

**Alchip™-MVE Series**

- Endurance : 1,000 to 2,000 hours at 105°C
- Case size range : φ 4x5.2L to φ 18x21.5L
- Solvent resistant type except 100 to 450V<sub>dc</sub> (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

**MVE** → Longer life → MVL P4-33  
MVJ P4-35



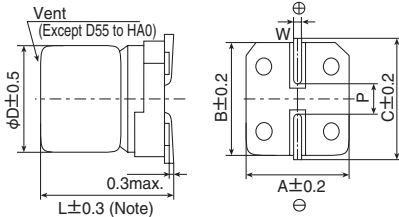
**◆ SPECIFICATIONS**

Items	Characteristics												
<b>Category Temperature Range</b>	-40 to +105°C												
<b>Rated Voltage Range</b>	6.3 to 450V <sub>dc</sub>												
<b>Capacitance Tolerance</b>	±20%(M) (at 20°C, 120Hz)												
<b>Leakage Current</b>	Rated voltage (V <sub>dc</sub> )	6.3 to 100V						160 to 450V					
	D55 to JA0	I=0.01CV or 3μA, whichever is greater (2 minutes)						—					
	KE0 to MN0	I=0.03CV or 4μA, whichever is greater (1 minute)						I=0.04CV+100μA (1 minute)					
	Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C)												
<b>Dissipation Factor (tan δ)</b>	See STANDARD RATINGS (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	63V	100V	160 to 250V	400 to 450V		
	D55 to JA0	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2	3	—	—	
		Z(-40°C)/Z(+20°C)	12	8	6	4	3	3	3	4	—	—	
	KE0 to MN0	Z(-25°C)/Z(+20°C)	5	4	3	2	2	2	2	2	3	6	
Z(-40°C)/Z(+20°C)		10	8	6	4	3	3	3	3	6	10		
<b>Endurance</b>	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 MN0					
	Time	1,000 hours						2,000 hours					
	Capacitance change	≤ ±30% of the initial value						≤ ±20% of the initial value					
	D.F. (tan δ)	≤300% of the initial specified value						≤200% of the initial specified value					
	Leakage current	≤The initial specified value						≤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 (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 MN0					
	Capacitance change	≤ ±25% of the initial value						≤ ±20% of the initial value					
	D.F. (tan δ)	≤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

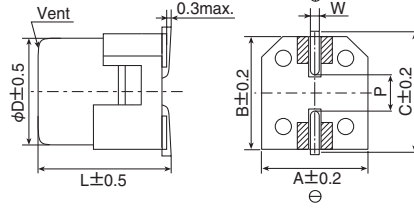
● Size code : D55 to MN0



Note : L±0.5 for HA0 to MN0

● Terminal Code : G (Vibration resistant structure)

● Size code : LH0 to MN0



▨ : Dummy terminals

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
LN0	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
MN0	18	21.5	19.0	19.0	20.0	1.0 to 1.3	6.5

**◆ MARKING**

**D55 to JA0**

Ex) 16V22μF

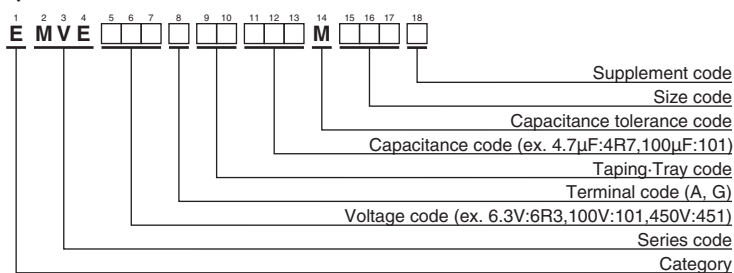


**KE0 to MN0**

Ex) 25V1,000μF



**◆ 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
KE0 to MN0	3.3 to 4.7	1.00	1.75	2.30	2.50
	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)"

Alchip™-MVE Series

◆STANDARD RATINGS

□ is not solvent resistant.

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	D55	0.30	22	EMVE6R3ARA220MD55G	35	330	JA0	0.16	450	EMVE350ARA331MJA0G		
	33	E55	0.30	34	EMVE6R3ARA330ME55G		470	KE0	0.22	520	EMVE350ARA471MKE0S		
	47	E55	0.30	38	EMVE6R3ARA470ME55G		470	LH0	0.22	650	EMVE350□RA471MLH0S		
	100	F55	0.30	69	EMVE6R3ARA101MF55G		1,000	LH0	0.22	750	EMVE350□RA102MLH0S		
	220	F80	0.45	120	EMVE6R3ARA221MF80G		1,000	MH0	0.22	1,000	EMVE350□RA102MMH0S		
	330	HA0	0.40	290	EMVE6R3ARA331MHA0G		2,200	MN0	0.24	1,450	EMVE350□RA222MMN0S		
	470	HA0	0.45	320	EMVE6R3ARA471MHA0G		50	1.0	D55	0.12	8.0	EMVE500ARA1R0MD55G	
	680	HA0	0.45	340	EMVE6R3ARA681MHA0G			2.2	D55	0.12	12	EMVE500ARA2R2MD55G	
	1,000	JA0	0.40	410	EMVE6R3ARA102MJA0G			3.3	D55	0.12	15	EMVE500ARA3R3MD55G	
	1,500	JA0	0.45	550	EMVE6R3ARA152MJA0G			4.7	E55	0.12	20	EMVE500ARA4R7ME55G	
	2,200	KE0	0.40	680	EMVE6R3ARA222MKE0S			10	F55	0.12	32	EMVE500ARA100MF55G	
	2,200	LH0	0.40	840	EMVE6R3□RA222MLH0S			33	F80	0.14	65	EMVE500ARA330MF80G	
	3,300	KG5	0.42	850	EMVE6R3ARA332MKG5S			47	F80	0.14	80	EMVE500ARA470MF80G	
	3,300	MH0	0.42	1,000	EMVE6R3□RA332MMH0S			100	HA0	0.14	230	EMVE500ARA101MHA0G	
	4,700	LN0	0.44	1,200	EMVE6R3□RA472MLN0S			220	JA0	0.14	375	EMVE500ARA221MJA0G	
4,700	MH0	0.44	1,200	EMVE6R3□RA472MMH0S	330	KE0		0.18	500	EMVE500ARA331MKE0S			
6,800	LN0	0.48	1,200	EMVE6R3□RA682MLN0S	330	LH0		0.18	600	EMVE500□RA331MLH0S			
6,800	MN0	0.48	1,350	EMVE6R3□RA682MMN0S	470	LH0		0.18	700	EMVE500□RA471MLH0S			
10	22	E55	0.24	30	EMVE100ARA220ME55G	470		MH0	0.18	750	EMVE500□RA471MMH0S		
	33	E55	0.24	34	EMVE100ARA330ME55G	1,000		MN0	0.18	1,200	EMVE500□RA102MMN0S		
	47	F55	0.24	48	EMVE100ARA470MF55G	63		1.0	D55	0.12	8.0	EMVE630ARA1R0MD55G	
	100	F55	0.30	69	EMVE100ARA101MF55G		2.2	D55	0.12	12	EMVE630ARA2R2MD55G		
	150	F80	0.35	100	EMVE100ARA151MF80G		3.3	E55	0.12	17	EMVE630ARA3R3ME55G		
	220	F80	0.35	120	EMVE100ARA221MF80G		4.7	F55	0.12	22	EMVE630ARA4R7MF55G		
	330	HA0	0.35	290	EMVE100ARA331MHA0G		10	F55	0.12	32	EMVE630ARA100MF55G		
	470	HA0	0.35	320	EMVE100ARA471MHA0G		22	F80	0.12	58	EMVE630ARA220MF80G		
	1,000	JA0	0.35	410	EMVE100ARA102MJA0G		33	HA0	0.12	140	EMVE630ARA330MHA0G		
	2,200	KG5	0.36	750	EMVE100ARA222MKG5S		47	HA0	0.12	170	EMVE630ARA470MHA0G		
	2,200	LH0	0.36	850	EMVE100□RA222MLH0S		100	JA0	0.12	310	EMVE630ARA101MJA0G		
	3,300	LH0	0.38	1,000	EMVE100□RA332MLH0S		220	KE0	0.14	470	EMVE630ARA221MKE0S		
	3,300	MH0	0.38	1,100	EMVE100□RA332MMH0S		220	LH0	0.14	560	EMVE630□RA221MLH0S		
	4,700	LN0	0.40	1,300	EMVE100□RA472MLN0S		330	LH0	0.14	700	EMVE630□RA331MLH0S		
	4,700	MN0	0.40	1,350	EMVE100□RA472MMN0S		330	MH0	0.14	750	EMVE630□RA331MMH0S		
16	10	D55	0.20	17	EMVE160ARA100MD55G		470	LN0	0.14	900	EMVE630□RA471MLN0S		
	22	E55	0.20	30	EMVE160ARA220ME55G		470	MH0	0.14	900	EMVE630□RA471MMH0S		
	33	F55	0.20	45	EMVE160ARA330MF55G	22	HA0	0.12	100	EMVE101ARA220MHA0G			
	47	F55	0.20	48	EMVE160ARA470MF55G	33	JA0	0.12	150	EMVE101ARA330MJA0G			
	100	F55	0.26	69	EMVE160ARA101MF55G	47	KE0	0.10	250	EMVE101ARA470MKE0S			
	150	F80	0.28	100	EMVE160ARA151MF80G	68	KE0	0.10	300	EMVE101ARA680MKE0S			
	220	F80	0.28	120	EMVE160ARA221MF80G	100	KE0	0.10	380	EMVE101ARA101MKE0S			
	330	HA0	0.28	290	EMVE160ARA331MHA0G	100	LH0	0.10	450	EMVE101□RA101MLH0S			
	470	HA0	0.28	320	EMVE160ARA471MHA0G	220	LN0	0.10	750	EMVE101□RA221MLN0S			
	680	JA0	0.28	470	EMVE160ARA681MJA0G	220	MH0	0.10	750	EMVE101□RA221MMH0S			
	1,000	KE0	0.30	550	EMVE160ARA102MKE0S	330	MN0	0.10	980	EMVE101□RA331MMN0S			
	1,000	LH0	0.30	650	EMVE160□RA102MLH0S	160	33	KE0	0.15	95	EMVE161ARA330MKE0S		
	2,200	LH0	0.32	950	EMVE160□RA222MLH0S		47	LH0	0.15	260	EMVE161□RA470MLH0S		
	2,200	MH0	0.32	1,000	EMVE160□RA222MMH0S		68	LN0	0.15	320	EMVE161□RA680MLN0S		
	3,300	LN0	0.34	1,200	EMVE160□RA332MLN0S		68	MH0	0.15	320	EMVE161□RA680MMH0S		
3,300	MH0	0.34	1,200	EMVE160□RA332MMH0S	100		LN0	0.15	380	EMVE161□RA101MLN0S			
25	10	E55	0.16	27	EMVE250ARA100ME55G		200	10	KE0	0.15	80	EMVE201ARA100MKE0S	
	22	F55	0.16	44	EMVE250ARA220MF55G	22		KG5	0.15	110	EMVE201ARA220MKG5S		
	33	F55	0.16	50	EMVE250ARA330MF55G	33		LH0	0.15	220	EMVE201□RA330MLH0S		
	47	F55	0.16	60	EMVE250ARA470MF55G	47		LN0	0.15	270	EMVE201□RA470MLN0S		
	100	F80	0.18	100	EMVE250ARA101MF80G	47		MH0	0.15	270	EMVE201□RA470MMH0S		
	150	HA0	0.18	240	EMVE250ARA151MHA0G	68		MN0	0.15	330	EMVE201□RA680MMN0S		
	220	HA0	0.18	320	EMVE250ARA221MHA0G	250	4.7	KE0	0.15	65	EMVE251ARA4R7MKE0S		
	330	JA0	0.16	450	EMVE250ARA331MJA0G		10	KG5	0.15	105	EMVE251ARA100MKG5S		
	470	JA0	0.18	490	EMVE250ARA471MJA0G		22	LH0	0.15	180	EMVE251□RA220MLH0S		
	1,000	LH0	0.26	820	EMVE250□RA102MLH0S		33	LN0	0.15	230	EMVE251□RA330MLN0S		
	1,000	MH0	0.26	880	EMVE250□RA102MMH0S		33	MH0	0.15	230	EMVE251□RA330MMH0S		
	2,200	LN0	0.28	1,250	EMVE250□RA222MLN0S		47	MN0	0.15	280	EMVE251□RA470MMN0S		
	2,200	MN0	0.28	1,300	EMVE250□RA222MMN0S		400	4.7	KG5	0.20	50	EMVE401ARA4R7MKG5S	
	35	4.7	D55	0.14	16			EMVE350ARA4R7MD55G	10	LH0	0.20	85	EMVE401□RA100MLH0S
		10	E55	0.14	27			EMVE350ARA100ME55G	22	MN0	0.20	130	EMVE401□RA220MMN0S
22		F55	0.14	44	EMVE350ARA220MF55G	450		3.3	KE0	0.20	40	EMVE451ARA3R3MKE0S	
47		F80	0.16	80	EMVE350ARA470MF80G			4.7	KG5	0.20	50	EMVE451ARA4R7MKG5S	
100		F80	0.16	100	EMVE350ARA101MF80G			10	LH0	0.20	85	EMVE451□RA100MLH0S	
150		HA0	0.16	260	EMVE350ARA151MHA0G		22	MN0	0.20	130	EMVE451□RA220MMN0S		
220	JA0	0.16	375	EMVE350ARA221MJA0G									

□ : Enter the appropriate terminal code.