

# Alchip™-MZR Series

- Downsizing and Lower ESR, 2,000hours at 105°C
- Rated voltage range : 6.3 to 50V, Nominal capacitance range : 100 to 2,200μF
- Solvent resistant type(see PRECAUTIONS AND GUIDELINES)
- Vibration resistance structure
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

MZR

↓  
Downsized  
MZJ P4-14



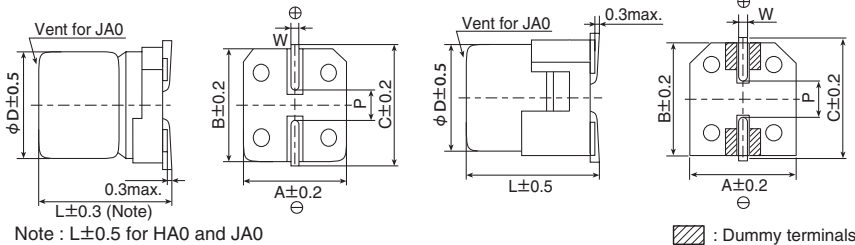
## ◆ SPECIFICATIONS

Items	Characteristics
<b>Category</b>	-55 to +105°C
<b>Temperature Range</b>	-55 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 (at 20°C, 120Hz) tan δ (Max.) 0.26 0.19 0.16 0.14 0.12 0.10
<b>Low Temperature Characteristics (Max. Impedance Ratio)</b>	Rated voltage (V <sub>dc</sub> ) 6.3V 10V 16V 25V 35V 50V (at 120Hz) Z(-25°C)/Z(+20°C) 2 2 2 2 2 2 Z(-40°C)/Z(+20°C) 3 3 3 3 3 3 Z(-55°C)/Z(+20°C) 4 4 4 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 2,000 hours at 105°C. Capacitance change ≤ ±30% of the initial value D.F. (tan δ) ≤ 200% 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) ≤ 200% of the initial specified value Leakage current ≤ The initial specified value
<b>Surge Voltage Test</b>	The capacitors shall be subjected to 1,000 cycles each consisting of charging with the specified surge voltage for 30±5 seconds through a protective resistor (as required for RC=0.1±0.05sec) and open-circuiting for 5.5 minutes at a room temperature of 15 to 35°C. Rated voltage (V <sub>dc</sub> ) 6.3V 10V 16V 25V 35V 50V Surge voltage (V <sub>dc</sub> ) 7.2V 12V 18V 29V 40V 58V Appearance No significant damage Capacitance change ≤ ±20% of the initial value D.F. (tan δ) ≤ 200% of the initial specified value Leakage current ≤ The initial specified value (Caution) Surge Voltage Test intends to evaluate capacitors in durability of an exceptional excessive voltage under specific conditions. It does not imply long-term use at all.

## ◆ DIMENSIONS [mm]

- Terminal Code : A
- Size code : F80 to JA0

- Terminal Code : G(Vibration resistant structure)
- Size code : HA0 and JA0



Size code	D	L	A	B	C	W	P
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

## ◆ MARKING

EX) 35V330μF



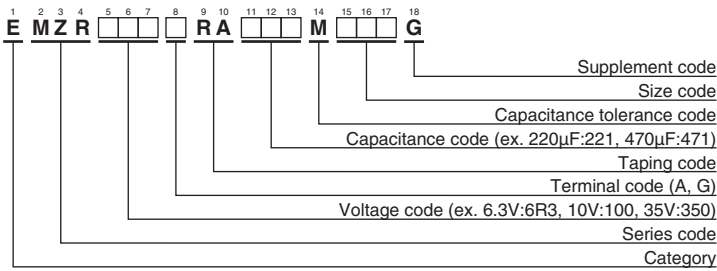
- Rated voltage symbol

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

Applying voltage over the rated voltages causes the capacitors to have short lifetime.  
Besides, applying voltage over the specified surge voltages may cause to have short circuit failure. A protection circuit should be used if applied voltage will exceed the rated voltages.

Alchip™-MZR Series

◆PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (µF)	Size code	tan δ	ESR (Ω max./20°C, 100kHz)	Rated ripple current (mA <sub>rms</sub> /105°C, 100kHz)	Part No.
6.3	680	F80	0.26	0.16	600	EMZR6R3ARA681MF80G
	1,500	HA0	0.26	0.08	850	EMZR6R3□RA152MHA0G
	2,200	JA0	0.26	0.06	1,190	EMZR6R3□RA222MJA0G
10	470	F80	0.19	0.16	600	EMZR100ARA471MF80G
	1,000	HA0	0.19	0.08	850	EMZR100□RA102MHA0G
	1,500	JA0	0.19	0.06	1,190	EMZR100□RA152MJA0G
16	330	F80	0.16	0.16	600	EMZR160ARA331MF80G
	680	HA0	0.16	0.08	850	EMZR160□RA681MHA0G
	1,000	JA0	0.16	0.06	1,190	EMZR160□RA102MJA0G
25	220	F80	0.14	0.16	600	EMZR250ARA221MF80G
	470	HA0	0.14	0.08	850	EMZR250□RA471MHA0G
	820	JA0	0.14	0.06	1,190	EMZR250□RA821MJA0G
35	150	F80	0.12	0.16	600	EMZR350ARA151MF80G
	330	HA0	0.12	0.08	850	EMZR350□RA331MHA0G
	560	JA0	0.12	0.06	1,190	EMZR350□RA561MJA0G
50	100	F80	0.10	0.34	350	EMZR500ARA101MF80G
	220	HA0	0.10	0.18	670	EMZR500□RA221MHA0G
	330	JA0	0.10	0.12	900	EMZR500□RA331MJA0G

□ : Enter the appropriate terminal code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Capacitance(µF)	Frequency(Hz)			
	120	1k	10k	100k
100 to 150	0.40	0.75	0.90	1.00
220 to 560	0.50	0.85	0.94	1.00
680 to 2,200	0.60	0.87	0.95	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.