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# CHIP ALUMINUM ELECTROLYTIC CAPACITORS TLV

## TLV SERIES NEW

**105℃ Long Life, Low Impedance, Lead Free Reflow Soldering.**




### FEATURES

- Load Life 105℃ 5000Hrs.
- Reflow soldering is available.
- Large can-size SMD.
- RoHS compliance.

## ◆SPECIFICATIONS

| Items | Characteristics |
|---|---|
| Category Temperature Range | −55～+105℃ |
| Rated Voltage Range | 6.3～35V.DC |
| Capacitance Tolerance | ±20% (20℃, 120Hz) |
| Leakage Current(MAX) | I=0.01CV or 3 μA whichever is greater. (After 2 minutes)<br>I=Leakage Current(μA) C=Rated Capacitance(μF) V=Rated Voltage(V) |
| (tanδ) Dissipation Factor(MAX) | When rated capacitance is over 1000 μF, tanδ shall be added 0.02 to the listed value with Increase of over 1000 μF. |
| Endurance | After applying rated voltage with rated ripple current for 5000 hrs at 105℃, the capacitors shall Meet the following requirements. |
| Low Temperature Stability Impedance Ratio(MAX) | (120Hz) |

| Rated Voltage (V) | 6.3 | 10 | 16 | 25 | 35 |
|---|---|---|---|---|---|
| tan δ | 0.26 | 0.19 | 0.16 | 0.14 | 0.12 |

| | |
|---|---|
| Capacitance Change | Within ±30% of the initial value. |
| Dissipation Factor | Not more than 200% of the specified value. (φ 8.φ 10 : 300%) |
| Leakage Current | Not more than the specified value. |

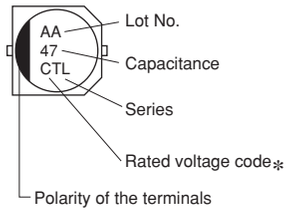
| Rated Voltage (V) | 6.3 | 10 | 16 | 25 | 35 |
|---|---|---|---|---|---|
| Z(−25℃)/Z(20℃) | 2 | 2 | 2 | 2 | 2 |
| Z(−40℃)/Z(20℃) | 3 | 3 | 3 | 3 | 3 |
| Z(−55℃)/Z(20℃) | 4 | 4 | 4 | 3 | 3 |

## ◆MULTIPLIER FOR RIPPLE CURRENT

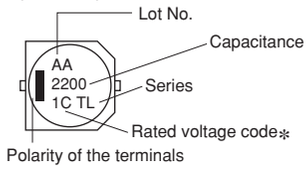
| Frequency (Hz) | | 120 | 1K | 10K | 100K ≦ |
|---|---|---|---|---|---|
| Coefficient | 47～150 | 0.50 | 0.80 | 0.95 | 1.00 |
| | 220～10000 | 0.60 | 0.85 | 0.95 | 1.00 |

## ◆MARKING

<φ 8,φ 10>




<φ 12.5～φ 18>




*Voltage code

| Rated Voltage (V) | | 6.3 | 10 | 16 | 25 | 35 |
|---|---|---|---|---|---|---|
| Voltage code | φ D≦10 | j | A | C | E | V |
| | φ D≧12.5 | 0J | 1A | 1C | 1E | 1V |

## ◆PART NUMBER

□□□ Rated Voltage | TLV Series | □□□□□ Rated Capacitance | □ Capacitance Tolerance | □□□ Option | □□ Lead Forming | D×L Case Size

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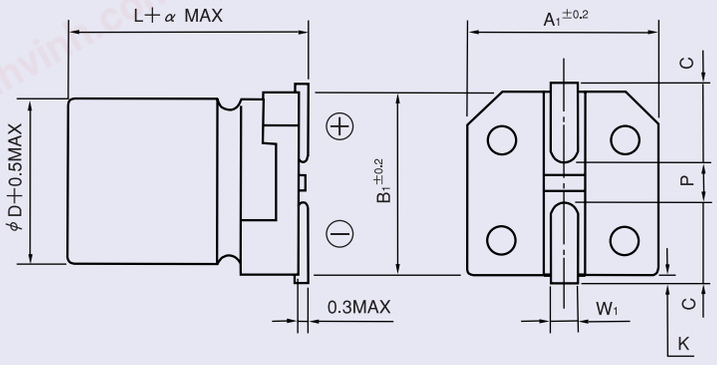
# CHIP ALUMINUM ELECTROLYTIC CAPACITORS TLV

## ◆DIMENSIONS

(mm)




| φD | L | A1 | B1 | C | W1 | P | K | α |
|---|---|---|---|---|---|---|---|---|
| 8 | 10.5 | 8.3 | 8.3 | 2.9 | 0.8~1.1 | 3.1 | 0.5Max | 0 |
| 10 | 10.5 | 10.3 | 10.3 | 3.2 | 0.8~1.1 | 4.5 | 0.5Max | 0 |
| 12.5 | 13.5 | 13 | 13 | 4.9 | 0.8~1.1 | 4.5 | 0.7±0.4 | 0.5 |
| 12.5 | 16 | 13 | 13 | 4.9 | 0.8~1.1 | 4.5 | 0.7±0.4 | 0.5 |
| 16 | 16.5 | 17 | 17 | 6 | 1.0~1.6 | 6.8 | 0.7±0.4 | 0.5 |
| 16 | 21.5 | 17 | 17 | 6 | 1.0~1.6 | 6.8 | 0.7±0.4 | 0.5 |
| 18 | 16.5 | 19 | 19 | 7 | 1.0~1.6 | 6.8 | 0.7±0.4 | 0.5 |
| 18 | 21.5 | 19 | 19 | 7 | 1.0~1.6 | 6.8 | 0.7±0.4 | 0.5 |

## ◆STANDARD SIZE

Size φDXL(mm), Ripple current(mA r.m.s./105℃,100kHz), Impedance(ΩMax/20℃,100kHz)

| WV (V.DC) | Cap (μF) | Size (φ DXL) | Ripple | Z |
|---|---|---|---|---|
| 6.3 (0J) | 2200 | 12.5×13.5 | 1100 | 0.065 |
| | 3300 | 12.5×16 | 1400 | 0.055 |
| | 4700 | 16×16.5 | 1800 | 0.045 |
| | 6800 | 16×21.5 | 2330 | 0.029 |
| | 10000 | 18×21.5 | 2640 | 0.028 |
| 10 (1A) | 1000 | 10×10.5 | 850 | 0.08 |
| | 2200 | 12.5×16 | 1400 | 0.055 |
| | 3300 | 16×16.5 | 1800 | 0.045 |
| | 4700 | 18×16.5 | 2060 | 0.044 |
| | 6800 | 18×21.5 | 2640 | 0.028 |
| 16 (1C) | 470 | 8×10.5 | 600 | 0.16 |
| | 680 | 10×10.5 | 850 | 0.08 |
| | 1500 | 12.5×13.5 | 1100 | 0.065 |
| | 2200 | 16×16.5 | 1800 | 0.045 |
| | 3300 | 18×16.5 | 2060 | 0.044 |
| | 4700 | 16×21.5 | 2330 | 0.029 |

| WV (V.DC) | Cap (μF) | Size (φ DXL) | Ripple | Z |
|---|---|---|---|---|
| 25 (1E) | 220 | 8×10.5 | 600 | 0.16 |
| | 330 | 8×10.5 | 600 | 0.16 |
| | 470 | 10×10.5 | 850 | 0.08 |
| | 1000 | 12.5×13.5 | 1100 | 0.065 |
| | 1500 | 16×16.5 | 1800 | 0.045 |
| | 2200 | 18×16.5 | 2060 | 0.044 |
| | 3300 | 18×21.5 | 2640 | 0.028 |
| 35 (1V) | 100 | 8×10.5 | 600 | 0.16 |
| | 100 | 10×10.5 | 850 | 0.08 |
| | 150 | 8×10.5 | 600 | 0.16 |
| | 220 | 8×10.5 | 600 | 0.16 |
| | 330 | 10×10.5 | 850 | 0.08 |
| | 680 | 12.5×13.5 | 1100 | 0.065 |
| | 1000 | 16×16.5 | 1800 | 0.045 |
| | 1500 | 18×16.5 | 2060 | 0.044 |
| | 2200 | 16×21.5 | 2330 | 0.029 |