

Alchip™-MVE Series

- Rated voltage range : 6.3 to 450V, capacitance range : 1.0 to 6,800μF
- Endurance : 1,000 to 2,000 hours at 105°C
- Case size range : φ 4×5.2L to φ 18×21.5L
- Solvent resistant type except 100 to 450V_{dc} (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant

MVE → MVL P91
Longer life → MVJ P93



◆ SPECIFICATIONS

Items	Characteristics																					
Category	-40 to +105°C																					
Temperature Range	-40 to +105°C																					
Rated Voltage Range	6.3 to 450V _{dc}																					
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)																					
Leakage Current	Rated voltage(V _{dc})	6.3 to 100V						160 to 450V														
	D55 to JA0	I=0.01CV or 3μA, whichever is greater (2 minutes)						—														
	KE0 to MNO	I=0.03CV or 4μA, whichever is greater (1 minute)						I=0.04CV+100μA (1minute)														
	Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C)																					
Dissipation Factor (tanδ)	See STANDARD RATINGS (at 20°C, 120Hz)																					
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	6.3V		10V		16V		25V		35V		50V		63V		100V		160 to 250V		400 to 450V		
	D55 to JA0	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2	2	2	2	3	—	—	—	—	—	—	—	—	—
		Z(-40°C)/Z(+20°C)	12	8	6	4	3	3	3	3	4	—	—	—	—	—	—	—	—	—	—	—
	KE0 to MNO	Z(-25°C)/Z(+20°C)	5	4	3	2	2	2	2	2	2	2	2	3	6	—	—	—	—	—	—	—
Z(-40°C)/Z(+20°C)		10	8	6	4	3	3	3	3	3	3	3	6	10	—	—	—	—	—	—	—	
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for the specified period of time at 105°C.																					
	Size code	D55 to F80										HA0 to MNO										
	Time	1,000 hours										2,000 hours										
	Capacitance change	≤ ±30% of the initial value										≤ ±20% of the initial value										
	D.F. (tanδ)	≤300% of the initial specified value										≤200% of the initial specified value										
	Leakage current	≤The initial specified value										≤The initial specified value										
	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours (500 hours for B55 to F80 size) 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.																					
Size code	D55 to F80										HA0 to MNO											
Capacitance change	≤ ±25% of the initial value										≤ ±20% of the initial value											
D.F. (tanδ)	≤200% of the initial specified value										≤200% of the initial specified value											
Leakage current	≤The initial specified value										≤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 (500 hours for B55 to F80 size) 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.																					
	Size code	D55 to F80										HA0 to MNO										
	Capacitance change	≤ ±25% of the initial value										≤ ±20% of the initial value										
	D.F. (tanδ)	≤200% of the initial specified value										≤200% of the initial specified value										
	Leakage current	≤The initial specified value										≤The initial specified value										

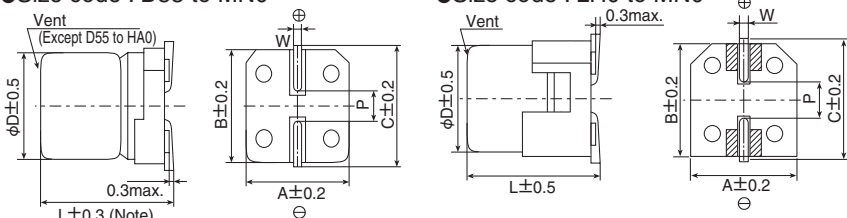
◆ DIMENSIONS [mm]

● Terminal Code : A

● Size code : D55 to MNO

● Terminal Code : G (Vibration resistant structure)

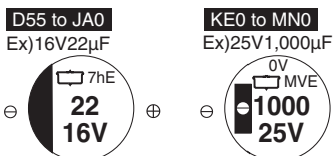
● Size code : LH0 to MNO



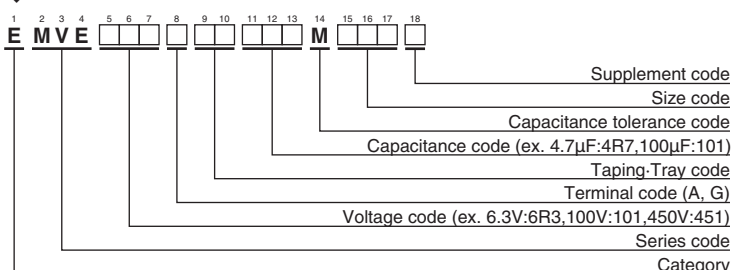
Note : L±0.5 for HA0 to MNO

Size code	D	L	A	B	C	W	P
D55	4	5.2	4.3	4.3	5.1	0.5 to 0.8	1.0
E55	5	5.2	5.3	5.3	5.9	0.5 to 0.8	1.4
F55	6.3	5.2	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
KE0	12.5	13.5	13.0	13.0	13.7	1.0 to 1.3	4.2
KG5	12.5	16.0	13.0	13.0	13.7	1.0 to 1.3	4.2
LH0	16	16.5	17.0	17.0	18.0	1.0 to 1.3	6.5
LNO	16	21.5	17.0	17.0	18.0	1.0 to 1.3	6.5
MH0	18	16.5	19.0	19.0	20.0	1.0 to 1.3	6.5
MNO	18	21.5	19.0	19.0	20.0	1.0 to 1.3	6.5

◆ MARKING



◆ PART NUMBERING SYSTEM



◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Size code	Capacitance(μF)	Frequency(Hz)			
		120	1k	10k	100k
D55 to JA0	1.0	1.00	1.50	1.75	1.80
	2.2 to 10	1.00	1.30	1.40	1.50
	22 to 1,500	1.00	1.05	1.08	1.08
	3.3 to 4.7	1.00	1.75	2.30	2.50
KE0 to MNO	10 to 68	1.00	1.50	1.75	1.80
	100 to 1,000	1.00	1.30	1.40	1.50
	2,200 to 6,800	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.

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

◆ STANDARD RATINGS

□ is not solvent resistant.

VV (Vdc)	Cap (μF)	Size code	tanδ	Rated ripple current (mArms/105°C,120Hz)	Part No.	VV (Vdc)	Cap (μF)	Size code	tanδ	Rated ripple current (mArms/105°C,120Hz)	Part No.	
6.3	22	D55	0.30	22	EMVE6R3ADA220MD55G	35	330	JA0	0.16	450	EMVE350ADA331MJA0G	
	33	E55	0.30	34	EMVE6R3ADA330ME55G		470	KE0	0.22	520	EMVE350ARA471MKE0S	
	47	E55	0.30	38	EMVE6R3ADA470ME55G		470	LH0	0.22	650	EMVE350□DA471MLH0S	
	100	F55	0.30	69	EMVE6R3ADA101MF55G		1,000	LH0	0.22	750	EMVE350□DA102MLH0S	
	220	F80	0.45	120	EMVE6R3ADA221MF80G		1,000	MH0	0.22	1,000	EMVE350□DA102MMH0S	
	330	HA0	0.40	290	EMVE6R3ADA331MHA0G		2,200	MN0	0.24	1,450	EMVE350□DA222MMN0S	
	470	HA0	0.45	320	EMVE6R3ADA471MHA0G		50	1.0	D55	0.12	8.0	EMVE500ADA1R0MD55G
	680	HA0	0.45	340	EMVE6R3ADA681MHA0G			2.2	D55	0.12	12	EMVE500ADA2R2MD55G
	1,000	JA0	0.40	410	EMVE6R3ADA102MJA0G			3.3	D55	0.12	15	EMVE500ADA3R3MD55G
	1,500	JA0	0.45	550	EMVE6R3ADA152MJA0G			4.7	E55	0.12	20	EMVE500ADA4R7ME55G
	2,200	KE0	0.40	680	EMVE6R3ARA222MKE0S			10	F55	0.12	32	EMVE500ADA100MF55G
	2,200	LH0	0.40	840	EMVE6R3□DA222MLH0S			33	F80	0.14	65	EMVE500ADA330MF80G
	3,300	KG5	0.42	850	EMVE6R3ARA332MKG5S			47	F80	0.14	80	EMVE500ADA470MF80G
	3,300	MH0	0.42	1,000	EMVE6R3□DA332MMH0S			100	HA0	0.14	230	EMVE500ADA101MHA0G
	4,700	LN0	0.44	1,200	EMVE6R3□DA472MLN0S			220	JA0	0.14	375	EMVE500ADA221MJA0G
	4,700	MH0	0.44	1,200	EMVE6R3□DA472MMH0S			330	KE0	0.18	500	EMVE500ARA331MKE0S
6,800	LN0	0.48	1,200	EMVE6R3□DA682MLN0S	330	LH0		0.18	600	EMVE500□DA331MLH0S		
6,800	MN0	0.48	1,350	EMVE6R3□DA682MMN0S	470	LH0		0.18	700	EMVE500□DA471MLH0S		
10	22	E55	0.24	30	EMVE100ADA220ME55G	470		MH0	0.18	750	EMVE500□DA471MMH0S	
	33	E55	0.24	34	EMVE100ADA330ME55G	1,000		MN0	0.18	1,200	EMVE500□DA102MMN0S	
	47	F55	0.24	48	EMVE100ADA470MF55G	63		1.0	D55	0.12	8.0	EMVE630ADA1R0MD55G
	100	F55	0.30	69	EMVE100ADA101MF55G			2.2	D55	0.12	12	EMVE630ADA2R2MD55G
	150	F80	0.35	100	EMVE100ADA151MF80G		3.3	E55	0.12	17	EMVE630ADA3R3ME55G	
	220	F80	0.35	120	EMVE100ADA221MF80G		4.7	F55	0.12	22	EMVE630ADA4R7MF55G	
	330	HA0	0.35	290	EMVE100ADA331MHA0G		10	F55	0.12	32	EMVE630ADA100MF55G	
	470	HA0	0.35	320	EMVE100ADA471MHA0G		22	F80	0.12	58	EMVE630ADA220MF80G	
	1,000	JA0	0.35	410	EMVE100ADA102MJA0G		33	HA0	0.12	140	EMVE630ADA330MHA0G	
	2,200	KG5	0.36	750	EMVE100ARA222MKG5S		47	HA0	0.12	170	EMVE630ADA470MHA0G	
	2,200	LH0	0.36	850	EMVE100□DA222MLH0S		100	JA0	0.12	310	EMVE630ADA101MJA0G	
	3,300	LH0	0.38	1,000	EMVE100□DA332MLH0S		220	KE0	0.14	470	EMVE630ARA221MKE0S	
	3,300	MH0	0.38	1,100	EMVE100□DA332MMH0S		220	LH0	0.14	560	EMVE630□DA221MLH0S	
	4,700	LN0	0.40	1,300	EMVE100□DA472MLN0S		330	LH0	0.14	700	EMVE630□DA331MLH0S	
	4,700	MN0	0.40	1,350	EMVE100□DA472MMN0S		330	MH0	0.14	750	EMVE630□DA331MMH0S	
	16	10	D55	0.20	17		EMVE160ADA100MD55G	470	LN0	0.14	900	EMVE630□DA471MLN0S
22		E55	0.20	30	EMVE160ADA220ME55G		470	MH0	0.14	900	EMVE630□DA471MMH0S	
33		F55	0.20	45	EMVE160ADA330MF55G		100	22	HA0	0.12	100	EMVE101ADA220MHA0G
47		F55	0.20	48	EMVE160ADA470MF55G	33		JA0	0.12	150	EMVE101ADA330MJA0G	
100		F55	0.26	69	EMVE160ADA101MF55G	47		KE0	0.10	250	EMVE101ARA470MKE0S	
150		F80	0.28	100	EMVE160ADA151MF80G	68		KE0	0.10	300	EMVE101ARA680MKE0S	
220		F80	0.28	120	EMVE160ADA221MF80G	100		KE0	0.10	380	EMVE101ARA101MKE0S	
330		HA0	0.28	290	EMVE160ADA331MHA0G	100		LH0	0.10	450	EMVE101□DA101MLH0S	
470		HA0	0.28	320	EMVE160ADA471MHA0G	220		LN0	0.10	750	EMVE101□DA221MLN0S	
680		JA0	0.28	470	EMVE160ADA681MJA0G	220		MH0	0.10	750	EMVE101□DA221MMH0S	
1,000		KE0	0.30	550	EMVE160ARA102MKE0S	330		MN0	0.10	980	EMVE101□DA331MMN0S	
1,000		LH0	0.30	650	EMVE160□DA102MLH0S	160		33	KE0	0.15	95	EMVE161ARA330MKE0S
2,200		LH0	0.32	950	EMVE160□DA222MLH0S			47	LH0	0.15	260	EMVE161□DA470MLH0S
2,200		MH0	0.32	1,000	EMVE160□DA222MMH0S			68	LN0	0.15	320	EMVE161□DA680MLN0S
3,300		LN0	0.34	1,200	EMVE160□DA332MLN0S			68	MH0	0.15	320	EMVE161□DA680MMH0S
3,300		MH0	0.34	1,200	EMVE160□DA332MMH0S	100		LN0	0.15	380	EMVE161□DA101MLN0S	
25	10	E55	0.16	27	EMVE250ADA100ME55G	200		10	KE0	0.15	80	EMVE201ARA100MKE0S
	22	F55	0.16	44	EMVE250ADA220MF55G			22	KG5	0.15	110	EMVE201ARA220MKG5S
	33	F55	0.16	50	EMVE250ADA330MF55G		33	LH0	0.15	220	EMVE201□DA330MLH0S	
	47	F55	0.16	60	EMVE250ADA470MF55G		47	LN0	0.15	270	EMVE201□DA470MLN0S	
	100	F80	0.18	100	EMVE250ADA101MF80G		47	MH0	0.15	270	EMVE201□DA470MMH0S	
	150	HA0	0.18	240	EMVE250ADA151MHA0G		68	MN0	0.15	330	EMVE201□DA680MMN0S	
	220	HA0	0.18	320	EMVE250ADA221MHA0G	250	4.7	KE0	0.15	65	EMVE251ARA4R7MKE0S	
	330	JA0	0.16	450	EMVE250ADA331MJA0G		10	KG5	0.15	105	EMVE251ARA100MKG5S	
	470	JA0	0.18	490	EMVE250ADA471MJA0G		22	LH0	0.15	180	EMVE251□DA220MLH0S	
	1,000	LH0	0.26	820	EMVE250□DA102MLH0S		33	LN0	0.15	230	EMVE251□DA330MLN0S	
	1,000	MH0	0.26	880	EMVE250□DA102MMH0S		33	MH0	0.15	230	EMVE251□DA330MMH0S	
	2,200	LN0	0.28	1,250	EMVE250□DA222MLN0S		47	MN0	0.15	280	EMVE251□DA470MMN0S	
	2,200	MN0	0.28	1,300	EMVE250□DA222MMN0S	400	4.7	KG5	0.20	50	EMVE401ARA4R7MKG5S	
	35	4.7	D55	0.14	16		EMVE350ADA4R7MD55G	10	LH0	0.20	85	EMVE401□DA100MLH0S
		10	E55	0.14	27		EMVE350ADA100ME55G	22	MN0	0.20	130	EMVE401□DA220MMN0S
		22	F55	0.14	44	EMVE350ADA220MF55G	450	3.3	KE0	0.20	40	EMVE451ARA3R3MKE0S
47		F80	0.16	80	EMVE350ADA470MF80G	4.7		KG5	0.20	50	EMVE451ARA4R7MKG5S	
100		F80	0.16	100	EMVE350ADA101MF80G	10		LH0	0.20	85	EMVE451□DA100MLH0S	
150		HA0	0.16	260	EMVE350ADA151MHA0G	22		MN0	0.20	130	EMVE451□DA220MMN0S	
220	JA0	0.16	375	EMVE350ADA221MJA0G								

□ : Enter the appropriate terminal code.