | 22 x 40 | 0.82 | 22 x 45 | 0.70 | 22 x 50 | 0.83 |
| 150 | 25 x 30 | 0.83 | 25 x 35 | 0.70 | 25 x 40 | 0.81 |
| 180 | 22 x 45 | 0.92 | 22 x 50 | 0.85 | 25 x 45 | 0.92 |
| 180 | 25 x 35 | 0.92 | 25 x 40 | 0.85 | 30 x 35 | 0.91 |
| 220 | 22 x 50 | 1.05 | 25 x 45 | 0.90 | 25 x 50 | 1.05 |
| 220 | 25 x 40 | 1.04 | 30 x 35 | 0.90 | 30 x 40 | 1.05 |
| 220 | 30 x 30 | 1.02 | 35 x 30 | 0.90 | | |
| 270 | 25 x 45 | 1.18 | 25 x 50 | 1.00 | 30 x 45 | 1.21 |
| 270 | 30 x 35 | 1.17 | 30 x 40 | 1.00 | 35 x 35 | 1.19 |
| 330 | 30 x 40 | 1.34 | 30 x 45 | 1.25 | 30 x 50 | 1.38 |
| 330 | 35 x 30 | 1.33 | 35 x 35 | 1.25 | 35 x 40 | 1.38 |
| 390 | 30 x 45 | 1.51 | 30 x 50 | 1.35 | 35 x 45 | 1.55 |
| 390 | 35 x 35 | 1.47 | 35 x 40 | 1.35 | | |
| 470 | 35 x 40 | 1.69 | 35 x 45 | 1.45 | 35 x 50 | 1.74 |
| 560 | 35 x 45 | 1.90 | 35 x 50 | 1.65 | | |