

# Alchip™-MZS Series

- Downsizing and Lower ESR, 2,000hours at 105°C
- Rated voltage range : 25, 35V, Nominal capacitance range : 330 to 1,000μF
- 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.

MZS

↑ Higher capacitance  
MZR



## ◆ SPECIFICATIONS

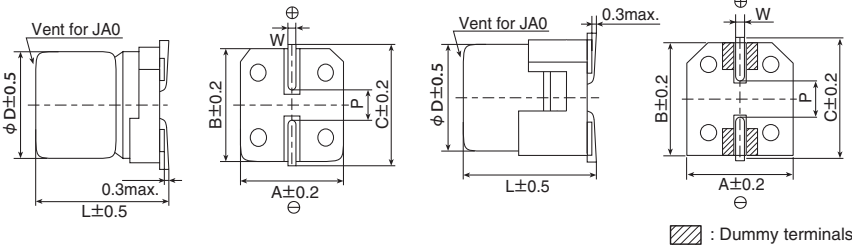
Items	Characteristics														
<b>Category</b>	-55 to +105°C														
<b>Temperature Range</b>															
<b>Rated Voltage Range</b>	25, 35V <sub>dc</sub>														
<b>Capacitance Tolerance</b>	±20% (M) (at 20°C, 120Hz)														
<b>Leakage Current</b>	I=0.01CV or 3μA, whichever 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>25V</td> <td>35V</td> </tr> <tr> <td>tan δ (Max.)</td> <td>0.14</td> <td>0.12</td> </tr> </table> (at 20°C, 120Hz)	Rated voltage (V <sub>dc</sub> )	25V	35V	tan δ (Max.)	0.14	0.12								
Rated voltage (V <sub>dc</sub> )	25V	35V													
tan δ (Max.)	0.14	0.12													
<b>Low Temperature Characteristics (Max. Impedance Ratio)</b>	<table border="1"> <tr> <td>Rated voltage (V<sub>dc</sub>)</td> <td>25V</td> <td>35V</td> </tr> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>3</td> <td>3</td> </tr> <tr> <td>Z(-55°C)/Z(+20°C)</td> <td>3</td> <td>3</td> </tr> </table> (at 120Hz)	Rated voltage (V <sub>dc</sub> )	25V	35V	Z(-25°C)/Z(+20°C)	2	2	Z(-40°C)/Z(+20°C)	3	3	Z(-55°C)/Z(+20°C)	3	3		
Rated voltage (V <sub>dc</sub> )	25V	35V													
Z(-25°C)/Z(+20°C)	2	2													
Z(-40°C)/Z(+20°C)	3	3													
Z(-55°C)/Z(+20°C)	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. <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								
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. <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								
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. <table border="1"> <tr> <td>Rated voltage (V<sub>dc</sub>)</td> <td>25</td> <td>35</td> </tr> <tr> <td>Surge voltage (V<sub>dc</sub>)</td> <td>29</td> <td>40</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> (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.	Rated voltage (V <sub>dc</sub> )	25	35	Surge voltage (V <sub>dc</sub> )	29	40	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
Rated voltage (V <sub>dc</sub> )	25	35													
Surge voltage (V <sub>dc</sub> )	29	40													
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														

## ◆ DIMENSIONS [mm]

- Terminal Code : A
- Size code : HA0 and JA0

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

Size code	D	L	A	B	C	W	P
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



▨ : Dummy terminals

## ◆ MARKING

EX) 25V1,000μF



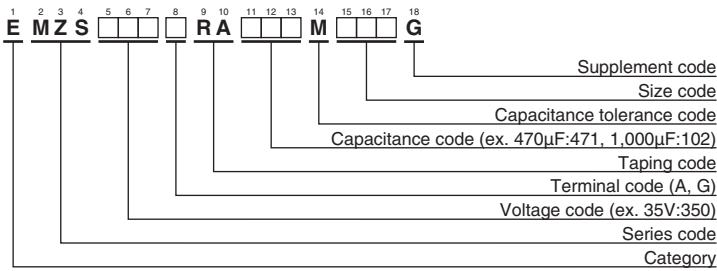
- Rated voltage symbol

Rated voltage (V <sub>dc</sub> )	25	35
Symbol	E	V

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™-MZS 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.
25	470	HA0	0.14	0.08	850	EMZS250□RA471MHA0G
	560	HA0	0.14	0.08	850	EMZS250□RA561MHA0G
	820	JA0	0.14	0.06	1,190	EMZS250□RA821MJA0G
	1,000	JA0	0.14	0.06	1,190	EMZS250□RA102MJA0G
35	330	HA0	0.12	0.08	850	EMZS350□RA331MHA0G
	410	HA0	0.12	0.08	850	EMZS350□RA411MHA0G
	470	HA0	0.12	0.08	850	EMZS350□RA471MHA0G
	560	JA0	0.12	0.06	1,190	EMZS350□RA561MJA0G
	680	JA0	0.12	0.06	1,190	EMZS350□RA681MJA0G

□ : Enter the appropriate terminal code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Capacitance(µF)	Frequency(Hz)			
	120	1k	10k	100k
330 to 560	0.50	0.85	0.94	1.00
680 to 1,000	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.