ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

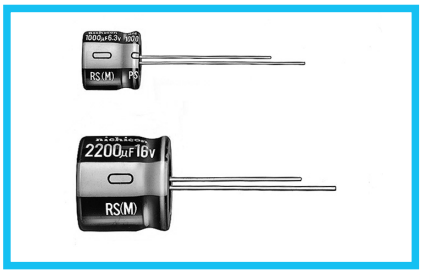
RS Compact & Low-profile Sized series

Smaller

Anti-Solvent Feature
(Through 100V only)

- Compact & low profile case size.
- Compliant to the RoHS directive (2011/65/EU).

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 at 20°C, leakage current is not more than 0.03CV or 4 (μA), whichever is greater. After 2 minutes' application of rated voltage at 20°C, 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 at 20°C, 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 at 20˚C

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 — Measurement frequency : 120Hz

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

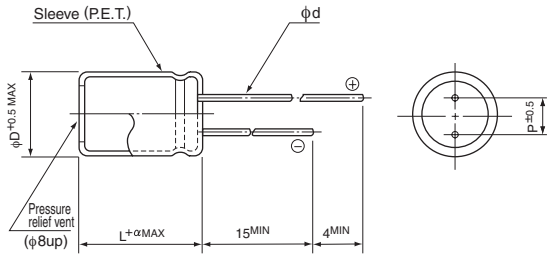
Endurance — The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.

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.

Marking — Printed with white color letter on black sleeve.

■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 configuration.

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

V	6.3		10		16		25		35		50	
Cap.(μF) / 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								

V	63		100		160		200		250		400	
Cap.(μF) / 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	60	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	Δ 18 × 20	420	★ 18 × 25	420
68 / 680					● 18 × 15	490	Δ 18 × 20	490	18 × 20	490	20 × 25	490
100 / 101	10 × 9	250	12.5 × 15	370	Δ 18 × 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	Frequency / Cap.(μF)	50Hz	120Hz	300Hz	1 kHz	10 kHz or more
6.3 to 100	0.1 to 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 to 10000	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