ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

ZS series

4.5mmL Chip Type

For SMD | Smaller | Anti-Solvent Feature

- Chip type with 4.5mm height.
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU).

■Specifications

Item	Performance Characteristics
Category Temperature Range	−40 to + 85°C
Rated Voltage Range	4 to 50V
Rated Capacitance Range	0.1 to 220μF
Capacitance Tolerance	+20% at 120Hz, 20°C
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01 CV or 3 (μA) ,whichever is greater.
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C

Rated voltage (V)	4	6.3	10	16	25	35	50
tan δ (MAX.)	0.50	0.30	0.24	0.19	0.16	0.14	0.14

Stability at Low Temperature — Measurement frequency : 120Hz

Rated voltage (V)		4	6.3	10	16	25	35	50
Impedance ratio ZT / Z20 (MAX.)	Z−25°C / Z+20°C	7	4	3	2	2	2	2
	Z−40°C / Z+20°C	15	8	8	4	4	3	3

Endurance — The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.

Capacitance change	Within ±20% of the initial capacitance value
tan δ	200% or less than the initial specified value
Leakage current	Less than or equal to the initial specified value

Shelf Life — After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.

Resistance to soldering heat — The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.

Capacitance change	Within ±10% of the initial capacitance value
tan δ	Less than or equal to the initial specified value
Leakage current	Less than or equal to the initial specified value

Marking — Black print on the case top.

■Chip Type

※ Voltage mark for 6.3V is「6V」.

(mm)

φD	4	5	6.3
A	1.8	2.1	2.4
B	4.3	5.3	6.6
C	4.3	5.3	6.6
E	1.0	1.3	2.2

Type numbering system (Example : 16V 10μF)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	Z	S	1	C	1	0	0	M	C	L	1	G	B

- Taping code
- Configuration
- Capacitance tolerance (±20%)
- Rated capacitance (10μF)
- Rated voltage (16V)
- Series name
- Type

■Dimensions

Cap. (μF)	Code	4 (0G)		6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
0.1	0R1													4	1.0
0.22	R22													4	2.0
0.33	R33													4	2.8
0.47	R47													4	4.0
1	010													4	8.4
2.2	2R2													4	13
3.3	3R3													4	17
4.7	4R7									4	16	4	18	5	20
10	100							4	23	5	27	5	29	6.3	33
22	220			4	28	5	33	5	37	6.3	42	6.3	46		
33	330	4	28	5	37	5	41	6.3	49	6.3	52				
47	470	4	33	5	45	6.3	52	6.3	58						
100	101	5	56	6.3	70										
220	221	6.3	96											Case size φD (mm)	Rated ripple

Rated ripple current (mArms) at 85°C 120Hz

● Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz or more
Coefficient	0.70	1.00	1.17	1.36	1.50

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please select UR(p.150), UG(p.158) series if high C/V products are reqired.
- Please refer to page 3 for the minimum order quantity.

Mouser Electronics

Authorized Distributor

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Nichicon:

UZS0J220MCL1GB UZS1E220MCL1GB UZS1H0R1MCL1GB UZS0G330MCL1GB UZS0G470MCL1GB UZS0G101MCL1GB UZS0G221MCL1GB UZS0J330MCL1GB UZS0J470MCL1GB UZS0J101MCL1GB UZS1A220MCL1GB UZS1A330MCL1GB UZS1A470MCL1GB UZS1C100MCL1GB UZS1C220MCL1GB UZS1C330MCL1GB UZS1C470MCL1GB UZS1E4R7MCL1GB UZS1E100MCL1GB UZS1E330MCL1GB UZS1V4R7MCL1GB UZS1V100MCL1GB UZS1V220MCL1GB UZS1HR22MCL1GB UZS1HR33MCL1GB UZS1HR47MCL1GB UZS1H010MCL1GB UZS1H2R2MCL1GB UZS1H3R3MCL1GB UZS1H4R7MCL1GB UZS1H100MCL1GB UZT1C100MCL1GB