

# Alchip™-MVE Series

- Endurance : 1,000 to 2,000 hours at 105°C
- Case size range : φ 6.3×5.2L to φ 18×21.5L
- Solvent resistant type except 100V<sub>dc</sub> (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

MVE → MVL  
Longer life

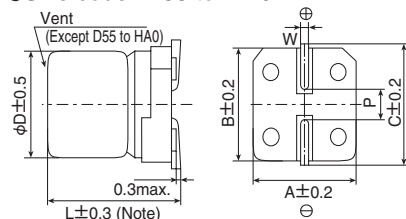


## ◆ SPECIFICATIONS

Items	Characteristics		
<b>Category Temperature Range</b>	-40 to +105°C		
<b>Rated Voltage Range</b>	6.3 to 100V <sub>dc</sub>		
<b>Capacitance Tolerance</b>	±20%(M) (at 20°C, 120Hz)		
<b>Leakage Current</b>	F55 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)	
	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	
	F55 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
Z(-40°C)/Z(+20°C)		10 8 6 4 3 3 3 3	
(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 the specified period of time at 105°C.		
	Size code	F55 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 F55 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	F55 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	

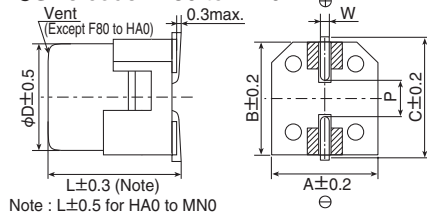
## ◆ DIMENSIONS [mm]

- Terminal Code : A
- Size code : F55 to MN0



Note : L±0.5 for HA0 to MN0

- Terminal Code : G (Vibration resistant structure)
- Size code : F80 to MN0



Note : L±0.5 for HA0 to MN0

▨ : Dummy terminals

Size code	D	L	A	B	C	W	P
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

F55 to JA0

Ex) 16V33μF

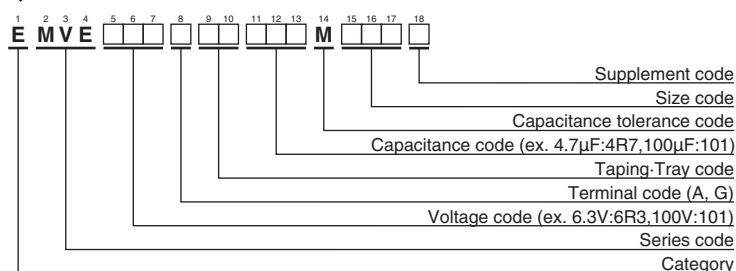


KE0 to MN0

Ex) 25V1,000μF



## ◆ PART NUMBERING SYSTEM



## ◆ RATED RIPPLE CURRENT MULTIPLIERS

### ● Frequency Multipliers

Size code	Capacitance(μF)	Frequency(Hz)			
		120	1k	10k	100k
F55 to JA0	4.7 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	47, 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 deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.

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



Alchip™ - **MVE** Series

◆ **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	100	F55	0.30	69	EMVE6R3ARA101MF55G	35	22	F55	0.14	44	EMVE350ARA220MF55G	
	220	F80	0.45	120	EMVE6R3□RA221MF80G		47	F80	0.16	80	EMVE350□RA470MF80G	
	330	HA0	0.40	290	EMVE6R3□RA331MHA0G		100	F80	0.16	100	EMVE350□RA101MF80G	
	470	HA0	0.45	320	EMVE6R3□RA471MHA0G		150	HA0	0.16	260	EMVE350□RA151MHA0G	
	680	HA0	0.45	340	EMVE6R3□RA681MHA0G		220	JA0	0.16	375	EMVE350□RA221MJA0G	
	1,000	JA0	0.40	410	EMVE6R3□RA102MJA0G		330	JA0	0.16	450	EMVE350□RA331MJA0G	
	1,500	JA0	0.45	550	EMVE6R3□RA152MJA0G		470	KE0	0.22	520	EMVE350□RA471MKE0S	
	2,200	KE0	0.40	680	EMVE6R3□RA222MKE0S		470	LH0	0.22	650	EMVE350□RA471MLH0S	
	2,200	LH0	0.40	840	EMVE6R3□RA222MLH0S		1,000	LH0	0.22	750	EMVE350□RA102MLH0S	
	3,300	KG5	0.42	850	EMVE6R3□RA332MKG5S		1,000	MH0	0.22	1,000	EMVE350□RA102MMH0S	
	3,300	MH0	0.42	1,000	EMVE6R3□RA332MMH0S		2,200	MN0	0.24	1,450	EMVE350□RA222MMN0S	
	4,700	LN0	0.44	1,200	EMVE6R3□RA472MLN0S		50	10	F55	0.12	32	EMVE500ARA100MF55G
	4,700	MH0	0.44	1,200	EMVE6R3□RA472MMH0S			33	F80	0.14	65	EMVE500□RA330MF80G
6,800	LN0	0.48	1,200	EMVE6R3□RA682MLN0S	47	F80		0.14	80	EMVE500□RA470MF80G		
6,800	MN0	0.48	1,350	EMVE6R3□RA682MMN0S	100	HA0		0.14	230	EMVE500□RA101MHA0G		
10	47	F55	0.24	48	EMVE100ARA470MF55G	220		JA0	0.14	375	EMVE500□RA221MJA0G	
	100	F55	0.30	69	EMVE100ARA101MF55G	330		KE0	0.18	500	EMVE500□RA331MKE0S	
	150	F80	0.35	100	EMVE100□RA151MF80G	330		LH0	0.18	600	EMVE500□RA331MLH0S	
	220	F80	0.35	120	EMVE100□RA221MF80G	470		LH0	0.18	700	EMVE500□RA471MLH0S	
	330	HA0	0.35	290	EMVE100□RA331MHA0G	470		MH0	0.18	750	EMVE500□RA471MMH0S	
	470	HA0	0.35	320	EMVE100□RA471MHA0G	1,000		MN0	0.18	1,200	EMVE500□RA102MMN0S	
	1,000	JA0	0.35	410	EMVE100□RA102MJA0G	63	4.7	F55	0.12	22	EMVE630ARA4R7MF55G	
	2,200	KG5	0.36	750	EMVE100□RA222MKG5S		10	F55	0.12	32	EMVE630ARA100MF55G	
	2,200	LH0	0.36	850	EMVE100□RA222MLH0S		22	F80	0.12	58	EMVE630□RA220MF80G	
	3,300	LH0	0.38	1,000	EMVE100□RA332MLH0S		33	HA0	0.12	140	EMVE630□RA330MHA0G	
3,300	MH0	0.38	1,100	EMVE100□RA332MMH0S	47		HA0	0.12	170	EMVE630□RA470MHA0G		
4,700	LN0	0.40	1,300	EMVE100□RA472MLN0S	100		JA0	0.12	310	EMVE630□RA101MJA0G		
4,700	MN0	0.40	1,350	EMVE100□RA472MMN0S	220		KE0	0.14	470	EMVE630□RA221MKE0S		
16	33	F55	0.20	45	EMVE160ARA330MF55G		220	LH0	0.14	560	EMVE630□RA221MLH0S	
	47	F55	0.20	48	EMVE160ARA470MF55G		330	LH0	0.14	700	EMVE630□RA331MLH0S	
	100	F55	0.26	69	EMVE160ARA101MF55G		330	MH0	0.14	750	EMVE630□RA331MMH0S	
	150	F80	0.28	100	EMVE160□RA151MF80G	470	LN0	0.14	900	EMVE630□RA471MLN0S		
	220	F80	0.28	120	EMVE160□RA221MF80G	470	MH0	0.14	900	EMVE630□RA471MMH0S		
	330	HA0	0.28	290	EMVE160□RA331MHA0G	100	22	HA0	0.12	100	EMVE101□RA220MHA0G	
	470	HA0	0.28	320	EMVE160□RA471MHA0G		33	JA0	0.12	150	EMVE101□RA330MJA0G	
	680	JA0	0.28	470	EMVE160□RA681MJA0G		47	KE0	0.10	250	EMVE101□RA470MKE0S	
	1,000	KE0	0.30	550	EMVE160□RA102MKE0S		68	KE0	0.10	300	EMVE101□RA680MKE0S	
	1,000	LH0	0.30	650	EMVE160□RA102MLH0S		100	KE0	0.10	380	EMVE101□RA101MKE0S	
2,200	LH0	0.32	950	EMVE160□RA222MLH0S	100		LH0	0.10	450	EMVE101□RA101MLH0S		
2,200	MH0	0.32	1,000	EMVE160□RA222MMH0S	220		LN0	0.10	750	EMVE101□RA221MLN0S		
3,300	LN0	0.34	1,200	EMVE160□RA332MLN0S	220		MH0	0.10	750	EMVE101□RA221MMH0S		
3,300	MH0	0.34	1,200	EMVE160□RA332MMH0S	330		MN0	0.10	980	EMVE101□RA331MMN0S		
25	22	F55	0.16	44	EMVE250ARA220MF55G		25	33	F55	0.16	50	EMVE250ARA330MF55G
	33	F55	0.16	50	EMVE250ARA330MF55G	47		F55	0.16	60	EMVE250ARA470MF55G	
	47	F55	0.16	60	EMVE250ARA470MF55G	100		F80	0.18	100	EMVE250□RA101MF80G	
	100	F80	0.18	100	EMVE250□RA101MF80G	150		HA0	0.18	240	EMVE250□RA151MHA0G	
	150	HA0	0.18	240	EMVE250□RA151MHA0G	220		HA0	0.18	320	EMVE250□RA221MHA0G	
	220	HA0	0.18	320	EMVE250□RA221MHA0G	330		JA0	0.16	450	EMVE250□RA331MJA0G	
	330	JA0	0.16	450	EMVE250□RA331MJA0G	470		JA0	0.18	490	EMVE250□RA471MJA0G	
	470	JA0	0.18	490	EMVE250□RA471MJA0G	1,000		LH0	0.26	820	EMVE250□RA102MLH0S	
	1,000	LH0	0.26	820	EMVE250□RA102MLH0S	1,000		MH0	0.26	880	EMVE250□RA102MMH0S	
	1,000	MH0	0.26	880	EMVE250□RA102MMH0S	2,200		LN0	0.28	1,250	EMVE250□RA222MLN0S	
	2,200	LN0	0.28	1,250	EMVE250□RA222MLN0S	2,200		MN0	0.28	1,300	EMVE250□RA222MMN0S	
	2,200	MN0	0.28	1,300	EMVE250□RA222MMN0S							

□ : Enter the appropriate terminal code.

\*1: Assembly boards with the designated products attached cannot be cleaned.



- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
- The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention / crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.
- The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.  
Please make sure that you take appropriate safety measures such as use of redundant design and malfunction prevention measures in order to prevent fatal accidents and/or fires in the event any of our products malfunction.
- We strongly recommend our customers to purchase Nippon Chemi-Con products only through our official sales channels. We assume no responsibility for any defects or damages caused by using products purchased from outside our official sales channel or of counterfeit goods. In addition, we will ask the customer to pay the investigation cost for products purchased outside our official sales channel.
- We reserve the right to discontinue production and delivery of products. We do not guarantee that all the products included in this catalog will be available in the future.  
The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products
- We continually strive to improve the quality and reliability of our products, but in any case that our product does not meet our published specifications, please stop using it promptly and contact us immediately. As for compensation for non-conforming goods delivered by Chemi-Con, we will limit it only to goods found in non-compliance of our published specifications. This may be accomplished by a no cost replacement of non-conforming individual products, a credit of the piece price paid per each individual non-conforming product, or in other ways deemed necessary.  
In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

[Part Numbering System](#)

[Part Numbering System \(Appendix\)](#)

[Standardization](#)

[Available Items by Manufacturing Locations](#)

[Environmental Measures](#)

[Technical Note](#)

[Precautions and Guidelines](#)

[Recommended Soldering Conditions](#)

[Taping, Lead-preforming and Packaging](#)

[Available Terminals for Snap-in and Screw Mount Type](#)

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Chemi-Con:

[EMVE101ARA680MKE0S](#) [EMVE101ADA330MJA0G](#) [EMVE101ADA101MKE0S](#) [EMVE201ARA220MKG5S](#)  
[EMVE350ARA471MKE0S](#) [EMVE500ADA470MF80G](#) [EMVE630ARA221MKE0S](#) [EMVE100ADA102MJA0G](#)  
[EMVE101ADA220MHA0G](#) [EMVE101ARA680KEOS](#) [EMVE101ARA680MKD5G](#) [EMVE160ADA220ME55G](#)  
[EMVE250ADA221MHA0G](#) [EMVE250ADA331MJA0G](#) [EMVE250ADA471MJA0G](#) [EMVE350ADA101MF80G](#)  
[EMVE350ADA221MJA0G](#) [EMVE350ADA470MF80G](#) [EMVE500ADA100MF55G](#) [EMVE500ADA1R0MD55G](#)  
[EMVE630ADA100MF55G](#) [EMVE630ADA101MJA0G](#) [EMVE500ADA101MHA0G](#) [EMVE160ADA471MHA0G](#)  
[EMVE101GDA221MLN0S](#) [EMVE630ADA4R7MF55G](#) [EMVE630ADA470MHA0G](#) [EMVE630ADA3R3ME55G](#)  
[EMVE6R3GDA472MLN0S](#) [EMVE630ADA330MHA0G](#) [EMVE630ADA2R2MD55G](#) [EMVE630ADA220MF80G](#)  
[EMVE630ADA1R0MD55G](#) [EMVE6R3ADA101MF55G](#) [EMVE160ADA101MF55G](#) [EMVE630GDA221MLH0S](#)  
[EMVE101GDA331MMN0S](#) [EMVE6R3GDA682MLN0S](#) [EMVE6R3GDA682MMN0S](#) [EMVE6R3GDA472MMH0S](#)  
[EMVE101GDA101MLH0S](#) [EMVE101GDA221MMH0S](#) [EMVE101ARA470MKE0S](#) [EMVE101ARA101MKE0S](#)  
[EMVE100GDA472MMN0S](#) [EMVE6R3ADA470ME55G](#) [EMVE6R3ADA221MF80G](#) [EMVE350ADA220MF55G](#)  
[EMVE630GDA471MLN0S](#) [EMVE6R3GDA332MMH0S](#) [EMVE6R3GDA222MLH0S](#) [EMVE6R3ARA332MKG5S](#)  
[EMVE6R3ARA222MKE0S](#) [EMVE630ADAR47MD55G](#) [EMVE6R3ADA471MHA0G](#) [EMVE6R3ADA331MHA0G](#)  
[EMVE6R3ADA330ME55G](#) [EMVE6R3ADA220MD55G](#) [EMVE6R3ADA102MJA0G](#) [EMVE6R3ADA152MJA0G](#)  
[EMVE630GDA471MMH0S](#) [EMVE630GDA331MMH0S](#) [EMVE630GDA331MLH0S](#) [EMVE6R3ADA681MHA0G](#)  
[EMVE160ADA470MF55G](#) [EMVE101ADA470MJA0G](#) [EMVE250ADA330MF55G](#) [EMVE250ADA220MF55G](#)  
[EMVE250ADA151MHA0G](#) [EMVE160ADA100MD55G](#) [EMVE250ADA100ME55G](#) [EMVE160ADA681MJA0G](#)  
[EMVE160ADA221MF80G](#) [EMVE250ADA470MF55G](#) [EMVE160ADA331MHA0G](#) [EMVE250ADA101MF80G](#)  
[EMVE160ARA102MKE0S](#) [EMVE160ARA152MKE0S](#) [EMVE160GDA102MLH0S](#) [EMVE160GDA222MLH0S](#)  
[EMVE160GDA222MMH0S](#) [EMVE160GDA332MLN0S](#) [EMVE160GDA332MMH0S](#) [EMVE160ADA330MF55G](#)  
[EMVE100ADA221MF80G](#) [EMVE350GDA102MLH0S](#) [EMVE160ADA151MF80G](#) [EMVE100GDA472MLN0S](#)  
[EMVE100GDA332MMH0S](#) [EMVE100GDA332MLH0S](#) [EMVE100GDA222MLH0S](#) [EMVE100ARA222MKG5S](#)  
[EMVE100ADA471MHA0G](#) [EMVE100ADA470MF55G](#) [EMVE100ADA330ME55G](#) [EMVE100ADA220ME55G](#)  
[EMVE100ADA151MF80G](#) [EMVE350ADA100ME55G](#) [EMVE250GDA222MMN0S](#) [EMVE250GDA222MLN0S](#)