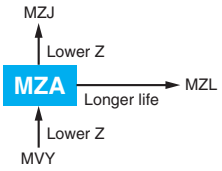
Alchip™-MZA Series



- Endurance : 2,000 to 5,000 hours at 105℃
- Low impedance
- Solvent resistant type(see PRECAUTIONS AND GUIDELINES)
- Vibration resistant structure
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

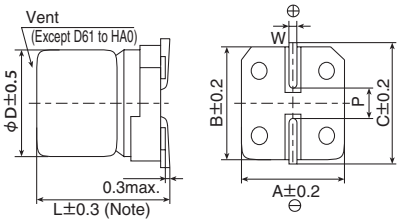
◆SPECIFICATIONS

Items	Characteristics										
Category Temperature Range	-55 to +105℃										
Rated Voltage Range	6.3 to 100Vdc										
Capacitance Tolerance	±20%(M)										(at 20℃, 120Hz)
Leakage Current	I=0.01CV or 3μA, whichever is greater Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)										(at 20℃ after 2 minutes)
Dissipation Factor (tan δ)	Rated voltage(Vdc)		6.3V	10V	16V	25V	35V	50V	63V	80V	100V
	tanδ (Max.)	E61 to JA0	0.26	0.19	0.16	0.14	0.12	0.10	0.08	0.08	—
		KE0 to MN0	—	—	—	0.16	0.14	0.12	0.12	0.10	0.10
	When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase.										(at 20℃, 120Hz)
Low Temperature Characteristics (Max. impedance Ratio)	Rated voltage(Vdc)		6.3V	10V	16V	25V	35V	50V	63V	80V	100V
	Z(-25℃)/Z(+20℃)		2	2	2	2	2	2	2	2	2
	Z(-40℃)/Z(+20℃)		3	3	3	3	3	3	3	3	3
	Z(-55℃)/Z(+20℃)		4	4	4	3	3	3	3	3	3 (at 120Hz)
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for specified time at 105℃.										
	Time	E61 to JA0 : 2,000 hours KE0 to MN0 : 5,000 hours									
	Capacitance change	≦±30% of the initial value									
	D.F. (tan δ)	≦200% of the initial specified value									
	Leakage current	≦The initial specified value									

◆DIMENSIONS [mm]

● Terminal Code : A

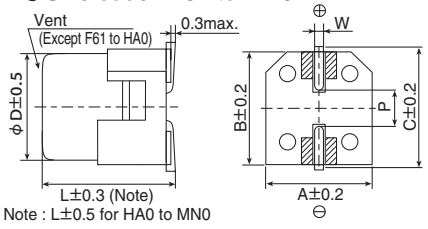
● Size code : E61 to MN0



Note : L±0.5 for HA0 to MN0

● Terminal Code : G(Vibration resistant structure)

● Size code : F61 to MN0

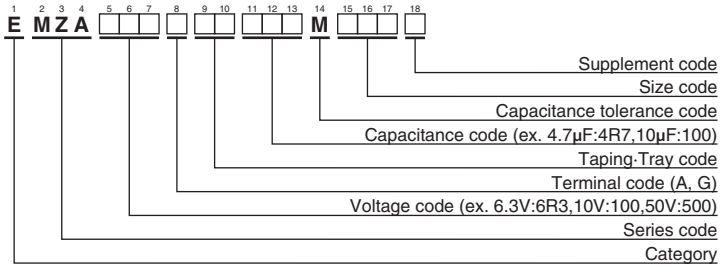


Note : L±0.5 for HA0 to MN0

▨ : Dummy terminals

Size code	D	L	A	B	C	W	P
E61	5	5.8	5.3	5.3	5.9	0.5 to 0.8	1.4
F61	6.3	5.8	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

◆PART NUMBERING SYSTEM



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

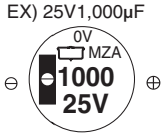
◆MARKING

E61 to JA0

EX) 16V220μF

KE0 to MN0

EX) 25V1,000μF



●Rated voltage symbol (E61 to JA0)

Rated voltage (Vdc)	6.3	10	16	25	35	50	63	80
Symbol	j	A	C	E	V	H	J	K

Alchip™-MZA Series

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Size code	Impedance (Ω max./ 100kHz) 20℃	Impedance (Ω max./ 100kHz) -40℃	Rated ripple current (mArms/ 105℃,100kHz)	Part No.
6.3	47	E61	0.70	–	160	EMZA6R3ARA470ME61G
	100	E61	0.70	–	160	EMZA6R3ARA101ME61G
	100	F61	0.36	–	240	EMZA6R3□RA101MF61G
	220	F61	0.36	–	240	EMZA6R3□RA221MF61G
	330	F80	0.34	–	280	EMZA6R3□RA331MF80G
	470	HA0	0.16	–	600	EMZA6R3□RA471MHA0G
	1,000	HA0	0.16	–	600	EMZA6R3□RA102MHA0G
	1,500	JA0	0.08	–	850	EMZA6R3□RA152MJA0G
10	33	E61	0.70	–	160	EMZA100ARA330ME61G
	220	F80	0.34	–	280	EMZA100□RA221MF80G
	330	HA0	0.16	–	600	EMZA100□RA331MHA0G
	470	HA0	0.16	–	600	EMZA100□RA471MHA0G
	680	HA0	0.16	–	600	EMZA100□RA681MHA0G
	1,000	JA0	0.08	–	850	EMZA100□RA102MJA0G
16	22	E61	0.70	–	160	EMZA160ARA220ME61G
	47	E61	0.70	–	160	EMZA160ARA470ME61G
	47	F61	0.36	–	240	EMZA160□RA470MF61G
	100	F61	0.36	–	240	EMZA160□RA101MF61G
	220	F80	0.34	–	280	EMZA160□RA221MF80G
	330	HA0	0.16	–	600	EMZA160□RA331MHA0G
	470	HA0	0.16	–	600	EMZA160□RA471MHA0G
	680	JA0	0.08	–	850	EMZA160□RA681MJA0G
25	22	E61	0.70	–	160	EMZA250ARA220ME61G
	33	E61	0.70	–	160	EMZA250ARA330ME61G
	33	F61	0.36	–	240	EMZA250□RA330MF61G
	47	F61	0.36	–	240	EMZA250□RA470MF61G
	100	F80	0.34	–	280	EMZA250□RA101MF80G
	220	HA0	0.16	–	600	EMZA250□RA221MHA0G
	330	HA0	0.16	–	600	EMZA250□RA331MHA0G
	470	JA0	0.08	–	850	EMZA250□RA471MJA0G
	1,000	KE0	0.060	0.30	1,320	EMZA250□RA102MKE0S
	1,300	KG5	0.056	0.28	1,470	EMZA250□RA132MKG5S
	1,800	LH0	0.047	0.24	1,820	EMZA250□RA182MLH0S
	2,400	MH0	0.045	0.23	2,060	EMZA250□RA242MMH0S
	3,000	LN0	0.034	0.17	2,400	EMZA250□RA302MLN0S
	3,900	MN0	0.032	0.16	2,640	EMZA250□RA392MMN0S
35	10	E61	0.70	–	160	EMZA350ARA100ME61G
	22	E61	0.70	–	160	EMZA350ARA220ME61G
	33	F61	0.36	–	240	EMZA350□RA330MF61G
	47	F61	0.36	–	240	EMZA350□RA470MF61G
	100	F80	0.34	–	280	EMZA350□RA101MF80G
	100	HA0	0.16	–	600	EMZA350□RA101MHA0G
	220	HA0	0.16	–	600	EMZA350□RA221MHA0G
	330	JA0	0.08	–	850	EMZA350□RA331MJA0G
	620	KE0	0.060	0.30	1,320	EMZA350□RA621MKE0S
	820	KG5	0.056	0.28	1,470	EMZA350□RA821MKG5S
	1,200	LH0	0.047	0.24	1,820	EMZA350□RA122MLH0S

WV (Vdc)	Cap (μF)	Size code	Impedance (Ω max./ 100kHz) 20℃	Impedance (Ω max./ 100kHz) -40℃	Rated ripple current (mArms/ 105℃,100kHz)	Part No.
35	1,600	MH0	0.045	0.23	2,060	EMZA350□RA162MMH0S
	1,800	LN0	0.034	0.17	2,400	EMZA350□RA182MLN0S
	2,400	MN0	0.032	0.16	2,640	EMZA350□RA242MMN0S
50	10	E61	1.52	–	85	EMZA500ARA100ME61G
	10	F61	0.88	–	165	EMZA500□RA100MF61G
	22	F61	0.88	–	165	EMZA500□RA220MF61G
	33	F80	0.68	–	195	EMZA500□RA330MF80G
	47	F80	0.68	–	195	EMZA500□RA470MF80G
	100	HA0	0.34	–	350	EMZA500□RA101MHA0G
	220	JA0	0.18	–	670	EMZA500□RA221MJA0G
	330	KE0	0.11	0.55	980	EMZA500□RA331MKE0S
	430	KG5	0.10	0.50	1,090	EMZA500□RA431MKG5S
	620	LH0	0.087	0.44	1,320	EMZA500□RA621MLH0S
	820	MH0	0.087	0.44	1,420	EMZA500□RA821MMH0S
	1,000	LN0	0.050	0.25	1,910	EMZA500□RA102MLN0S
	1,300	MN0	0.050	0.25	2,180	EMZA500□RA132MMN0S
63	4.7	E61	4.8	–	50	EMZA630ARA4R7ME61G
	10	F61	2.2	–	80	EMZA630□RA100MF61G
	22	F80	2.1	–	120	EMZA630□RA220MF80G
	33	HA0	0.70	–	250	EMZA630□RA330MHA0G
	47	HA0	0.70	–	250	EMZA630□RA470MHA0G
	68	HA0	0.70	–	250	EMZA630□RA680MHA0G
	100	JA0	0.45	–	400	EMZA630□RA101MJA0G
	240	KE0	0.19	1.54	880	EMZA630□RA241MKE0S
	300	KG5	0.17	1.19	1,000	EMZA630□RA301MKG5S
	430	LH0	0.15	1.05	1,220	EMZA630□RA431MLH0S
	560	MH0	0.12	0.84	1,430	EMZA630□RA561MMH0S
	680	LN0	0.085	0.58	1,790	EMZA630□RA681MLN0S
	910	MN0	0.070	0.49	1,960	EMZA630□RA911MMN0S
80	3.3	E61	5.0	–	25	EMZA800ARA3R3ME61G
	4.7	F61	3.0	–	40	EMZA800□RA4R7MF61G
	10	F80	2.4	–	60	EMZA800□RA100MF80G
	22	HA0	1.3	–	130	EMZA800□RA220MHA0G
	33	HA0	1.3	–	130	EMZA800□RA330MHA0G
	47	JA0	0.70	–	200	EMZA800□RA470MJA0G
	150	KE0	0.22	1.54	810	EMZA800□RA151MKE0S
	220	KG5	0.17	1.19	1,000	EMZA800□RA221MKG5S
	330	LH0	0.15	1.05	1,220	EMZA800□RA331MLH0S
	430	MH0	0.12	0.84	1,430	EMZA800□RA431MMH0S
	470	LN0	0.085	0.58	1,790	EMZA800□RA471MLN0S
	680	MN0	0.070	0.49	1,960	EMZA800□RA681MMN0S
100	110	KE0	0.28	2.24	740	EMZA101□RA111MKE0S
	130	KG5	0.21	1.68	900	EMZA101□RA131MKG5S
	200	LH0	0.18	1.44	1,090	EMZA101□RA201MLH0S
	270	MH0	0.15	1.2	1,280	EMZA101□RA271MMH0S
	330	LN0	0.11	0.88	1,580	EMZA101□RA331MLN0S
	430	MN0	0.091	0.73	1,690	EMZA101□RA431MMN0S

□ : Enter the appropriate terminal code.
The products shown in [ ] are not recommended for new designs (NRND).

◆RATED RIPPLE CURRENT MULTIPLIERS

◉Frequency Multipliers

Size code	Capacitance(μF) \ Frequency(Hz)	120	1k	10k	100k
E61 to JA0	3.3, 4.7	0.35	0.70	0.90	1.00
	10 to 100	0.40	0.75	0.90	1.00
	220 to 470	0.50	0.85	0.94	1.00
	680 to 1,500	0.60	0.87	0.95	1.00
KE0 to MN0	110 to 200	0.40	0.75	0.90	1.00
	220 to 620	0.50	0.85	0.94	1.00
	680 to 1,800	0.60	0.87	0.95	1.00
	2,400 to 3,000	0.75	0.90	0.95	1.00
	3,900	0.85	0.95	0.98	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.

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■ 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

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In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

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