

VD 片式铝电解电容

VD Chip Type Aluminum Electrolytic Capacitors



Chip

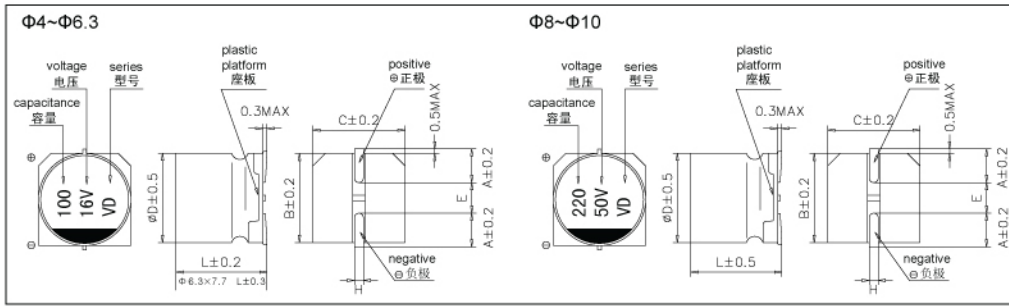
■ 特点 Features

- ◎ 低阻抗。Low impedance.
- ◎ 适用于再流焊。Reflow soldering is available.
- ◎ 适用于高密度表面组装。available for high density surface mounting.
- ◎ 工作温度范围宽 (-55℃~+105℃)。Operating over wide temperature range.
- ◎ RoHS指令已对应完毕。Adapted to the RoHS directive.

■ 主要技术性能 Specifications

| 项目 Items | 特性 Characteristics | | | | | | |
|--|--|---|------------|------------|------------|------------|------------|
| 工作温度范围 Operating Temperature Range | -55℃~+105℃ | | | | | | |
| 额定电压范围 Rated Voltage Range | 6.3V ~ 50V | | | | | | |
| 标称容量范围 Nominal Capacitance Range | 1 ~ 1500 μF | | | | | | |
| 标称容量允许偏差 Nominal Capacitance Tolerance | ± 20% (20℃, 120Hz) | | | | | | |
| 漏电流 Leakage Current | $I \leq 0.01C_R U_R$ or 3(μA), 取较大者(2分钟) C_R : 标称容量(μF) U_R : 额定电压(V) $I \leq 0.01C_R U_R$ or 3(μA) Whichever is greater (at 20℃, after 2minutes) C_R : Nominal Capacitance(μF) U_R : Rated voltages(V) | | | | | | |
| 损耗角正切 (tg δ) Dissipation Factor (Max)20℃, 120Hz | U_R (V) | 6.3 | 10 | 16 | 25 | 35 | 50 |
| | tgδ | 0.26(0.28) | 0.20(0.24) | 0.16(0.20) | 0.14(0.16) | 0.12(0.14) | 0.12(0.14) |
| 注: () 为 Φ8 以上产品。 | | | | | | | |
| 耐久性 Load Life | +105℃施加额定电压5000小时后 (ΦD=4, 5和6.3为2000小时), 电容器应满足以下要求: After 5000 hours (2000 hours for φD = 4, 5 and 6.3) . application of rated voltage at 105℃, the capacitor shall meet the following requirement: | | | | | | |
| | 容量变化率 Capacitance Change | ± 30% 初始值以内 Within ±30% of the initial value | | | | | |
| | 损耗角正切 Dissipation Factor | ≤ 200% 初始规定值 Not more than 200% of the initial specified value | | | | | |
| | 漏电流 Leakage Current | ≤ 初始规定值 Not more than the initial specified value | | | | | |
| 高温贮存 Shelf Life | +105℃贮存1000小时后, 电容器应满足以上耐久性要求: After storage for 1000 hours at +105℃, the capacitors shall meet the requirement of load life above: | | | | | | |
| 低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz) | U_R (V) | 6.3 | 10 | 16 | 25 | 35 | 50 |
| | Z(-25℃)/Z(+20℃) | 3 | 2 | 2 | 2 | 2 | 2 |
| | Z(-40℃)/Z(+20℃) | 5 | 4 | 4 | 3 | 3 | 3 |
| 耐焊接热 Resistance to Soldering Heat | 在250℃的条件下, 电容器在热板上保持30秒, 然后从热板上取出电容器, 让其在室温下恢复, 电容器应满足以下要求: The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement: | | | | | | |
| | 容量变化率 Capacitance Change | ± 10% 初始值以内 Within ± 10% of the initial value | | | | | |
| | 损耗角正切 (tg δ) Dissipation Factor | ≤ 初始规定值 Not more than the initial specified value | | | | | |
| | 漏电流 Leakage Current | ≤ 初始规定值 Not more than the initial specified value | | | | | |

■ 尺寸图 Dimensions



| | 4X5.4 | 5X5.4 | 6.3X5.4 | 6.3X7.7 | 8X10.5 | 10X10.5 | (mm) |
|---|---------|-------|---------|---------|--------|---------|------|
| A | 1.8 | 2.1 | 2.4 | 2.4 | 2.9 | 3.2 | |
| B | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 | 10.3 | |
| C | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 | 10.3 | |
| E | 1.0 | 1.3 | 2.2 | 2.2 | 3.1 | 4.5 | |
| L | 5.4 | 5.4 | 5.4 | 7.7 | 10 | 10 | |
| H | 0.5-0.8 | | | 0.8-1.1 | | | |

◇ 标称容量、额定电压、额定纹波电流与外形尺寸对应表
Nominal capacitance, rated voltage, rated ripple current and case size table

| V μF | 6.3 | | | 10 | | | 16 | | | 25 | | | 35 | | | 50 | | |
|---------|-------------|---------------|----------|-------------|---------------|----------|-------------|---------------|----------|-------------|---------------|----------|-------------|---------------|----------|-------------|---------------|----------|
| | D x L mm | mpedance Ω | I~ mA | D x L mm | mpedance Ω | I~ mA | D x L mm | mpedance Ω | I~ mA | D x L mm | mpedance Ω | I~ mA | D x L mm | mpedance Ω | I~ mA | D x L mm | mpedance Ω | I~ mA |
| 1.0 | | | | | | | | | | | | | | | | 4 x 5.4 | 5.00 | 30 |
| 2.2 | | | | | | | | | | | | | | | | 4 x 5.4 | 5.00 | 30 |
| 3.3 | | | | | | | | | | | | | | | | 4 x 5.4 | 5.00 | 30 |
| 4.7 | | | | | | | | | | | | | 4 x 5.4 | 1.8 | 80 | 5 x 5.4 | 1.52 | 85 |
| 10 | | | | | | | | | | 4 x 5.4 | 1.80 | 80 | 5 x 5.4 | 0.76 | 150 | 6.3 x 5.4 | 0.88 | 165 |
| 15 | | | | | | | 4 x 5.4 | 1.80 | 80 | 5 x 5.4 | 0.76 | 150 | 5 x 5.4 | 0.76 | 150 | 6.3 x 5.4 | 0.88 | 165 |
| 22 | | | | 4 x 5.4 | 1.80 | 80 | 5 x 5.4 | 0.76 | 80 | 5 x 5.4 | 0.76 | 80 | 5 x 5.4 | 0.76 | 150 | 6.3 x 5.4 | 0.88 | 165 |
| 27 | 4 x 5.4 | 1.80 | 80 | 5 x 5.4 | 0.76 | 150 | 5 x 5.4 | 0.76 | 150 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 7.7 | 0.68 | 185 |
| 33 | 5 x 5.4 | 0.76 | 150 | 5 x 5.4 | 0.76 | 150 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 7.7 | 0.68 | 185 |
| 47 | 5 x 5.4 | 0.76 | 150 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 7.7 | 0.68 | 185 |
| 56 | 5 x 5.4 | 0.76 | 150 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 7.7 | 0.34 | 280 | 8x10.5 | 0.34 | 350 |
| 68 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 7.7 | 0.34 | 280 | 8x10.5 | 0.34 | 350 |
| 100 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 7.7 | 0.34 | 280 | 8x10.5 | 0.17 | 600 | 8x10.5 | 0.18 | 300 |
| 150 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 7.7 | 0.34 | 280 | 8x10.5 | 0.17 | 600 | 8x10.5 | 0.17 | 600 | 10x10.5 | 0.18 | 670 |
| 220 | 6.3 x 5.4 | 0.44 | 230 | 6.3 x 7.7 | 0.34 | 280 | 6.3 x 7.7 | 0.34 | 280 | 8x10.5 | 0.17 | 600 | 8x10.5 | 0.17 | 600 | 10x10.5 | 0.18 | 670 |
| 330 | 6.3 x 7.7 | 0.34 | 280 | 8x10.5 | 0.17 | 600 | 8x10.5 | 0.17 | 600 | 8x10.5 | 0.17 | 600 | 10x10.5 | 0.09 | 850 | | | |
| 470 | 8x10.5 | 0.17 | 600 | 8x10.5 | 0.17 | 600 | 8x10.5 | 0.17 | 600 | 10x10.5 | 0.09 | 850 | | | | | | |
| 680 | 8x10.5 | 0.17 | 600 | 10x10.5 | 0.09 | 670 | 10x10.5 | 0.09 | 850 | | | | | | | | | |
| 1000 | 8x10.5 | 0.17 | 600 | 10x10.5 | 0.09 | 850 | | | | | | | | | | | | |
| 1500 | 10x10.5 | 0.09 | 850 | | | | | | | | | | | | | | | |

I~ = Rated ripple current (mA) (105°C, 100kHz) I~ = 额定纹波电流 (mA) (105°C, 100kHz)
20°C 100KHz时的电阻 (Ω) MAX

◇ 额定纹波电流的频率系数
Frequency coefficient of ripple current

| Frequency 频率 | 50Hz | 120Hz | 300Hz | 1KHz | ≥ 10KHz |
|----------------|------|-------|-------|------|---------|
| Coefficient 系数 | 0.35 | 0.50 | 0.64 | 0.83 | 1.00 |