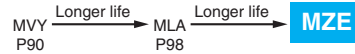


# Alchip™-MZE Series

- Endurance : 7,000 to 8,000 hours at 105°C
- Low impedance
- Rated voltage range : 6.3 to 50V
- Nominal capacitance range : 10 to 470μF
- Suitable for high reliability products
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant

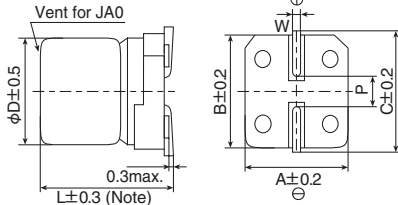


## ◆ SPECIFICATIONS

Items	Characteristics														
<b>Category</b>															
<b>Temperature Range</b>	-25 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>	<table border="1"> <tr> <td>Rated voltage (V<sub>dc</sub>)</td> <td>6.3V</td> <td>10V</td> <td>16V</td> <td>25V</td> <td>35V</td> <td>50V</td> </tr> <tr> <td>tan δ (Max.)</td> <td>0.32</td> <td>0.28</td> <td>0.26</td> <td>0.16</td> <td>0.14</td> <td>0.14</td> </tr> </table> (at 20°C, 120Hz)	Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V	tan δ (Max.)	0.32	0.28	0.26	0.16	0.14	0.14
Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V									
tan δ (Max.)	0.32	0.28	0.26	0.16	0.14	0.14									
<b>Low Temperature Characteristics (Max. Impedance Ratio)</b>	<table border="1"> <tr> <td>Rated voltage(V<sub>dc</sub>)</td> <td>6.3V</td> <td>10V</td> <td>16V</td> <td>25V</td> <td>35V</td> <td>50V</td> </tr> <tr> <td>Z(-10°C)/Z(+20°C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> </table> (at 120Hz)	Rated voltage(V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V	Z(-10°C)/Z(+20°C)	4	3	2	2	2	2
Rated voltage(V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V									
Z(-10°C)/Z(+20°C)	4	3	2	2	2	2									
<b>Endurance</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for specified time at 105°C. <table border="1"> <tr> <td>Time</td> <td>E73 &amp; F73 : 7,000 hours F90 to JA0 : 8,000 hours</td> </tr> <tr> <td>Capacitance change</td> <td>≤ ±30% of the initial value</td> </tr> <tr> <td>D.F. (tan δ)</td> <td>≤300% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤The initial specified value</td> </tr> </table>	Time	E73 & F73 : 7,000 hours F90 to JA0 : 8,000 hours	Capacitance change	≤ ±30% of the initial value	D.F. (tan δ)	≤300% of the initial specified value	Leakage current	≤The initial specified value						
Time	E73 & F73 : 7,000 hours F90 to JA0 : 8,000 hours														
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. <table border="1"> <tr> <td>Capacitance change</td> <td>≤ ±30% of the initial value</td> </tr> <tr> <td>D.F. (tan δ)</td> <td>≤300% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤The initial specified value</td> </tr> </table>	Capacitance change	≤ ±30% of the initial value	D.F. (tan δ)	≤300% of the initial specified value	Leakage current	≤The initial specified value								
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D.F. (tan δ)	≤300% of the initial specified value														
Leakage current	≤The initial specified value														

## ◆ DIMENSIONS [mm]

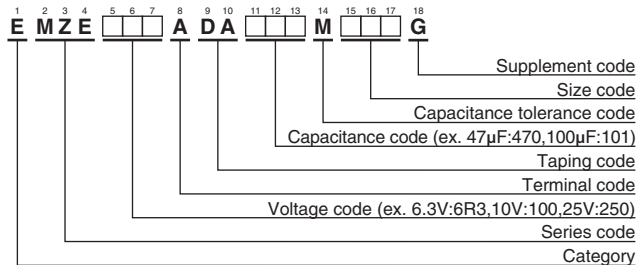
### ● Terminal Code : A



Note : L±0.5 for HA0 and JA0

Size code	D	L	A	B	C	W	P
E73	5	7.0	5.3	5.3	5.9	0.5 to 0.8	1.4
F73	6.3	7.0	6.6	6.6	7.2	0.5 to 0.8	1.9
F90	6.3	8.7	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

## ◆ PART NUMBERING SYSTEM



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

## ◆ MARKING

EX) 16V47μF



### ● Rated voltage symbol

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

**Alchip™-MZE Series**
**◆STANDARD RATINGS**

WV (V <sub>dc</sub> )	Cap (μF)	Size code	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	Impedance (Ω max./20°C, 100kHz)	Rated ripple current (mA <sub>rms</sub> /105°C, 100kHz)	Part No.
6.3	47	E73	2.2	95	EMZE6R3ADA470ME73G	25	33	F73	1.1	140	EMZE250ADA330MF73G
	100	F73	1.1	140	EMZE6R3ADA101MF73G		47	F73	1.1	140	EMZE250ADA470MF73G
	220	F90	1.0	230	EMZE6R3ADA221MF90G		100	F90	1.0	230	EMZE250ADA101MF90G
	330	F90	1.0	230	EMZE6R3ADA331MF90G		220	HA0	0.22	600	EMZE250ADA221MHA0G
	470	HA0	0.22	600	EMZE6R3ADA471MHA0G		330	JA0	0.16	850	EMZE250ADA331MJA0G
10	33	E73	2.2	95	EMZE100ADA330ME73G	35	10	E73	2.2	95	EMZE350ADA100ME73G
	150	F73	1.1	140	EMZE100ADA151MF73G		10	F73	1.1	140	EMZE350ADA100MF73G
16	22	E73	2.2	95	EMZE160ADA220ME73G		22	E73	2.2	95	EMZE350ADA220ME73G
	47	F73	1.1	140	EMZE160ADA470MF73G		22	F73	1.1	140	EMZE350ADA220MF73G
	100	F73	1.1	140	EMZE160ADA101MF73G		33	F90	1.0	230	EMZE350ADA330MF90G
	150	F90	1.0	230	EMZE160ADA151MF90G		47	F90	1.0	230	EMZE350ADA470MF90G
	220	F90	1.0	230	EMZE160ADA221MF90G		100	HA0	0.22	600	EMZE350ADA101MHA0G
	330	HA0	0.22	600	EMZE160ADA331MHA0G		220	JA0	0.16	850	EMZE350ADA221MJA0G
25	470	JA0	0.16	850	EMZE160ADA471MJA0G	50	47	HA0	0.53	350	EMZE500ADA470MHA0G
	22	E73	2.2	95	EMZE250ADA220ME73G		100	JA0	0.35	670	EMZE500ADA101MJA0G

**◆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

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.

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