

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
- RoHS Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

MZR

↓
Downsized
MZJ P98



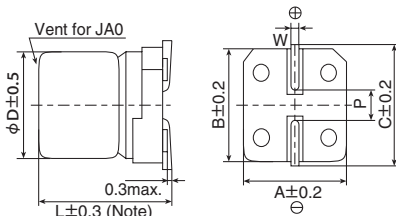
◆ SPECIFICATIONS

Items	Characteristics																												
Category	-55 to +105°C																												
Temperature Range	-55 to +105°C																												
Rated Voltage Range	6.3 to 50V _{dc}																												
Capacitance Tolerance	±20% (M) (at 20°C, 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°C after 2 minutes)																												
Dissipation Factor (tan δ)	<table border="1"> <tr> <td>Rated voltage (V_{dc})</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>0.26</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </table>	Rated voltage (V _{dc})	6.3V	10V	16V	25V	35V	50V	tan δ (Max.)	0.26	0.19	0.16	0.14	0.12	0.10														
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Low Temperature Characteristics (Max. Impedance Ratio)	<table border="1"> <tr> <td>Rated voltage (V_{dc})</td> <td>6.3V</td> <td>10V</td> <td>16V</td> <td>25V</td> <td>35V</td> <td>50V</td> </tr> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>Z(-55°C)/Z(+20°C)</td> <td>4</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>	Rated voltage (V _{dc})	6.3V	10V	16V	25V	35V	50V	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
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Z(-25°C)/Z(+20°C)	2	2	2	2	2	2																							
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Endurance	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. <table border="1"> <tr> <td>Capacitance change</td> <td>≤ ±30% of the initial value</td> </tr> <tr> <td>D.F. (tan δ)</td> <td>≤200% 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)	≤200% of the initial specified value	Leakage current	≤The initial specified value																						
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Shelf Life	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>≤200% 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)	≤200% of the initial specified value	Leakage current	≤The initial specified value																						
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Surge Voltage Test	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. <table border="1"> <tr> <td>Rated voltage (V_{dc})</td> <td>6.3V</td> <td>10V</td> <td>16V</td> <td>25V</td> <td>35V</td> <td>50V</td> </tr> <tr> <td>Surge voltage (V_{dc})</td> <td>7.2V</td> <td>12V</td> <td>18V</td> <td>29V</td> <td>40V</td> <td>58V</td> </tr> </table> <table border="1"> <tr> <td>Appearance</td> <td>No significant damage</td> </tr> <tr> <td>Capacitance change</td> <td>≤ ±20% of the initial value</td> </tr> <tr> <td>D.F. (tan δ)</td> <td>≤200% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤The initial specified value</td> </tr> </table> <p>(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.</p>	Rated voltage (V _{dc})	6.3V	10V	16V	25V	35V	50V	Surge voltage (V _{dc})	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						
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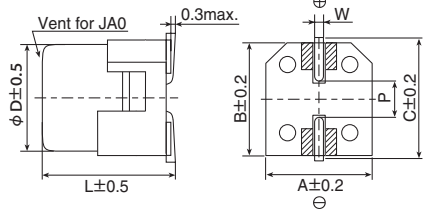
◆ DIMENSIONS [mm]

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

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



Note : L±0.5 for HA0 and JA0



▨ : Dummy terminals

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



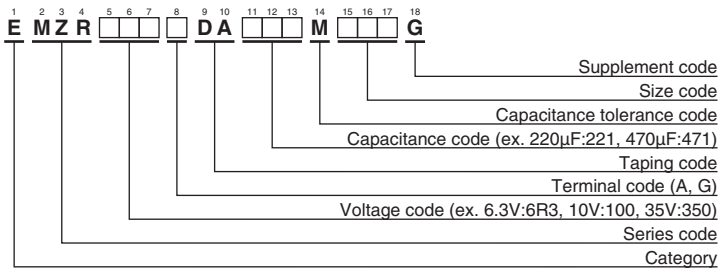
- Rated voltage symbol

Rated voltage (V _{dc})	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 _{dc})	Cap (μF)	Size code	tan δ	ESR (Ω max./20°C, 100kHz)	Rated ripple current (mA _{rms} /105°C, 100kHz)	Part No.
6.3	680	F80	0.26	0.16	600	EMZR6R3ADA681MF80G
	1,500	HA0	0.26	0.08	850	EMZR6R3□DA152MHA0G
	2,200	JA0	0.26	0.06	1,190	EMZR6R3□DA222MJA0G
10	470	F80	0.19	0.16	600	EMZR100ADA471MF80G
	1,000	HA0	0.19	0.08	850	EMZR100□DA102MHA0G
	1,500	JA0	0.19	0.06	1,190	EMZR100□DA152MJA0G
16	330	F80	0.16	0.16	600	EMZR160ADA331MF80G
	680	HA0	0.16	0.08	850	EMZR160□DA681MHA0G
	1,000	JA0	0.16	0.06	1,190	EMZR160□DA102MJA0G
25	220	F80	0.14	0.16	600	EMZR250ADA221MF80G
	470	HA0	0.14	0.08	850	EMZR250□DA471MHA0G
	820	JA0	0.14	0.06	1,190	EMZR250□DA821MJA0G
35	150	F80	0.12	0.16	600	EMZR350ADA151MF80G
	330	HA0	0.12	0.08	850	EMZR350□DA331MHA0G
	560	JA0	0.12	0.06	1,190	EMZR350□DA561MJA0G
50	100	F80	0.10	0.34	350	EMZR500ADA101MF80G
	220	HA0	0.10	0.18	670	EMZR500□DA221MHA0G
	330	JA0	0.10	0.12	900	EMZR500□DA331MJA0G

□ : 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.