



Alchip™-MVE Series

- Endurance : 1,000 to 2,000 hours at 105°C
- Case size range : $\phi 4 \times 5.2\text{L}$ to $\phi 18 \times 21.5\text{L}$
- Solvent resistant type except 100V_{dc} (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

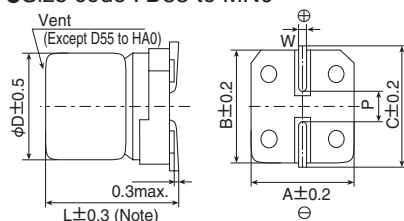
◆ SPECIFICATIONS

Items	Characteristics										
Category	-40 to +105°C										
Temperature Range											
Rated Voltage Range	6.3 to 100V _{dc}										
Capacitance Tolerance	± 20%(M) (at 20°C, 120Hz)										
Leakage Current	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)									
	Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C)										
Dissipation Factor (tan δ)	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	(at 120Hz)
	D55 to JA0	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	3	4	
		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	
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 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				
	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 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]

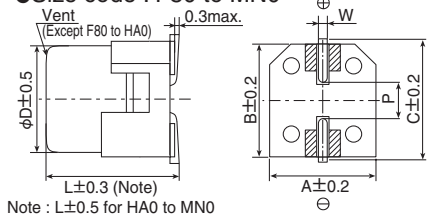
● Terminal Code : A

● Size code : D55 to MN0

Note : L ± 0.5 for HA0 to MN0

● Terminal Code : G (Vibration resistant structure)

● Size code : F80 to MN0

Note : L ± 0.5 for HA0 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

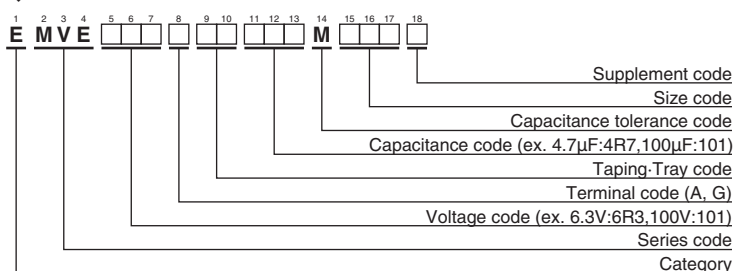
D55 to JA0

Ex) 16V22 μF 

KE0 to MN0

Ex) 25V1,000 μF 

◆ 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	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 _{dc})	Cap (μF)	Size code	tan δ	Rated ripple current (mA _{rms} /105°C, 120Hz)	Part No.	WV (V _{dc})	Cap (μF)	Size code	tan δ	Rated ripple current (mA _{rms} /105°C, 120Hz)	Part No.
6.3	22	D55	0.30	22	EMVE6R3ARA220MD55G	35	4.7	D55	0.14	16	EMVE350ARA4R7MD55G
	33	E55	0.30	34	EMVE6R3ARA330ME55G		10	E55	0.14	27	EMVE350ARA100ME55G
	47	E55	0.30	38	EMVE6R3ARA470ME55G		22	F55	0.14	44	EMVE350ARA220MF55G
	100	F55	0.30	69	EMVE6R3ARA101MF55G		47	F80	0.16	80	EMVE350□RA470MF80G
	220	F80	0.45	120	EMVE6R3□RA221MF80G		100	F80	0.16	100	EMVE350□RA101MF80G
	330	HA0	0.40	290	EMVE6R3□RA331MHA0G		150	HA0	0.16	260	EMVE350□RA151MHA0G
	470	HA0	0.45	320	EMVE6R3□RA471MHA0G		220	JA0	0.16	375	EMVE350□RA221MJA0G
	680	HA0	0.45	340	EMVE6R3□RA681MHA0G		330	JA0	0.16	450	EMVE350□RA331MJA0G
	1,000	JA0	0.40	410	EMVE6R3□RA102MJA0G		470	KE0	0.22	520	EMVE350□RA471MKE0S
	1,500	JA0	0.45	550	EMVE6R3□RA152MJA0G		470	LH0	0.22	650	EMVE350□RA471MLH0S
	2,200	KE0	0.40	680	EMVE6R3□RA222MKE0S		1,000	LH0	0.22	750	EMVE350□RA102MLH0S
	2,200	LH0	0.40	840	EMVE6R3□RA222MLH0S		1,000	MH0	0.22	1,000	EMVE350□RA102MMH0S
	3,300	KG5	0.42	850	EMVE6R3□RA332MKG5S		2,200	MN0	0.24	1,450	EMVE350□RA222MMN0S
	3,300	MH0	0.42	1,000	EMVE6R3□RA332MMH0S	50	1.0	D55	0.12	8.0	EMVE500ARA1R0MD55G
	4,700	LN0	0.44	1,200	EMVE6R3□RA472MLN0S		2.2	D55	0.12	12	EMVE500ARA2R2MD55G
	4,700	MH0	0.44	1,200	EMVE6R3□RA472MMH0S		3.3	D55	0.12	15	EMVE500ARA3R3MD55G
10	6,800	LN0	0.48	1,200	EMVE6R3□RA682MLN0S		4.7	E55	0.12	20	EMVE500ARA4R7ME55G
	6,800	MN0	0.48	1,350	EMVE6R3□RA682MMN0S		10	F55	0.12	32	EMVE500ARA100MF55G
	22	E55	0.24	30	EMVE100ARA220ME55G		33	F80	0.14	65	EMVE500□RA330MF80G
	33	E55	0.24	34	EMVE100ARA330ME55G		47	F80	0.14	80	EMVE500□RA470MF80G
	47	F55	0.24	48	EMVE100ARA470MF55G		100	HA0	0.14	230	EMVE500□RA101MHA0G
	100	F55	0.30	69	EMVE100ARA101MF55G		220	JA0	0.14	375	EMVE500□RA221MJA0G
	150	F80	0.35	100	EMVE100□RA151MF80G		330	KE0	0.18	500	EMVE500□RA331MKE0S
	220	F80	0.35	120	EMVE100□RA221MF80G		330	LH0	0.18	600	EMVE500□RA331MLH0S
	330	HA0	0.35	290	EMVE100□RA331MHA0G		470	LH0	0.18	700	EMVE500□RA471MLH0S
	470	HA0	0.35	320	EMVE100□RA471MHA0G		470	MH0	0.18	750	EMVE500□RA471MMH0S
	1,000	JA0	0.35	410	EMVE100□RA102MJA0G		1,000	MN0	0.18	1,200	EMVE500□RA102MMN0S
	2,200	KG5	0.36	750	EMVE100□RA222MKG5S	63	1.0	D55	0.12	8.0	EMVE630ARA1R0MD55G
	2,200	LH0	0.36	850	EMVE100□RA222MLH0S		2.2	D55	0.12	12	EMVE630ARA2R2MD55G
	3,300	LH0	0.38	1,000	EMVE100□RA332MLH0S		3.3	E55	0.12	17	EMVE630ARA3R3ME55G
	3,300	MH0	0.38	1,100	EMVE100□RA332MMH0S		4.7	F55	0.12	22	EMVE630ARA4R7MF55G
	4,700	LN0	0.40	1,300	EMVE100□RA472MLN0S		10	F55	0.12	32	EMVE630ARA100MF55G
	4,700	MN0	0.40	1,350	EMVE100□RA472MMN0S		22	F80	0.12	58	EMVE630□RA220MF80G
16	10	D55	0.20	17	EMVE160ARA100MD55G		33	HA0	0.12	140	EMVE630□RA330MHA0G
	22	E55	0.20	30	EMVE160ARA220ME55G		47	HA0	0.12	170	EMVE630□RA470MHA0G
	33	F55	0.20	45	EMVE160ARA330MF55G		100	JA0	0.12	310	EMVE630□RA101MJA0G
	47	F55	0.20	48	EMVE160ARA470MF55G		220	KE0	0.14	470	EMVE630□RA221MKE0S
	100	F55	0.26	69	EMVE160ARA101MF55G		220	LH0	0.14	560	EMVE630□RA221MLH0S
	150	F80	0.28	100	EMVE160□RA151MF80G		330	LH0	0.14	700	EMVE630□RA331MLH0S
	220	F80	0.28	120	EMVE160□RA221MF80G		330	MH0	0.14	750	EMVE630□RA331MMH0S
	330	HA0	0.28	290	EMVE160□RA331MHA0G		470	LN0	0.14	900	EMVE630□RA471MLN0S
	470	HA0	0.28	320	EMVE160□RA471MHA0G		470	MH0	0.14	900	EMVE630□RA471MMH0S
	680	JA0	0.28	470	EMVE160□RA681MJA0G	100	22	HA0	0.12	100	EMVE101□RA220MHA0G
	1,000	KE0	0.30	550	EMVE160□RA102MKE0S		33	JA0	0.12	150	EMVE101□RA330MJA0G
	1,000	LH0	0.30	650	EMVE160□RA102MLH0S		47	KE0	0.10	250	EMVE101□RA470MKE0S
	2,200	LH0	0.32	950	EMVE160□RA222MLH0S		68	KE0	0.10	300	EMVE101□RA680MKE0S
	2,200	MH0	0.32	1,000	EMVE160□RA222MMH0S		100	KE0	0.10	380	EMVE101□RA101MKE0S
	3,300	LN0	0.34	1,200	EMVE160□RA332MLN0S		100	LH0	0.10	450	EMVE101□RA101MLH0S
	3,300	MH0	0.34	1,200	EMVE160□RA332MMH0S		220	LN0	0.10	750	EMVE101□RA221MLN0S
25	10	E55	0.16	27	EMVE250ARA100ME55G		220	MH0	0.10	750	EMVE101□RA221MMH0S
	22	F55	0.16	44	EMVE250ARA220MF55G		330	MN0	0.10	980	EMVE101□RA331MMN0S
	33	F55	0.16	50	EMVE250ARA330MF55G	63	1.0	D55	0.12	8.0	EMVE630ARA1R0MD55G
	47	F55	0.16	60	EMVE250ARA470MF55G		2.2	D55	0.12	12	EMVE630ARA2R2MD55G
	100	F80	0.18	100	EMVE250□RA101MF80G		3.3	E55	0.12	17	EMVE630ARA3R3ME55G
	150	HA0	0.18	240	EMVE250□RA151MHA0G		4.7	F55	0.12	22	EMVE630ARA4R7MF55G
	220	HA0	0.18	320	EMVE250□RA221MHA0G		10	F55	0.12	32	EMVE630ARA100MF55G
	330	JA0	0.16	450	EMVE250□RA331MJA0G		22	F80	0.12	58	EMVE630□RA220MF80G
	470	JA0	0.18	490	EMVE250□RA471MJA0G		33	HA0	0.12	140	EMVE630□RA330MHA0G
	1,000	LH0	0.26	820	EMVE250□RA102MLH0S		47	HA0	0.12	170	EMVE630□RA470MHA0G
	1,000	MH0	0.26	880	EMVE250□RA102MMH0S		100	JA0	0.12	310	EMVE630□RA101MJA0G
	2,200	LN0	0.28	1,250	EMVE250□RA222MLN0S		220	KE0	0.14	470	EMVE630□RA221MKE0S
	2,200	MN0	0.28	1,300	EMVE250□RA222MMN0S		220	LH0	0.14	560	EMVE630□RA221MLH0S
	22	E55	0.16	44	EMVE250ARA220MF55G		330	LH0	0.14	700	EMVE630□RA331MLH0S
	33	F55	0.16	50	EMVE250ARA330MF55G		330	MH0	0.14	750	EMVE630□RA331MMH0S
	47	F55	0.16	60	EMVE250ARA470MF55G		470	LN0	0.14	900	EMVE630□RA471MLN0S
	100	F80	0.18	100	EMVE250□RA101MF80G		470	MH0	0.14	900	EMVE630□RA471MMH0S

□ : Enter the appropriate terminal code.

Production of the products shown in □ is scheduled to be discontinued.

*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:](#)

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