



**THE DATASHEET OF  
UPS1V471MPD**



# ALUMINUM ELECTROLYTIC CAPACITORS

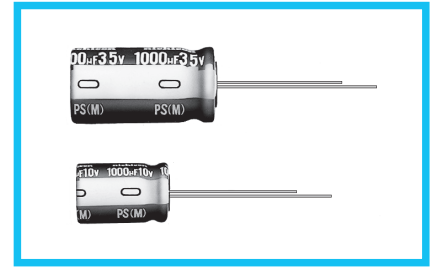
# UPS

Miniature Sized, Low Impedance,  
For Switching Power Supplies



Smaller Low Impedance

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

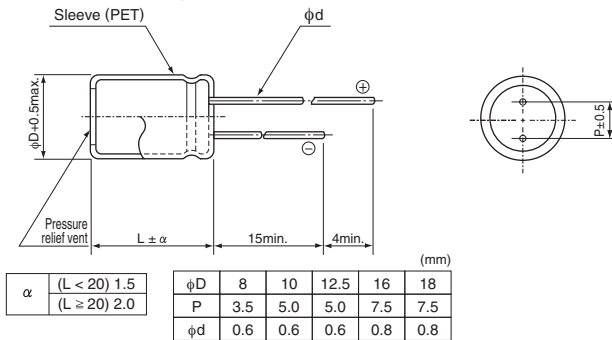


## Specifications

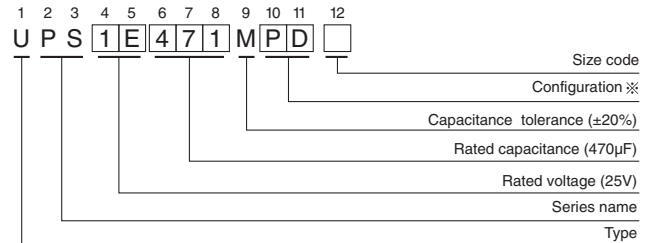
Item	Performance Characteristics																		
Category Temperature Range	-55 to +105°C																		
Rated Voltage Range	6.3 to 100V																		
Rated Capacitance Range	22 to 15000μF																		
Capacitance Tolerance	±20% at 120Hz, 20°C																		
Leakage Current ※	After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV (μA).																		
Tangent of loss angle (tan δ)	For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF																		
	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th rowspan="2">Measurement frequency : 120Hz at 20°C</th> </tr> </thead> <tbody> <tr> <td>tan δ (max.)</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> </tr> </tbody> </table>	Rated voltage (V)	6.3	10	16	25	35	50	63	100	Measurement frequency : 120Hz at 20°C	tan δ (max.)	0.24	0.20	0.16	0.14	0.12	0.10	0.09
Rated voltage (V)	6.3	10	16	25	35	50	63	100	Measurement frequency : 120Hz at 20°C										
tan δ (max.)	0.24	0.20	0.16	0.14	0.12	0.10	0.09	0.08											
Stability at Low Temperature	Measurement frequency : 120Hz																		
	Rated voltage (V)	6.3 · 10	16 · 25	35 · 50	63 · 100														
	Impedance ratio (max.)	Z(-25°C) / Z(+20°C)	—	—	—	2													
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= 8 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.																		

※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

## Radial Lead Type



## Type numbering system (Example : 25V 470μF)



※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
8 · 10	PD
12.5 to 18	HD

- Please refer to the Guidelines for Aluminum Electrolytic Capacitors for end seal configuration information.

## Frequency coefficient of rated ripple current

Cap.(μF)	Frequency	50Hz	120Hz	300Hz	1kHz	10kHz or more
22 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

• Dimension table in next page.

## UPS

## ■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 1 minute)	Impedance (Ω) max. (20°C/100kHz)	Rated Ripple (mA rms) (105°C/100kHz)	Part Number
6.3 (0J)	470	8×11.5	0.24	88.83	0.28	410	UPS0J471MPD
	680	10×12.5	0.24	128.52	0.19	600	UPS0J681MPD
	1000	10×12.5	0.24	189	0.19	600	UPS0J102MPD
	1500	10×20	0.24	283.5	0.11	1000	UPS0J152MPD
	2200	12.5×20	0.26	415.8	0.075	1250	UPS0J222MHD
	3300	12.5×20	0.28	623.7	0.075	1250	UPS0J332MHD
	4700	16×25	0.30	888.3	0.038	1900	UPS0J472MHD
	6800	16×25	0.34	1285.2	0.038	1900	UPS0J682MHD
	10000	16×30.5	0.42	1890	0.033	2350	UPS0J103MHD
15000	18×35.5	0.52	2835	0.030	2700	UPS0J153MHD	
10 (1A)	330	8×11.5	0.20	99	0.28	410	UPS1A331MPD
	470	8×11.5	0.20	141	0.28	410	UPS1A471MPD
	680	10×12.5	0.20	204	0.19	600	UPS1A681MPD
	1000	10×16	0.20	300	0.14	800	UPS1A102MPD
	1500	10×20	0.20	450	0.11	1000	UPS1A152MPD
	2200	12.5×20	0.22	660	0.075	1250	UPS1A222MHD
	3300	12.5×25	0.24	990	0.057	1550	UPS1A332MHD
	4700	16×25	0.26	1410	0.038	1900	UPS1A472MHD
	6800	16×30.5	0.30	2040	0.033	2350	UPS1A682MHD
	10000	18×35.5	0.38	3000	0.030	2700	UPS1A103MHD
	15000	18×40	0.48	4500	0.027	3300	UPS1A153MHD
16 (1C)	220	8×11.5	0.16	105.6	0.28	410	UPS1C221MPD
	330	8×11.5	0.16	158.4	0.28	410	UPS1C331MPD
	470	10×12.5	0.16	225.6	0.19	600	UPS1C471MPD
	680	10×16	0.16	326.4	0.14	800	UPS1C681MPD
	1000	10×20	0.16	480	0.11	1000	UPS1C102MPD
	1500	12.5×20	0.16	720	0.075	1250	UPS1C152MHD
	2200	12.5×25	0.18	1056	0.057	1550	UPS1C222MHD
	3300	16×25	0.20	1584	0.038	1900	UPS1C332MHD
	4700	16×30.5	0.22	2256	0.033	2350	UPS1C472MHD
	6800	18×35.5	0.26	3264	0.030	2700	UPS1C682MHD
	10000	18×40	0.34	4800	0.027	3300	UPS1C103MHD
25 (1E)	150	8×11.5	0.14	112.5	0.28	410	UPS1E151MPD
	220	8×11.5	0.14	165	0.28	410	UPS1E221MPD
	330	10×12.5	0.14	247.5	0.19	600	UPS1E331MPD
	470	10×16	0.14	352.5	0.14	800	UPS1E471MPD
	680	10×20	0.14	510	0.11	1000	UPS1E681MPD
	1000	12.5×20	0.14	750	0.075	1250	UPS1E102MHD
	1500	16×25	0.14	1125	0.038	1900	UPS1E152MHD
	2200	16×25	0.16	1650	0.038	1900	UPS1E222MHD
	3300	16×30.5	0.18	2475	0.033	2350	UPS1E332MHD
	4700	18×35.5	0.20	3525	0.030	2700	UPS1E472MHD
	6800	18×40	0.24	5100	0.027	3300	UPS1E682MHD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).  
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

## UPS

## ■ Dimensions



Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 1 minute)	Impedance (Ω) max. (20°C/100kHz)	Rated Ripple (mA <sub>rms</sub> ) (105°C/100kHz)	Part Number
35 (1V)	100	8×11.5	0.12	105	0.28	410	UPS1V101MPD
	150	8×11.5	0.12	157.5	0.28	410	UPS1V151MPD
	220	10×12.5	0.12	231	0.19	600	UPS1V221MPD
	330	10×16	0.12	346.5	0.14	800	UPS1V331MPD
	470	10×20	0.12	493.5	0.11	1000	UPS1V471MPD
	680	12.5×20	0.12	714	0.075	1250	UPS1V681MHD
	1000	12.5×25	0.12	1050	0.057	1550	UPS1V102MHD
	1500	16×25	0.12	1575	0.038	1900	UPS1V152MHD
	2200	16×30.5	0.14	2310	0.033	2350	UPS1V222MHD
	3300	18×35.5	0.16	3465	0.030	2700	UPS1V332MHD
4700	18×40	0.18	4935	0.027	3300	UPS1V472MHD	
50 (1H)	100	8×11.5	0.10	150	0.36	340	UPS1H101MPD
	150	10×12.5	0.10	225	0.26	490	UPS1H151MPD
	220	10×16	0.10	330	0.18	650	UPS1H221MPD
	330	10×20	0.10	495	0.15	810	UPS1H331MPD
	470	12.5×20	0.10	705	0.13	1100	UPS1H471MHD
	680	12.5×25	0.10	1020	0.10	1200	UPS1H681MHD
	1000	16×25	0.10	1500	0.058	1600	UPS1H102MHD
	1500	16×30.5	0.10	2250	0.040	2000	UPS1H152MHD
	2200	18×35.5	0.12	3300	0.035	2300	UPS1H222MHD
63 (1J)	47	8×11.5	0.09	88.83	0.65	310	UPS1J470MPD
	100	10×12.5	0.09	189	0.31	390	UPS1J101MPD
	150	10×16	0.09	283.5	0.25	440	UPS1J151MPD
	220	10×20	0.09	415.8	0.20	700	UPS1J221MPD
	330	12.5×20	0.09	623.7	0.12	980	UPS1J331MHD
	470	12.5×25	0.09	888.3	0.081	1200	UPS1J471MHD
	680	16×25	0.09	1285.2	0.058	1300	UPS1J681MHD
	1000	16×30.5	0.09	1890	0.049	1380	UPS1J102MHD
	1500	18×35.5	0.09	2835	0.038	1750	UPS1J152MHD
	2200	18×40	0.11	4158	0.032	2120	UPS1J222MHD
100 (2A)	22	8×11.5	0.08	66	0.68	230	UPS2A220MPD
	33	10×12.5	0.08	99	0.46	320	UPS2A330MPD
	47	10×16	0.08	141	0.37	420	UPS2A470MPD
	100	12.5×20	0.08	300	0.18	580	UPS2A101MHD
	150	12.5×25	0.08	450	0.13	710	UPS2A151MHD
	220	16×25	0.08	660	0.10	890	UPS2A221MHD
	330	16×25	0.08	990	0.090	1080	UPS2A331MHD
	470	16×30.5	0.08	1410	0.076	1310	UPS2A471MHD
	680	16×35.5	0.08	2040	0.064	1410	UPS2A681MHD
	1000	18×40	0.08	3000	0.047	1520	UPS2A102MHD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).  
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

- For formed lead or taped product specifications and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.

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