

# Alchip™-MLA Series

- Low impedance, long life
- Rated voltage 6.3 to 50V, Capacitance 10 to 1,000μF
- Case size φ5×5.8L to φ10×10L
- Suitable for applications requiring long life and low impedance such as equipment in continuous operation, industrial applications, etc.
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant

MVY → Longer life → **MLA**

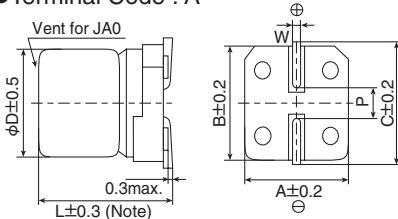


## ◆ SPECIFICATIONS

Items	Characteristics							
<b>Category</b>	-40 to +105°C							
<b>Temperature Range</b>	-40 to +105°C							
<b>Rated Voltage Range</b>	6.3 to 50V <sub>dc</sub>							
<b>Capacitance Tolerance</b>	±20%(M) (at 20°C, 120Hz)							
<b>Leakage Current</b>	I=0.01CV or 3μA, whichever is greater Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)							
<b>Dissipation Factor (tan δ)</b>	Rated voltage(V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V	
	tan δ (Max.)	E61 to F61	0.28	0.24	0.22	0.16	0.13	0.12
		F80	0.32	0.27	0.24	0.16	0.13	0.12
		HA0 to JA0	0.28	0.24	0.22	0.16	0.13	0.12
<b>Low Temperature Characteristics (Max. impedance Ratio)</b>	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	
<b>Endurance</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 3,000 hours at 105°C.							
	Capacitance change	≤ ±30% of the initial value						
	D.F. (tan δ)	≤300% of the initial specified value						
	Leakage current	≤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 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

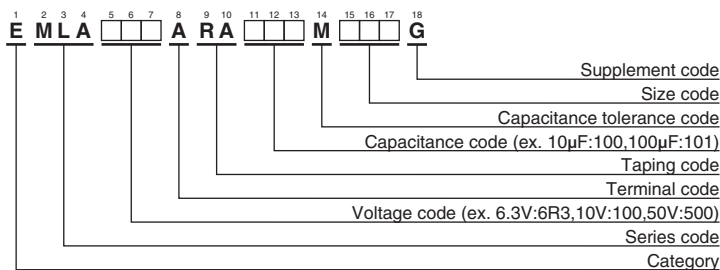
Size code	D	L	A	B	C	W	P
<b>E61</b>	5	5.8	5.3	5.3	5.9	0.5 to 0.8	1.4
<b>F61</b>	6.3	5.8	6.6	6.6	7.2	0.5 to 0.8	1.9
<b>F80</b>	6.3	7.7	6.6	6.6	7.2	0.5 to 0.8	1.9
<b>HA0</b>	8	10.0	8.3	8.3	9.0	0.7 to 1.1	3.1
<b>JA0</b>	10	10.0	10.3	10.3	11.0	0.7 to 1.1	4.5

## ◆ MARKING

EX) 16V100μF



## ◆ PART NUMBERING SYSTEM



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

## ● Rated voltage symbol

Rated voltage (V <sub>dc</sub> )	Symbol
6.3	j
10	A
16	C
25	E
35	V
50	H



◆ **STANDARD RATINGS**

WV (V <sub>dc</sub> )	Cap (μF)	Size code	tan δ	Impedance (Ω max./20°C, 100kHz)	Rated ripple current (mA <sub>RMS</sub> /105°C, 100kHz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Size code	tan δ	Impedance (Ω max./20°C, 100kHz)	Rated ripple current (mA <sub>RMS</sub> /105°C, 100kHz)	Part No.
6.3	47	E61	0.28	1.30	95	EMLA6R3ARA470ME61G	25	33	F61	0.16	0.70	140	EMLA250ARA330MF61G
	100	F61	0.28	0.70	140	EMLA6R3ARA101MF61G		47	F61	0.16	0.70	140	EMLA250ARA470MF61G
	150	F61	0.28	0.70	140	EMLA6R3ARA151MF61G		47	F80	0.16	0.70	230	EMLA250ARA470MF80G
	220	F80	0.32	0.70	230	EMLA6R3ARA221MF80G		100	F80	0.16	0.70	230	EMLA250ARA101MF80G
	330	F80	0.32	0.70	230	EMLA6R3ARA331MF80G		100	HA0	0.16	0.16	600	EMLA250ARA101MHA0G
	330	HA0	0.28	0.16	600	EMLA6R3ARA331MHA0G		150	HA0	0.16	0.16	600	EMLA250ARA151MHA0G
	470	HA0	0.28	0.16	600	EMLA6R3ARA471MHA0G		220	HA0	0.16	0.16	600	EMLA250ARA221MHA0G
1,000	JA0	0.28	0.08	850	EMLA6R3ARA102MJA0G	330	HA0	0.16	0.16	600	EMLA250ARA331MHA0G		
10	33	E61	0.24	1.30	95	EMLA100ARA330ME61G	330	JA0	0.16	0.08	850	EMLA250ARA331MJA0G	
	47	F61	0.24	0.70	140	EMLA100ARA470MF61G	470	JA0	0.16	0.08	850	EMLA250ARA471MJA0G	
	100	F61	0.24	0.70	140	EMLA100ARA101MF61G	35	10	E61	0.13	1.30	95	EMLA350ARA100ME61G
	150	F61	0.24	0.70	140	EMLA100ARA151MF61G		22	F61	0.13	0.70	140	EMLA350ARA220MF61G
	220	F80	0.27	0.70	230	EMLA100ARA221MF80G		33	F61	0.13	0.70	140	EMLA350ARA330MF61G
	220	HA0	0.24	0.16	600	EMLA100ARA221MHA0G		33	F80	0.13	0.70	230	EMLA350ARA330MF80G
	330	HA0	0.24	0.16	600	EMLA100ARA331MHA0G		47	F80	0.13	0.70	230	EMLA350ARA470MF80G
470	HA0	0.24	0.16	600	EMLA100ARA471MHA0G	100		F80	0.13	0.70	230	EMLA350ARA101MF80G	
22	E61	0.22	1.30	95	EMLA160ARA220ME61G	100		HA0	0.13	0.16	600	EMLA350ARA101MHA0G	
33	F61	0.22	0.70	140	EMLA160ARA330MF61G	150	HA0	0.13	0.16	600	EMLA350ARA151MHA0G		
47	F61	0.22	0.70	140	EMLA160ARA470MF61G	220	HA0	0.13	0.16	600	EMLA350ARA221MHA0G		
100	F61	0.22	0.70	140	EMLA160ARA101MF61G	220	JA0	0.13	0.08	850	EMLA350ARA221MJA0G		
100	F80	0.24	0.70	230	EMLA160ARA101MF80G	330	JA0	0.13	0.08	850	EMLA350ARA331MJA0G		
150	F80	0.24	0.70	230	EMLA160ARA151MF80G	50	10	F61	0.12	2.00	70	EMLA500ARA100MF61G	
220	F80	0.24	0.70	230	EMLA160ARA221MF80G		22	F61	0.12	2.00	70	EMLA500ARA220MF61G	
220	HA0	0.22	0.16	600	EMLA160ARA221MHA0G		33	F80	0.12	1.60	100	EMLA500ARA330MF80G	
330	HA0	0.22	0.16	600	EMLA160ARA331MHA0G		47	F80	0.12	1.60	100	EMLA500ARA470MF80G	
470	HA0	0.22	0.16	600	EMLA160ARA471MHA0G		47	HA0	0.12	0.34	350	EMLA500ARA470MHA0G	
470	JA0	0.22	0.08	850	EMLA160ARA471MJA0G		100	HA0	0.12	0.34	350	EMLA500ARA101MHA0G	
10	E61	0.16	1.30	95	EMLA250ARA100ME61G		100	JA0	0.12	0.18	670	EMLA500ARA101MJA0G	
22	E61	0.16	1.30	95	EMLA250ARA220ME61G	150	JA0	0.12	0.18	670	EMLA500ARA151MJA0G		
22	F61	0.16	0.70	140	EMLA250ARA220MF61G	220	JA0	0.12	0.18	670	EMLA500ARA221MJA0G		

◆ **RATED RIPPLE CURRENT MULTIPLIERS**

● Frequency Multipliers

Capacitance(μF)	Frequency(Hz)	120	1k	10k	100k
10 to 150		0.40	0.75	0.90	1.00
220 to 470		0.50	0.85	0.94	1.00
1,000		0.60	0.87	0.95	1.00

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.



- 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](#)

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- ⊖ [View EMLA250ARA471MJA0G on WIN SOURCE](#)
- ⊖ [United Chemi-Con Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management