

Alchip™-**MVL**Series

MVL

↑ Longer life  
MVJ



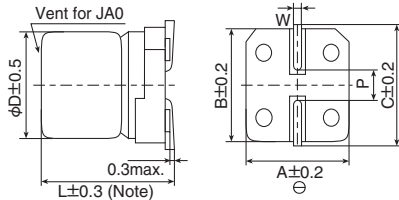
- Endurance : 3,000 to 5,000 hours at 105°C
- Suitable for applications requiring long life such as continuously operating equipment, industrial applications, etc
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant

◆ SPECIFICATIONS

Items	Characteristics						
Category Temperature Range	-40 to +105°C						
Rated Voltage Range	6.3 to 50V <sub>dc</sub>						
Capacitance Tolerance	±20%(M) (at 20°C,120Hz)						
Leakage Current	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)						
Dissipation Factor (tan δ)	Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V
	Max. tan δ	0.28	0.24	0.20	0.16	0.13	0.12
Low Temperature Characteristics (Max. impedance Ratio)	Rated voltage(V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V
	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2
	Z(-40°C)/Z(+20°C)	10	7	5	3	3	3
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for specified time at 105°C.						
	Time	D60 to F80 : 3,000 hours HA0 & JA0 : 5,000 hours					
	Capacitance change	≤ ±30% of the initial value					
	D.F. (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 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. (tan δ)	≤300% of the initial specified value					
	Leakage current	≤The initial specified value					

◆ DIMENSIONS [mm]

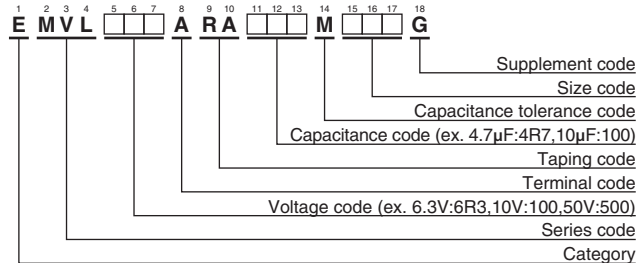
● Terminal Code : A



Note : L±0.5 for HA0 and JA0

Size code	D	L	A	B	C	W	P
D60	4	5.7	4.3	4.3	5.1	0.5 to 0.8	1.0
E60	5	5.7	5.3	5.3	5.9	0.5 to 0.8	1.4
F60	6.3	5.7	6.6	6.6	7.2	0.5 to 0.8	1.9
F80	6.3	7.7	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



◆STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Size code	tan δ	Rated ripple current (mA <sub>rms</sub> /105°C, 120Hz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Size code	tan δ	Rated ripple current (mA <sub>rms</sub> /105°C, 120Hz)	Part No.
6.3	22	D60	0.28	22	EMVL6R3ARA220MD60G	35	4.7	D60	0.13	15	EMVL350ARA4R7MD60G
	47	E60	0.28	36	EMVL6R3ARA470ME60G		10	E60	0.13	25	EMVL350ARA100ME60G
	100	F60	0.28	60	EMVL6R3ARA101MF60G		22	F60	0.13	42	EMVL350ARA220MF60G
	220	F80	0.28	101	EMVL6R3ARA221MF80G		33	F80	0.13	57	EMVL350ARA330MF80G
	330	HA0	0.28	160	EMVL6R3ARA331MHA0G		220	JA0	0.13	216	EMVL350ARA221MJA0G
10	1,000	JA0	0.28	313	EMVL6R3ARA102MJA0G	50	1.0	D60	0.12	6.2	EMVL500ARA1R0MD60G
	33	E60	0.24	35	EMVL100ARA330ME60G		2.2	D60	0.12	11	EMVL500ARA2R2MD60G
220	HA0	0.24	141	EMVL100ARA221MHA0G	3.3		D60	0.12	14	EMVL500ARA3R3MD60G	
16	10	D60	0.20	18	EMVL160ARA100MD60G		4.7	E60	0.12	19	EMVL500ARA4R7ME60G
	22	E60	0.20	30	EMVL160ARA220ME60G		10	F60	0.12	30	EMVL500ARA100MF60G
	47	F60	0.20	50	EMVL160ARA470MF60G		22	F80	0.12	49	EMVL500ARA220MF80G
	100	F80	0.20	81	EMVL160ARA101MF80G		33	HA0	0.12	77	EMVL500ARA330MHA0G
	470	JA0	0.20	254	EMVL160ARA471MJA0G		47	HA0	0.12	92	EMVL500ARA470MHA0G
25	33	F60	0.16	48	EMVL250ARA330MF60G	100	JA0	0.12	151	EMVL500ARA101MJA0G	
	47	F80	0.16	63	EMVL250ARA470MF80G						
	100	HA0	0.16	116	EMVL250ARA101MHA0G						
	330	JA0	0.16	238	EMVL250ARA331MJA0G						

◆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.