

## CLU Series

• 125°C 3000~5,000Hrs assured.

Solvent-proof

- Vertical SMD type.
- Wide Temp. Low ESR, Long Life
- Suitable to fit for automotive equipment.
- RoHS compliant.
- Halogen-free capacitors are also available.

CLS

→

CLU

Long Life



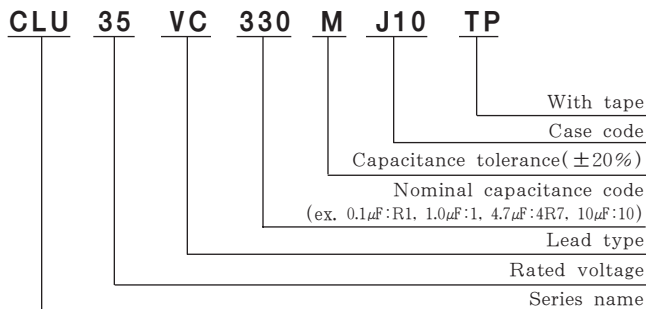
• AEC-Q200 compliant : Please contact us for more details, test data, information.

## SPECIFICATIONS

Item	Characteristics																		
Rated Voltage Range	10 ~ 50 V <sub>DC</sub>																		
Operating Temperature Range	-40 ~ +125 °C																		
Capacitance Tolerance	±20%(M) <span style="float: right;">(at 20°C, 120Hz)</span>																		
Leakage Current	I = 0.01CV(μA) or 3μA, whichever is greater. Where, I:Max. Leakage current(μA) C:Nominal capacitance(μF) V:Rated voltage(V <sub>DC</sub> ) <span style="float: right;">(at 20°C, 2 minutes)</span>																		
Dissipation Factor(Tan δ)	<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 5px;"> <tr> <td style="width: 20%;">Rated voltage(V<sub>DC</sub>)</td> <td style="width: 10%;">10</td> <td style="width: 10%;">16</td> <td style="width: 10%;">25</td> <td style="width: 10%;">35</td> <td style="width: 10%;">50</td> </tr> <tr> <td>Tan δ(Max.)</td> <td>0.30</td> <td>0.23</td> <td>0.18</td> <td>0.16</td> <td>0.16</td> </tr> </table> <span style="float: right;">(at 20°C, 120Hz)</span>	Rated voltage(V <sub>DC</sub> )	10	16	25	35	50	Tan δ(Max.)	0.30	0.23	0.18	0.16	0.16						
Rated voltage(V <sub>DC</sub> )	10	16	25	35	50														
Tan δ(Max.)	0.30	0.23	0.18	0.16	0.16														
Temperature Characteristics (Max. Impedance ratio)	<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 5px;"> <tr> <td style="width: 20%;">Rated voltage(V<sub>DC</sub>)</td> <td style="width: 10%;">10</td> <td style="width: 10%;">16</td> <td style="width: 10%;">25</td> <td style="width: 10%;">35</td> <td style="width: 10%;">50</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table> <span style="float: right;">(at 120Hz)</span>	Rated voltage(V <sub>DC</sub> )	10	16	25	35	50	Z(-25°C)/Z(20°C)	3	2	2	2	2	Z(-40°C)/Z(20°C)	4	3	3	3	3
Rated voltage(V <sub>DC</sub> )	10	16	25	35	50														
Z(-25°C)/Z(20°C)	3	2	2	2	2														
Z(-40°C)/Z(20°C)	4	3	3	3	3														
Load Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 5,000hours(3,000hours for F80 size) at 125°C. Capacitance change ≤ ±30% of the initial value Tan δ ≤ 300% of the initial specified value Leakage current ≤ The initial specified value																		
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 125°C without voltage applied. The rated volage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements. Capacitance change ≤ ±30% of the initial value Tan δ ≤ 300% of the initial specified value Leakage current ≤ The initial specified value																		
Others	Satisfied characteristics KS C IEC 60384-4																		

CLU Series

## PART NUMBERING SYSTEM



## RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Cap.(μF)	Freq.(Hz)			
	120	1K	10K	100K
47 ~ 100	0.40	0.75	0.90	1.00
220 ~ 680	0.50	0.85	0.94	1.00

## DIMENSIONS OF CLU Series

Unit(mm)

### DIMENSIONS

● Vibration Resistance

<Size code:F80~J10>      <Size code:F80~J10>

●: Dummy terminals

Recommended solder land on PC board

●: Solder land on PC board

### MARKING

Note 1 : L±0.5 for H10 , J10

Case code	∅D	L	A	B	C	W	P	a	b	c	a	b	c
F80	6.3	7.7	6.6	6.6	7.2	0.5~0.8	1.9	1.9	3.5	1.6			
H10	8	10	8.3	8.3	9.0	0.7~1.1	3.1	3.1	4.2	2.2	3.1	4.2	3.5
J10	10	10	10.3	10.3	11.0	0.7~1.1	4.5	4.5	4.4	2.2	4.5	4.4	3.5

● Vibration Resistance →

## RATINGS OF CLU Series

Vdc	Cap.( $\mu$ F)	Case Code	ESR ( $\Omega$ max./20°C,100kHz)	Rated Ripple Current (mA rms/105°C,100kHz)
10	220	F80	0.30	240
	470	H10	0.20	350
	680	J10	0.15	550
16	220	F80	0.30	240
	330	H10	0.20	350
	680	J10	0.15	550
25	100	F80	0.30	240
	220	H10	0.20	350
	330	J10	0.15	550
35	100	F80	0.30	240
	220	H10	0.20	350
	330	J10	0.15	550
50	47	F80	0.50	190
	150	H10	0.30	320
	220	J10	0.20	500

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