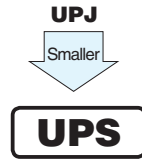


UPS

Miniature Sized, Low Impedance,
For Switching Power Supplies



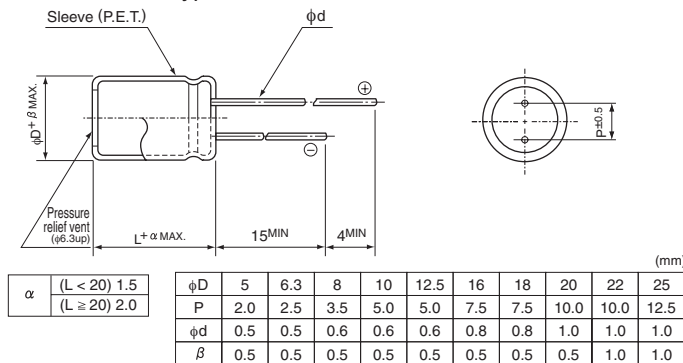
- Wide temperature range type, miniature sized.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).



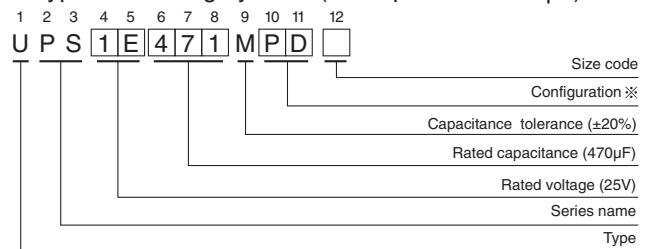
Specifications

Item	Performance Characteristics											
Category Temperature Range	-55 to +105°C (6.3 to 100V), -40 to +105°C (160 to 400V), -25 to +105°C (450V)											
Rated Voltage Range	6.3 to 450V											
Rated Capacitance Range	0.47 to 15000μF											
Capacitance Tolerance	±20% at 120Hz, 20°C											
Leakage Current	Rated voltage (V)	6.3 to 100					160 to 450					
	Leakage current	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.					CV ≤ 1000: I= 0.1CV+40 (μA) or less. CV > 1000: 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											
	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160 to 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 (MAX.)	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	The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 3000 hours (2000 hours for φD= 5 to 10) at 105°C, the peak voltage shall not exceed the rated voltage.						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 105°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 dark brown sleeve.											

Radial Lead Type



Type numbering system (Example : 25V 470μF)



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

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

Frequency coefficient of rated ripple current

V	Cap.(μF)	Frequency	50Hz	120Hz	300Hz	1kHz	10kHz or more
6.3 to 100	2.2 to 47	—	—	0.17	0.40	0.65	1.00
		100 to 220	0.30	0.50	0.65	0.80	1.00
		330 to 680	0.57	0.71	0.82	0.90	1.00
		1000 to 15000	0.75	0.87	0.96	0.98	1.00
160 to 450	0.47 to 220	—	0.80	1.00	1.25	1.40	1.60
		330 to 470	0.90	1.00	1.10	1.13	1.15

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 pages.

UPS

■ Dimensions

V (Code)		6.3 (0J)			10 (1A)			16 (1C)			25 (1E)		
Cap. (μF)	Item	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C/100kHz	Rated ripple (mArms) 105°C/100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C/100kHz	Rated ripple (mArms) 105°C/100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C/100kHz	Rated ripple (mArms) 105°C/100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C/100kHz	Rated ripple (mArms) 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						

V (Code)		35 (1V)			50 (1H)			63 (1J)			100 (2A)		
Cap. (μF)	Item	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C/100kHz	Rated ripple (mArms) 105°C/100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C/100kHz	Rated ripple (mArms) 105°C/100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C/100kHz	Rated ripple (mArms) 105°C/100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C/100kHz	Rated ripple (mArms) 105°C/100kHz
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									

V		160			200			250			315			350			400			450		
Cap. (μF)	Code	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													
470	471	22 × 50	1200		22 × 50	1310		25 × 50	1350											Case size φD × L (mm)	Rated ripple	

Rated ripple current (mArms) 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.