chanhvinh.com

ALUMINUM ELECTROLYTIC CAPACITORS

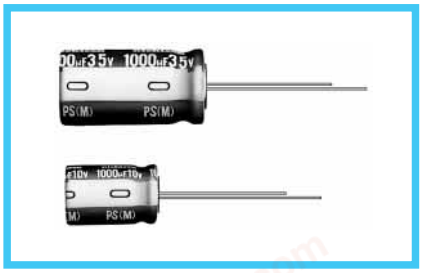
nichicon

PS Miniature Sized, Low Impedance, For Switching Power Supplies series

Smaller | Low Impedance | Anti-Solvent Feature (Through 100V only)

- Wide temperature range type, miniature sized.
- Adapted to the RoHS directive (2002/95/EC).

PJ → Smaller → PS



■Specifications

Item	Performance Characteristics
Category Temperature Range	−55 ~ +105˚C (6.3 ~ 100V), −40 ~ +105˚C (160 ~ 400V), −25 ~ +105˚C (450V)
Rated Voltage Range	6.3 ~ 450V
Rated Capacitance Range	0.47 ~ 15000μF
Capacitance Tolerance	±20% at 120Hz, 20˚C
Leakage Current	Rated voltage (V): 6.3 ~ 100 / 160 ~ 450 Leakage current: After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (μA), whichever is greater. / CV ≦ 1000: I= 0.1CV+40 (μA)max. (1 minute's); CV > 1000: I= 0.04CV+100 (μA)max. (1 minute's)
tan δ	For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. Measurement frequency : 120Hz, Temperature : 20˚C

Rated voltage (V)	6.3	10	16	25	35	50	63	100	160 ~ 250	315 ~ 350	400 ~ 450
tan δ (MAX.)	0.24	0.20	0.16	0.14	0.12	0.10	0.09	0.08	0.15	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	315 ~ 350	400	450
Impedance ratio	Z−25˚C / Z+20˚C	—	—	—	2	3	3	4	6	15
	Z−40˚C / Z+20˚C	—	—	—	3	4	6	8	10	—
	Z−55˚C / Z+20˚C	5	4	3	—	—	—	—	—	—

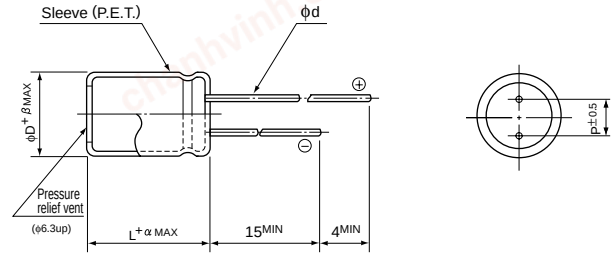
Endurance: After an application of D.C. bias voltage plus the rated ripple current for 3000 hours (2000 hours for D = 5 ~ 10) at 105˚C the peak voltage shall not exceed the rated D.C. voltage, capacitors meet the characteristic requirements listed at right.

Capacitance change	Within ±20% of initial value
tan δ	200% or less of initial specified value
Leakage current	Initial specified value or less

Shelf Life: After leaving capacitors under no load at 105˚C for 1000 hours, they meet the specified value for endurance characteristics listed above.

Marking: Printed with white color letter on dark brown sleeve.

■Radial Lead Type



(mm)

α	(L < 20) 1.5
	(L ≧ 20) 2.0

φD	5	6.3	8	10	12.5	16	18	20	22	25
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	10.0	12.5
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0	1.0
β	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0

Type numbering system (Example : 25V 470μF)

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

- 12: Size code
- 10 11: Configuration ※
- 9: Capacitance tolerance (±20%)
- 6 7 8: Rated Capacitance (470μF)
- 4 5: Rated voltage (25V)
- 3: Series name
- 1 2: Type

※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
5	DD
6.3	ED
8 · 10	PD
12.5 ~ 18	HD
20 ~ 25	RD

●Frequency coefficient of rated ripple current

V	Cap.(μF) \ Frequency	50Hz	120Hz	300Hz	1kHz	10kHz ~
6.3 ~ 100	~ 47	—	0.17	0.40	0.65	1.00
	100 ~ 220	0.30	0.50	0.65	0.80	1.00
	330 ~ 680	0.57	0.71	0.82	0.90	1.00
	1000 ~ 15000	0.75	0.87	0.96	0.98	1.00
160 ~ 450	0.47 ~ 220	0.80	1.00	1.25	1.40	1.60
	330 ~ 470	0.90	1.00	1.10	1.13	1.15

Please refer to page 21, 22, 23 about the formed or taped product spec.
Please refer to page 3 for the minimum order quantity.

● Dimension table in next pages.

chanhvinh.com

ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

PS series

■Standard ratings

Cap. (μF) \ V (Code) / Item / Code	6.3 (0J)			10 (1A)			16 (1C)			25 (1E)		
	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C 100kHz	Rated ripple (mA rms) 105°C 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C 100kHz	Rated ripple (mA rms) 105°C 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C 100kHz	Rated ripple (mA rms) 105°C 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C 100kHz	Rated ripple (mA rms) 105°C 100kHz
4.7	4R7									5×11	1.50	160
10	100						5×11	1.50	160	5×11	1.50	160
22	220	5×11	1.50	160	5×11	1.50	160	5×11	1.50	160	5×11	1.50	160
33	330	5×11	1.50	160	5×11	1.50	160	5×11	1.50	160	5×11	1.50	160
47	470	5×11	1.50	160	5×11	1.50	160	5×11	1.50	160	5×11	1.50	160
100	101	5×11	1.50	160	5×11	1.50	160	6.3×11	0.50	250	6.3×11	0.50	250
150	151	6.3×11	0.50	250	6.3×11	0.50	250	6.3×11	0.50	250	8×11.5	0.28	410
220	221	6.3×11	0.50	250	6.3×11	0.50	250	8×11.5	0.28	410	8×11.5	0.28	410
330	331	6.3×11	0.50	250	8×11.5	0.28	410	8×11.5	0.28	410	10×12.5	0.19	600
470	471	8×11.5	0.28	410	8×11.5	0.28	410	10×12.5	0.19	600	10×16	0.14	800
680	681	10×12.5	0.19	600	10×12.5	0.19	600	10×16	0.14	800	10×20	0.11	1000
1000	102	10×12.5	0.19	600	10×16	0.14	800	10×20	0.11	1000	12.5×20	0.075	1250
1500	152	10×20	0.11	1000	10×20	0.11	1000	12.5×20	0.075	1250	16×25	0.038	1900
2200	222	12.5×20	0.075	1250	12.5×20	0.075	1250	12.5×25	0.057	1550	16×25	0.038	1900
3300	332	12.5×20	0.075	1250	12.5×25	0.057	1550	16×25	0.038	1900	16×31.5	0.033	2350
4700	472	16×25	0.038	1900	16×25	0.038	1900	16×31.5	0.033	2350	18×35.5	0.030	2700
6800	682	16×25	0.038	1900	16×31.5	0.033	2350	18×35.5	0.030	2700	18×40	0.027	3300
10000	103	16×31.5	0.033	2350	18×35.5	0.030	2700	18×40	0.027	3300			
15000	153	18×35.5	0.030	2700	18×40	0.027	3300						

Cap. (μF) \ V (Code) / Item / Code	35 (1V)			50 (1H)			63 (1J)			100 (2A)		
	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C 100kHz	Rated ripple (mA rms) 105°C 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C 100kHz	Rated ripple (mA rms) 105°C 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C 100kHz	Rated ripple (mA rms) 105°C 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C 100kHz	Rated ripple (mA rms) 105°C 100kHz
0.47	R47				5×11	7.50	25				5×11	43.0	20
1	010				5×11	5.30	40				5×11	20.0	30
2.2	2R2				5×11	4.50	55				5×11	9.80	44
3.3	3R3				5×11	3.90	65				5×11	6.60	58
4.7	4R7	5×11	1.50	160	5×11	3.50	90	5×11	4.70	68	5×11	4.60	74
10	100	5×11	1.50	160	5×11	2.10	120	5×11	2.10	110	6.3×11	1.80	130
22	220	5×11	1.50	160	5×11	1.80	150	6.3×11	0.98	180	8×11.5	0.68	230
33	330	5×11	1.50	160	6.3×11	0.65	250	6.3×11	0.71	220	10×12.5	0.46	320
47	470	6.3×11	0.50	250	6.3×11	0.65	250	8×11.5	0.65	310	10×16	0.37	420
100	101	8×11.5	0.28	410	8×11.5	0.36	340	10×12.5	0.31	390	12.5×20	0.18	580
150	151	8×11.5	0.28	410	10×12.5	0.26	490	10×16	0.25	440	12.5×25	0.13	710
220	221	10×12.5	0.19	600	10×16	0.18	650	10×20	0.20	700	16×25	0.10	890
330	331	10×16	0.14	800	10×20	0.15	810	12.5×20	0.12	980	16×25	0.090	1080
470	471	10×20	0.11	1000	12.5×20	0.13	1100	12.5×25	0.081	1200	16×31.5	0.076	1310
680	681	12.5×20	0.075	1250	12.5×25	0.10	1200	16×25	0.058	1300	16×35.5	0.064	1410
1000	102	12.5×25	0.057	1550	16×25	0.058	1600	16×31.5	0.049	1380	18×40	0.047	1520
1500	152	16×25	0.038	1900	16×31.5	0.040	2000	18×35.5	0.038	1750			
2200	222	16×31.5	0.033	2350	18×35.5	0.035	2300	18×40	0.032	2120			
3300	332	18×35.5	0.030	2700									
4700	472	18×40	0.027	3300									

φD×L (mm)

Cap.(μF) \ V / Code	160		200		250		315		350		400		450	
	2C		2D		2E		2F		2V		2G		2W	
0.47	R47	6.3 × 11	12	6.3 × 11	12	6.3 × 11	12	8 × 11.5	11	8 × 11.5	11				
1	010	6.3 × 11	17	6.3 × 11	17	6.3 × 11	17	8 × 11.5	16	10 × 12.5	17	10 × 12.5	16	10 × 12.5	18
2.2	2R2	6.3 × 11	25	6.3 × 11	25	8 × 11.5	29	10 × 12.5	28	10 × 16	31	10 × 16	27	10 × 20	29
3.3	3R3	8 × 11.5	36	8 × 11.5	36	10 × 12.5	42	10 × 12.5	34	10 × 16	38	10 × 20	36	12.5 × 20	41
4.7	4R7	8 × 11.5	43	10 × 12.5	50	10 × 12.5	50	10 × 16	45	10 × 20	49	10 × 20	43	12.5 × 20	49
10	100	10 × 12.5	70	10 × 16	80	10 × 20	88	10 × 20	72	12.5 × 20	82	12.5 × 25	72	16 × 25	75
22	220	10 × 20	130	10 × 20	140	12.5 × 25	155	12.5 × 25	120	16 × 25	130	16 × 25	110	16 × 31.5	115
33	330	12.5 × 20	180	12.5 × 25	190	12.5 × 25	190	16 × 25	155	16 × 31.5	160	16 × 31.5	140	•18 × 35.5	145
47	470	12.5 × 25	220	12.5 × 25	220	16 × 25	230	16 × 35.5	190	•18 × 35.5	200	•18 × 35.5	170	20 × 40	175
100	101	16 × 25	330	16 × 31.5	335	•18 × 35.5	340	Δ18 × 40	285	20 × 40	290	22 × 50	350	25 × 50	350
220	221	•18 × 35.5	500	Δ18 × 40	515	20 × 40	525	22 × 50	540	25 × 50	550				
330	331	20 × 40	900	22 × 40	1100	22 × 50	1150								Rated ripple
470	471	22 × 50	1200	22 × 50	1310	25 × 50	1350							Case size	

Rated Ripple (mA rms) at 105˚C 120Hz
Size φ20×31 is available for capacitors marked "•"
Size φ20×35 is available for capacitors marked "Δ"
In this case, 6 will be put at 12th digit of type numbering system.