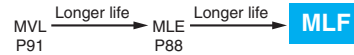


# Alchip™-MLF Series

- Endurance : 10,000 hours at 105°C
- Rated voltage range : 6.3 to 50V
- Nominal capacitance range : 1.0 to 1,000μF
- Suitable for high reliability products
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant

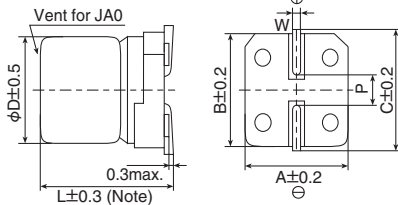


## ◆ SPECIFICATIONS

Items	Characteristics
<b>Category</b>	
<b>Temperature Range</b>	-25 to +105°C
<b>Rated Voltage Range</b>	6.3 to 50V <sub>dc</sub>
<b>Capacitance Tolerance</b>	±20%(M) (at 20°C,120Hz)
<b>Leakage Current</b>	I=0.03CV or 4μA, whichever is greater Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C, after 2 minutes)
<b>Dissipation Factor (tanδ)</b>	Rated voltage (V <sub>dc</sub> ) 6.3V 10V 16V 25V 35V 50V tanδ (Max.) 0.32 0.28 0.26 0.16 0.14 0.14 (at 20°C,120Hz)
<b>Low Temperature Characteristics (Max. Impedance Ratio)</b>	Rated voltage(V <sub>dc</sub> ) 6.3V 10V 16V 25V 35V 50V Z(-10°C)/Z(+20°C) 4 3 2 2 2 2 (at 120Hz)
<b>Endurance</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 10,000 hours at 105°C. Capacitance change ≤±30% of the initial value D.F. (tanδ) ≤300% of the initial specified value Leakage current ≤The initial specified value
<b>Shelf Life</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. Capacitance change ≤±30% of the initial value D.F. (tanδ) ≤300% of the initial specified value Leakage current ≤The initial specified value

## ◆ DIMENSIONS [mm]

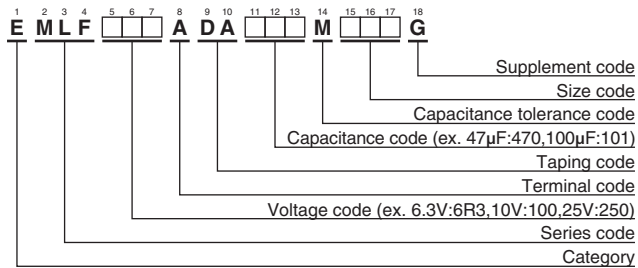
### ● Terminal Code : A



Note : L±0.5 for HA0 and JA0

Size code	D	L	A	B	C	W	P
D73	4	7.0	4.3	4.3	5.1	0.5 to 0.8	1.0
E73	5	7.0	5.3	5.3	5.9	0.5 to 0.8	1.4
F73	6.3	7.0	6.6	6.6	7.2	0.5 to 0.8	1.9
F90	6.3	8.7	6.6	6.6	7.2	0.5 to 0.8	1.9
HA0	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
JA0	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5

## ◆ PART NUMBERING SYSTEM



Please refer to "Product code guide (surface mount type)"

## ◆ MARKING

EX) 16V47μF



### ● Rated voltage symbol

Rated voltage (V <sub>dc</sub> )	6.3	10	16	25	35	50
Symbol	j	A	C	E	V	H

Alchip™-**MLF** Series

◆ **STANDARD RATINGS**

WV (Vdc)	Cap (μF)	Size code	Rated ripple current (mA <sub>rms</sub> /105°C, 120Hz)	Part No.	WV (Vdc)	Cap (μF)	Size code	Rated ripple current (mA <sub>rms</sub> /105°C, 120Hz)	Part No.
6.3	22	D73	22	EMLF6R3ADA220MD73G	35	1.0	D73	6.2	EMLF350ADA1R0MD73G
	47	E73	36	EMLF6R3ADA470ME73G		2.2	D73	11	EMLF350ADA2R2MD73G
	100	F73	60	EMLF6R3ADA101MF73G		3.3	D73	14	EMLF350ADA3R3MD73G
	220	F90	101	EMLF6R3ADA221MF90G		4.7	D73	15	EMLF350ADA4R7MD73G
	330	HA0	160	EMLF6R3ADA331MHA0G		4.7	E73	19	EMLF350ADA4R7ME73G
1,000	JA0	313	EMLF6R3ADA102MJA0G	10		E73	25	EMLF350ADA100ME73G	
10	33	E73	35	EMLF100ADA330ME73G		10	F73	30	EMLF350ADA100MF73G
	220	HA0	141	EMLF100ADA221MHA0G		22	F73	42	EMLF350ADA220MF73G
16	10	D73	18	EMLF160ADA100MD73G		22	F90	49	EMLF350ADA220MF90G
	22	E73	30	EMLF160ADA220ME73G		33	F90	57	EMLF350ADA330MF90G
	47	F73	50	EMLF160ADA470MF73G	220	JA0	216	EMLF350ADA221MJA0G	
	100	F90	81	EMLF160ADA101MF90G	50	33	HA0	77	EMLF500ADA330MHA0G
	470	JA0	254	EMLF160ADA471MJA0G		47	HA0	92	EMLF500ADA470MHA0G
33	F73	48	EMLF250ADA330MF73G	100		JA0	151	EMLF500ADA101MJA0G	
25	47	F90	63	EMLF250ADA470MF90G					
	100	HA0	116	EMLF250ADA101MHA0G					

◆ **RATED RIPPLE CURRENT MULTIPLIERS**

● Frequency Multipliers

Capacitance(μF) \ Frequency(Hz)	120	1k	10k	100k
1.0	1.00	1.50	1.75	1.80
2.2 to 10	1.00	1.30	1.40	1.50
22 to 1,000	1.00	1.05	1.08	1.08

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.