

ALUMINUM ELECTROLYTIC CAPACITOR

Suntan®

105°C, MINATURIZED, LONG LIFE

TS13D CD296

FEATURES

- Load life of 3000 hours at 105°C, equal to 96000 Hours (11 years) at 55°C
- High ripple current
- Smaller Size
- PCB Mounting

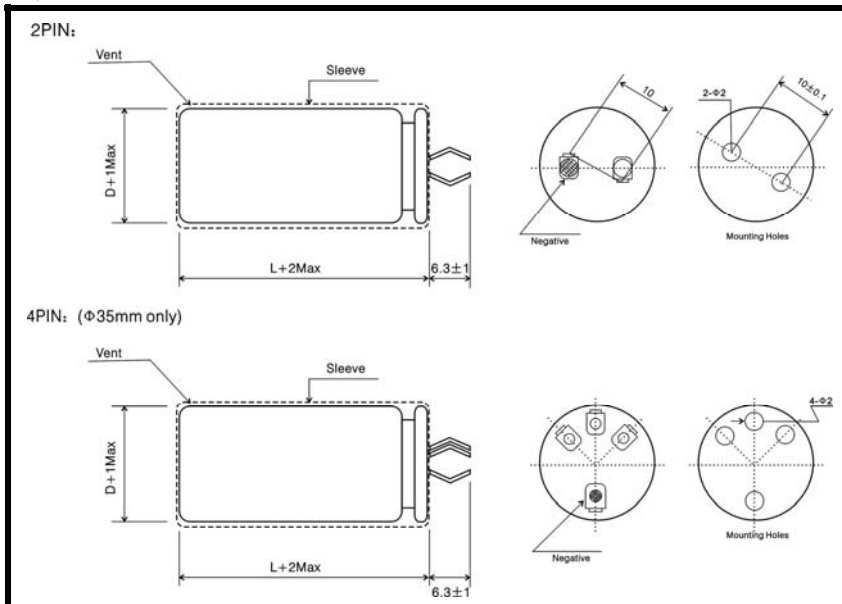


◆ Specifications

| ITEMS | | PERFORMANCE CHARACTERISTICS | | | | | | | |
|------------------------------------|--|--|-------|------|------|-------|--------|---------|---------|
| Operating Temperature Range(°C) | -40~+105 (250-400WV:-25~+105) | | | | | | | | |
| Capacitance Tolerance(25°C, 120Hz) | ±20% | | | | | | | | |
| Leakage Current(μA) | 0.01CV or 1.5mA whichever is smaller. (25°C, after 5 minutes) C: Nominal Capacitance (μF) V: Rated Voltage (V) | | | | | | | | |
| Dissipation Factor(25°C, 120Hz) | Rated Voltage (V) | 10 | 16 | 25 | 35 | 50 | 63~100 | 160~200 | 250~400 |
| | Tan δ | 0.45 | 0.35 | 0.30 | 0.25 | 0.20 | 0.15 | 0.12 | 0.15 |
| Temperature Stability (120Hz) | Rated Voltage (V) | | 10,16 | 25 | 35 | 50,63 | 80,100 | 160~200 | 250~400 |
| | Impedance Ratio | Z-25°C/Z+20°C | 4 | 3 | 3 | 2 | 2 | 3 | 4 |
| | | Z-40°C/Z+20°C | 15 | 10 | 8 | 6 | 5 | 6 | -- |
| Load Life (+105°C) | Time | 3000hours | | | | | | | |
| | Leakage Current | Not more than the specified value. | | | | | | | |
| | Capacitance Change | Within±20% of the initial value | | | | | | | |
| | Dissipation Factor | Not more than 200% of the specified value. | | | | | | | |
| Shelf Life (+105°C) | *After storage for 500hours at 105°C with no voltage applied, the capacitor shall meet the specified limits for "Load Life". After test: U _R to be applied for 60 minutes, 24 to 48 hours before measurement. | | | | | | | | |

◆ Dimensions

mm



◆ Multiplier for ripple current

Frequency coefficient

| Rated Voltage(V) | Frequency(Hz) | | | | |
|------------------|---------------|-----|------|------|------|
| | 50 | 120 | 1K | 10K | 20K |
| ≤50 | 0.95 | 1 | 1.10 | 1.15 | 1.15 |
| 63~100 | 0.95 | 1 | 1.16 | 1.30 | 1.33 |
| ≥160 | 0.90 | 1 | 1.20 | 1.50 | 1.55 |

Temperature coefficient

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

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◆ STANDARD RATINGS

| WV(V) / □DxL (mm) | 10 | | 16 | | 25 | | 35 | | 50 | | 63 | | 80 | | 100 | |
|----------------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|------|--------|------|--------|------|--------|
| | Cap | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple |
| | uF | mArms | uF | mArms | uF | mArms | uF | mArms | uF | mArms | uF | mArms | uF | mArms | uF | mArms |
| 22x25 | 6800 | 1.5 | 4700 | 1.4 | 3300 | 1.3 | 2200 | 1.1 | 1200 | 0.96 | 820 | 0.92 | 560 | 0.76 | 390 | 0.64 |
| 22x30 | 10000 | 1.9 | 6800 | 1.8 | 4700 | 1.6 | 2700 | 1.3 | 1800 | 1.2 | 1200 | 1.2 | 820 | 0.96 | 560 | 0.80 |
| 22x35 | 12000 | 2.1 | 8200 | 2.0 | 5600 | 1.8 | 3900 | 1.6 | 2200 | 1.4 | 1500 | 1.3 | 1000 | 1.1 | 680 | 0.92 |
| 22x40 | 15000 | 2.5 | 10000 | 2.3 | 6800 | 2.0 | 4700 | 1.9 | 2700 | 1.6 | 1800 | 1.5 | 1200 | 1.2 | 820 | 1.0 |
| 22x50 | 18000 | 2.8 | 15000 | 2.9 | 10000 | 2.6 | 6800 | 2.4 | -- | -- | 2200 | 1.7 | 1800 | 1.6 | 1200 | 1.3 |
| 25x25 | 8200 | 1.7 | 6800 | 1.8 | 4700 | 1.6 | 3300 | 1.3 | 1800 | 1.2 | 1200 | 1.1 | 820 | 0.96 | 560 | 0.80 |
| 25x30 | 12000 | 2.1 | 10000 | 2.2 | 5600 | 1.8 | 3900 | 1.6 | 2700 | 1.5 | 1500 | 1.3 | 1000 | 1.1 | 680 | 0.92 |
| 25x35 | 15000 | 2.5 | 12000 | 2.5 | 8200 | 2.2 | 5600 | 2.0 | 3300 | 1.8 | 1800 | 1.5 | 1500 | 1.4 | 1000 | 1.1 |
| 25x40 | 18000 | 2.8 | 15000 | 2.9 | 10000 | 2.6 | 6800 | 2.3 | -- | -- | -- | -- | 1800 | 1.6 | -- | -- |
| 25x50 | -- | -- | 18000 | 3.3 | 12000 | 2.9 | 8200 | 2.7 | 5600 | 2.5 | 3300 | 2.2 | 2200 | 1.8 | 1500 | 1.5 |
| 30x25 | 12000 | 2.2 | 10000 | 2.3 | 6800 | 2.0 | 4700 | 1.9 | 2700 | 1.6 | 1500 | 1.4 | 1200 | 1.3 | 820 | 1.0 |
| 30x30 | 18000 | 2.8 | 12000 | 2.6 | 8200 | 2.3 | 5600 | 2.1 | 3300 | 1.8 | 2200 | 1.7 | 1500 | 1.5 | 1000 | 1.2 |
| 30x35 | 22000 | 3.2 | 18000 | 3.3 | 12000 | 2.9 | 8200 | 2.9 | 4700 | 2.3 | 2700 | 2.0 | 1800 | 1.6 | 1200 | 1.4 |
| 30x40 | -- | -- | 22000 | 3.7 | 15000 | 3.3 | 10000 | 3.0 | 5600 | 2.5 | 3300 | 2.3 | 2200 | 1.9 | 1500 | 1.6 |
| 30x50 | -- | -- | -- | -- | 18000 | 3.8 | 12000 | 3.4 | 6800 | 2.9 | 4700 | 2.8 | 3300 | 2.3 | 2200 | 2.0 |
| 35x25 | 15000 | 2.6 | 12000 | 2.7 | 8200 | 2.4 | 5600 | 2.2 | 3300 | 1.8 | 2200 | 1.8 | 1500 | 1.5 | 1000 | 1.3 |
| 35x30 | 22000 | 3.3 | 18000 | 3.4 | 12000 | 3.0 | 8200 | 2.8 | 4700 | 2.4 | 2700 | 2.1 | 2200 | 1.9 | 1200 | 1.4 |
| 35x35 | -- | -- | 22000 | 3.9 | 15000 | 3.5 | 10000 | 3.1 | 5600 | 2.7 | -- | -- | 2700 | 2.2 | 1800 | 1.8 |
| 35x40 | -- | -- | -- | -- | 18000 | 3.9 | 12000 | 3.5 | 6800 | 3.0 | 4700 | 2.9 | 3300 | 2.4 | 2200 | 2.0 |
| 35x50 | -- | -- | -- | -- | -- | -- | 18000 | 4.5 | 10000 | 3.8 | 6800 | 3.6 | 4700 | 3.2 | 2700 | 2.3 |

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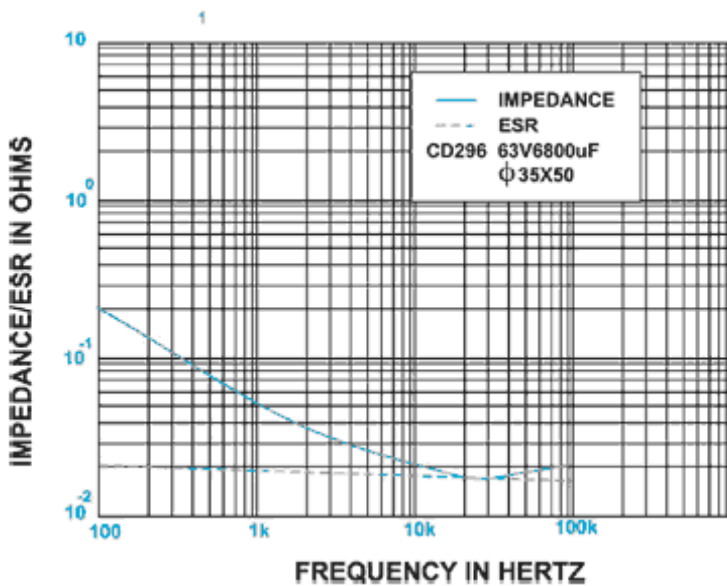
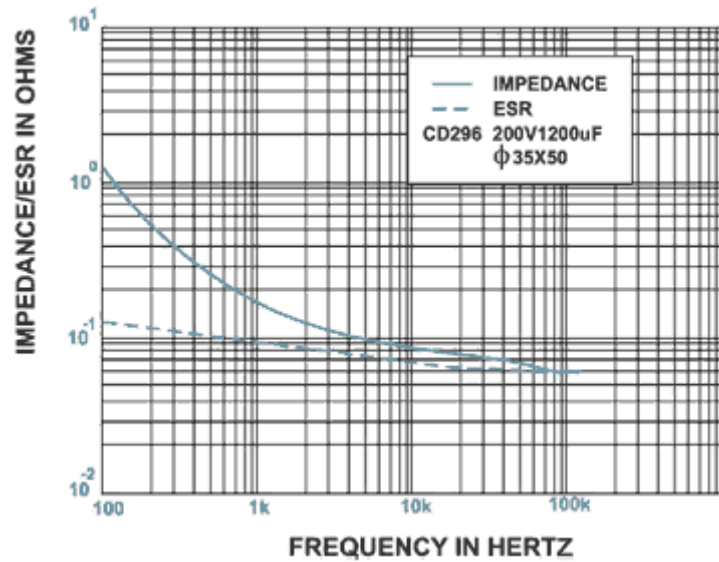
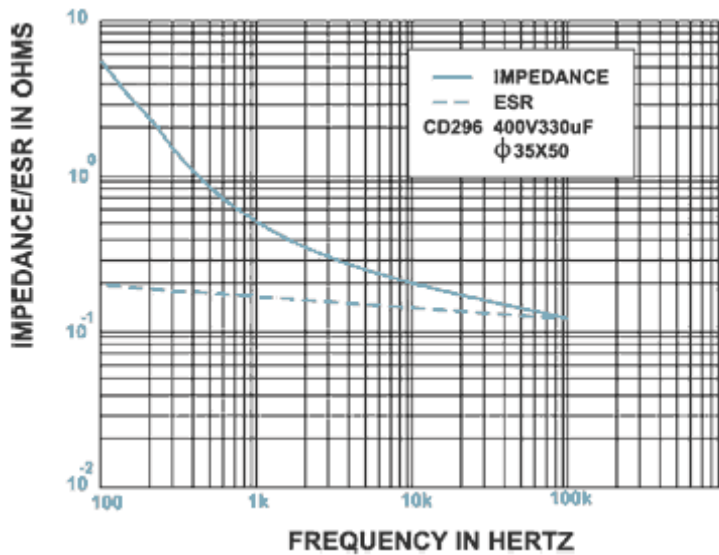
◆ STANDARD RATINGS

| WV(V) / □DxL (mm) | 160 | | 180 | | 200 | | 250 | | 315 | | 350 | | 400 | |
|----------------------------|------|--------|------|--------|------|--------|-----|--------|-----|--------|-----|--------|-----|--------|
| | Cap | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple | Cap | Ripple |
| | uF | mArms | uF | mArms | uF | mArms | uF | mArms | uF | mArms | uF | mArms | uF | mArms |
| 22x25 | 180 | 0.65 | 180 | 0.65 | 150 | 0.60 | 100 | 0.45 | 56 | 0.34 | 56 | 0.37 | 39 | 0.32 |
| 22x30 | 270 | 0.83 | 220 | 0.75 | 220 | 0.76 | 150 | 0.58 | 82 | 0.43 | 82 | 0.47 | 56 | 0.39 |
| 22x35 | 330 | 0.94 | 270 | 0.86 | 270 | 0.87 | 180 | 0.65 | 120 | 0.53 | 100 | 0.53 | 68 | 0.45 |
| 22x40 | 390 | 1.1 | 390 | 1.1 | 330 | 0.99 | 220 | 0.75 | 150 | 0.61 | 120 | 0.60 | 82 | 0.51 |
| 22x50 | 560 | 1.3 | 470 | 1.5 | 470 | 1.2 | 330 | 0.96 | 180 | 0.71 | 180 | 0.78 | 120 | 0.64 |
| 25x25 | 270 | 0.82 | 220 | 0.75 | 220 | 0.76 | 150 | 0.58 | 82 | 0.42 | 68 | 0.43 | 56 | 0.40 |
| 25x30 | 390 | 1.0 | 330 | 0.96 | 270 | 0.87 | 220 | 0.73 | 120 | 0.53 | 100 | 0.54 | 68 | 0.46 |
| 25x35 | 470 | 1.2 | 390 | 1.1 | 390 | 1.1 | 270 | 0.83 | 150 | 0.62 | 120 | 0.61 | 100 | 0.57 |
| 25x40 | 560 | 1.3 | 470 | 1.2 | 470 | 1.3 | 330 | 0.95 | -- | -- | 180 | 0.77 | 120 | 0.63 |
| 25x50 | 820 | 1.7 | 680 | 1.5 | 560 | 1.4 | 470 | 1.2 | 270 | 0.89 | 220 | 0.89 | 150 | 0.75 |
| 30x25 | 390 | 1.1 | 330 | 1.0 | 270 | 0.92 | 220 | 0.77 | 120 | 0.56 | 100 | 0.57 | 82 | 0.53 |
| 30x30 | 560 | 1.3 | 470 | 1.2 | 390 | 1.1 | 270 | 0.88 | 180 | 0.71 | 150 | 0.72 | 100 | 0.61 |
| 30x35 | 680 | 1.5 | 560 | 1.4 | 560 | 1.4 | 390 | 1.1 | 220 | 0.80 | 180 | 0.82 | 150 | 0.77 |
| 30x40 | 820 | 1.7 | 680 | 1.6 | 680 | 1.6 | 470 | 1.2 | 270 | 0.92 | 220 | 0.93 | 180 | 0.87 |
| 30x50 | 1000 | 2.0 | 1000 | 2.0 | 820 | 1.8 | 560 | 1.4 | 390 | 1.2 | 330 | 1.2 | 220 | 1.0 |
| 35x25 | 470 | 1.3 | 390 | 1.2 | 390 | 1.2 | 270 | 0.93 | 180 | 0.74 | 150 | 0.77 | 100 | 0.65 |
| 35x30 | 680 | 1.6 | 560 | 1.5 | 560 | 1.5 | 390 | 1.2 | 220 | 0.84 | 220 | 0.97 | 150 | 0.83 |
| 35x35 | 820 | 1.8 | 820 | 1.8 | 680 | 1.7 | 470 | 1.3 | 330 | 1.1 | 270 | 1.1 | 180 | 0.93 |
| 35x40 | 1000 | 2.0 | 1000 | 2.1 | 820 | 1.9 | 560 | 1.5 | 390 | 1.2 | 330 | 1.3 | 220 | 1.1 |
| 35x50 | 1500 | 2.6 | 1200 | 2.4 | 1200 | 2.4 | 820 | 1.9 | 470 | 1.4 | 470 | 1.6 | 330 | 1.3 |

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◆ TYPICAL CURVES



Note: Specification are subject to change without notice. For more detail and update, please visit our website.