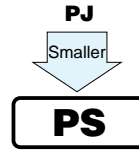


PS Miniature Sized, Low Impedance, For Switching Power Supplies series



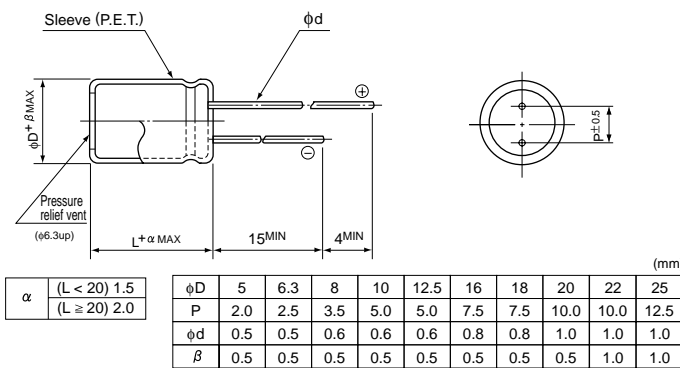
- Wide temperature range type, miniature sized.



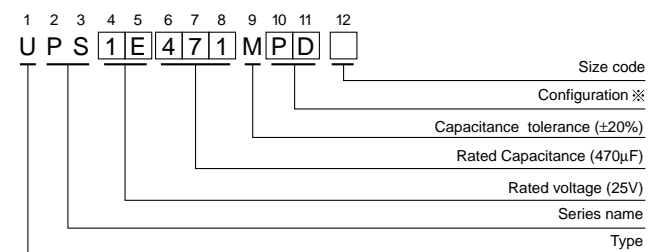
Specifications

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									
Stability at Low Temperature	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	—	—	—	—	—	—
		Measurement frequency : 120Hz	6.3 - 10	16 - 25	35 - 50	63 - 100	160 - 200	250	315 - 350	400	450
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									
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



Type numbering system (Example : 25V 470µF)



※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve	Sn-Pb finished leadwire PVC sleeve (containing Pb)
5	DD	DH
6.3	ED	EH
8 - 10	PD	PH
12.5 ~ 18	HD	HH
20 ~ 25	RD	RH

※ Please contact to us if other configurations are required.

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 19, 20, 21 about the formed or taped product spec.
Please refer to page 3 for the minimum order quantity.

● Dimension table in next pages.

Standard ratings

V (Code)		6.3 (0J)			10 (1A)			16 (1C)			25 (1E)			
Cap. (μF)	Code	Item	Case size	Impedance	Rated ripple	Case size	Impedance	Rated ripple	Case size	Impedance	Rated ripple	Case size	Impedance	Rated ripple
			φD × L (mm)	(Ω) MAX. 20°C 100kHz	(mA rms) 105°C 100kHz	φD × L (mm)	(Ω) MAX. 20°C 100kHz	(mA rms) 105°C 100kHz	φD × L (mm)	(Ω) MAX. 20°C 100kHz	(mA rms) 105°C 100kHz	φD × L (mm)	(Ω) MAX. 20°C 100kHz	(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	160
33	330	5 × 11	1.50	160	5 × 11	1.50	160	5 × 11	1.50	160	5 × 11	1.50	160	160
47	470	5 × 11	1.50	160	5 × 11	1.50	160	5 × 11	1.50	160	5 × 11	1.50	160	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	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	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	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	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	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
1000	102	10 × 12.5	0.19	600	10 × 16	0.14	800	10 × 20	0.11	1000	12.5 × 20	0.075	1250	1250
1500	152	10 × 20	0.11	1000	10 × 20	0.11	1000	12.5 × 20	0.075	1250	16 × 25	0.038	1900	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	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	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	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	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							

V (Code)		35 (1V)			50 (1H)			63 (1J)			100 (2A)			
Cap. (μF)	Code	Item	Case size	Impedance	Rated ripple	Case size	Impedance	Rated ripple	Case size	Impedance	Rated ripple	Case size	Impedance	Rated ripple
			φD × L (mm)	(Ω) MAX. 20°C 100kHz	(mA rms) 105°C 100kHz	φD × L (mm)	(Ω) MAX. 20°C 100kHz	(mA rms) 105°C 100kHz	φD × L (mm)	(Ω) MAX. 20°C 100kHz	(mA rms) 105°C 100kHz	φD × L (mm)	(Ω) MAX. 20°C 100kHz	(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	74
10	100	5 × 11	1.50	160	5 × 11	2.10	120	5 × 11	2.10	110	6.3 × 11	1.80	130	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	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	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	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	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	710
220	221	10 × 12.5	0.19	600	10 × 16	0.18	650	10 × 20	0.20	700	16 × 25	0.10	890	890
330	331	10 × 16	0.14	800	10 × 20	0.15	810	12.5 × 20	0.12	980	16 × 25	0.090	1080	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	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	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	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)

V		160		200		250		315		350		400		450	
Cap. (μF)	Code	2C		2D		2E		2F		2V		2G		2W	
		φD × L (mm)	Rated ripple (mA rms) 105°C 120Hz	φD × L (mm)	Rated ripple (mA rms) 105°C 120Hz	φD × L (mm)	Rated ripple (mA rms) 105°C 120Hz	φD × L (mm)	Rated ripple (mA rms) 105°C 120Hz	φD × L (mm)	Rated ripple (mA rms) 105°C 120Hz	φD × L (mm)	Rated ripple (mA rms) 105°C 120Hz	φD × L (mm)	Rated ripple (mA rms) 105°C 120Hz
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								
470	471	22 × 50	1200	22 × 50	1310	25 × 50	1350								

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.