

# Aluminum Electrolytic Capacitors

## LHD series

·Low impedance, Super small size, 105°C V-chip, 2000 hours .

·Applicable to SMT process.

·RoHS Compliance.

·105°C低阻抗、超小体积、V-Chip型產品，2000小時。

·適用於SMT製程。

### SPECIFICATIONS

Items 項目	Characteristics 特性						
Capacitance Tolerance 靜電容量誤差	$\pm 20\%$ (120Hz , 20°C)						
Operating Temperature Range 適用溫度範圍	-55 ~ +105°C						
Rated Voltage Range 額定電壓範圍	6.3 ~ 50VDC						
Capacitance Range 靜電容量範圍	10 ~ 2200μF						
Leakage Current 洩漏電流	$I \leq 0.01CV$ or $3(\mu A)$ , which is greater. ( After 2 minutes application of DC rated voltage, at 20°C)						
Dissipation Factor 散逸因素( tan δ)	Measurement Frequency: 120Hz. Temperature: 20°C						
	Rated Voltage(V)	6.3	10	16	25	35	50
	tan δ(Max)	0.3	0.19	0.16	0.14	0.12	0.10
Low Temperature Stability 低溫特性	Measurement Frequency: 120Hz.						
	Rated Voltage(V)	6.3	10	16	25	35	50
	Z(-25°C)/Z(20°C)	4	3	2	2	2	2
	Z(-55°C)/Z(20°C)	8	5	4	3	3	3
Load Life 負荷壽命	2000hours,with application of rated voltage at 105°C						
	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 放置壽命	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4.						
	Capacitance Change	Within $\pm 20\%$ of Initial Value					
	tan δ	200% or less of Initial Specified Value					
	Leakage Current	Initial Specified Value or less					
Resistance to Soldering Heat 焊錫耐熱性	The capacitors shall be kept on the hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature they meet the characteristics requirements listed at right.						
	Capacitance Change	Within $\pm 10\%$ of Initial Value					
	tan δ	Initial Specified Value					
	Leakage Current	Initial Specified Value or less					
AEC-Q200 標識	Comply with AECQ200 standard						

### Frequency Coefficient of Permissible Ripple Current

Cap (uF)	Frequency (Hz)	120	1K	10K	100K
< 470		0.65	0.85	0.95	1.00
≥ 560		0.70	0.90	0.95	1.00

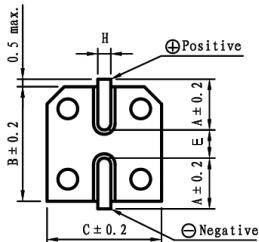
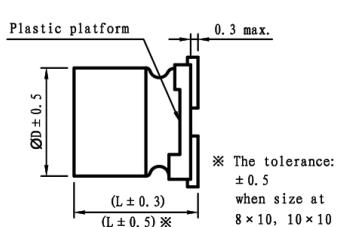
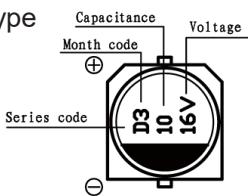
The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use , the rms ripple current has to be reduced.

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## DIMENSIONS(mm)

■ Chip Type



(mm)

DxL	$\Phi 4 \times 5.8$	$\Phi 5 \times 5.8$	$\Phi 6.3 \times 5.8$	$\Phi 6.3 \times 7.7$	$\Phi 8 \times 10.5$	$\Phi 8 \times 12.5$	$\Phi 10 \times 10.5$	$\Phi 10 \times 12.5$
L	5.8	5.8	5.8	7.7	10.5	12.5	10.5	12.5
B.C.	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3
2A+E	5.5	6.5	7.8	7.8	10.0	10.0	12.0	12.0
I	1.8	2.1	2.4	2.4	3.4	3.4	3.5	3.5
E	1.0	1.3	2.2	2.2	3.1	3.1	4.5	4.5
K	0.35±0.2	0.35±0.2	0.35±0.2	0.35±0.2	0.7±0.2	0.7±0.2	0.7±0.2	0.7±0.2

## **STANDARD RATINGS**

D×L(mm) : R.C.(mA rms) at 105°C 100KHz, IMP ( $\Omega$  max) at 20°C 100KHz.

## **STANDARD RATINGS**

D<sub>50</sub>I (mm) : R C (mA rms) at 105°C 100KHz IMP (Ω max) at 20°C 100KHz