ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

RS Compact & Low-profile Sized series

Smaller

Anti-Solvent Feature (Through 100V only)

- More compact & low profile case sizes than VS series.
- Compliant to the RoHS directive (2002/95/EC).

RZ

High Temperature

RS

■Specifications

Item	Performance Characteristics
Category Temperature Range	−40 to +85˚C
Rated Voltage Range	6.3 to 400V
Rated Capacitance Range	0.1 to 10000μF
Capacitance Tolerance	±20% at 120Hz, 20˚C
Leakage Current	Rated voltage (V) | 6.3 to 100: After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (μA), whichever is greater. After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3 (μA), whichever is greater. | 160 to 400: After 1 minute's application of rated voltage. I = 0.04CV+100 (μA) or less
Tangent of loss angle (tan δ)	For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. Measurement frequency : 120Hz, Temperature : 20˚C
Stability at Low Temperature	Measurement frequency : 120Hz
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.
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.
Marking	Printed with white color letter on black sleeve.

Tangent of loss angle (tan δ):

Rated voltage (V)	6.3	10	16	25	35	50	63	100	160	200	250	400
tan δ (MAX.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.20	0.20	0.25

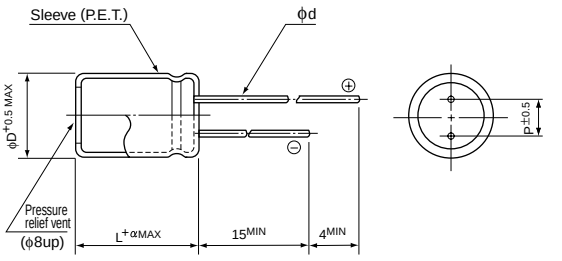
Stability at Low Temperature:

Rated voltage (V)		6.3	10	16	25	35	50	63	100	160	200	250	400
Impedance ratio ZT / Z20 (MAX.)	Z−25˚C / Z+20˚C	5	4	3	2	2	2	2	2	3	3	3	6
	Z−40˚C / Z+20˚C	12	10	8	5	4	3	3	3	4	4	6	10

Endurance:

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

■Radial Lead Type



(mm)

ϕD	5	6.3	8	10	12.5	16	18	20
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0
ϕd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0

α	(ϕD<20) 1.5
	(ϕD≧20) 2.0

• Please refer to page 20 about the end seal configulation.

Type numbering system (Example : 10V 330μF)

1	2	3	4	5	6	7	8	9	10	11	12
U	R	S	1	A	3	3	1	M	P	D	

Size code

Configuration※

Capacitance tolerance (±20%)

Rated capacitance (330μF)

Rated voltage (10V)

Series name

Type

※Configuration

ϕ D	Pb-free leadwire Pb-free PET sleeve
5 · 6.3	DD
8 · 10	PD
12.5 to 18	HD
20	RD

Please refer to page 20, 21, 22 about the formed or taped product spec.
Please refer to page 4 for the minimum order quantity.

● Dimension table in next page.

RS series

■Dimensions

Cap.(μF) \ V	6.3		10		16		25		35		50	
Code	0J		1A		1C		1E		1V		1H	
0.1	0R1										5×9	1.1
0.22	R22										5×9	2.3
0.33	R33										5×9	3.5
0.47	R47										5×9	5
1	010										5×9	13
2.2	2R2										5×9	26
3.3	3R3										5×9	35
4.7	4R7						5×9	30	5×9	35	5×9	40
10	100				5×9	40	5×9	50	5×9	55	5×9	65
22	220	5×9	35	5×9	55	5×9	70	5×9	75	5×9	95	5×9	90
33	330	5×9	55	5×9	75	5×9	85	5×9	95	5×9	100	6.3×9	120
47	470	5×9	75	5×9	90	5×9	100	5×9	110	6.3×9	130	6.3×9	140
100	101	5×9	125	5×9	135	6.3×9	160	6.3×9	180	8×9	220	10×9	240
220	221	6.3×9	200	6.3×9	220	8×9	290	10×9	310	10×9	340	10×12.5	420
330	331	6.3×9	250	8×9	300	10×9	360	10×9	380	10×12.5	480	12.5×12.5	530
470	471	8×9	330	8×9	360	10×9	410	10×12.5	530	12.5×12.5	590	16×15	750
1000	102	10×9	510	10×12.5	620	12.5×12.5	720	12.5×15	830	16×15	1010	18×20	1160
2200	222	12.5×15	890	12.5×15	960	16×15	1160	18×15	1360	18×20	1560	20×25	1750
3300	332	16×15	1200	16×15	1300	18×15	1460	18×20	1720	20×25	2000		
4700	472	16×15	1410	18×15	1550	18×20	1770	18×25	2050				
6800	682	18×15	1660	18×20	1850	18×25	2170					Case size φD×L (mm)	Rated ripple
10000	103	18×20	2020	18×25	2350								

Cap.(μF) \ V	63		100		160		200		250		400	
Code	1J		2A		2C		2D		2E		2G	
0.1	0R1		5×9	1.9								
0.22	R22		5×9	4.5								
0.33	R33		5×9	6.5								
0.47	R47		5×9	8								
1	010		5×9	17								
2.2	2R2		5×9	26								
3.3	3R3		5×9	35								
4.7	4R7		6.3×9	45								
10	100	5×9	6.3×9	70							16×15	140
22	220	6.3×9	100	8×9	130				16×15	280	●18×15	280
33	330	8×9	140	10×9	180		16×15	350	●18×15	350	18×20	350
47	470	8×9	170	10×12.5	230	16×15	420	●18×15	420	Δ18×20	420	★18×25	420
68	680					●18×15	490	Δ18×20	490	18×20	490	20×25	490
100	101	10×9	250	12.5×15	370	Δ18×20	590	★18×25	590	18×25	590		
150	151					★18×25	710	18×25	710				
220	221	12.5×12.5	490	16×15	620	20×25	770						
330	331	12.5×15	710	18×15	760							Case size φD×L (mm)	Rated ripple
470	471	16×15	900										

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

Size φ16×20 is available for capacitors marked "●"
Size φ20×15 is available for capacitors marked "Δ"
Size φ20×20 is available for capacitors marked "★"

In this case, 6 will be put at 12th digit of type numbering system.

●Frequency coefficient of rated ripple current

V	Cap.(μF) \ Frequency	50Hz	120Hz	300Hz	1kHz	10kHz or more
6.3 to 100	Less than 47	0.75	1.00	1.35	1.57	2.00
	100 to 470	0.80	1.00	1.23	1.34	1.50
	1000 or more	0.85	1.00	1.10	1.13	1.15
160 to 400	10 to 220	0.80	1.00	1.25	1.40	1.60