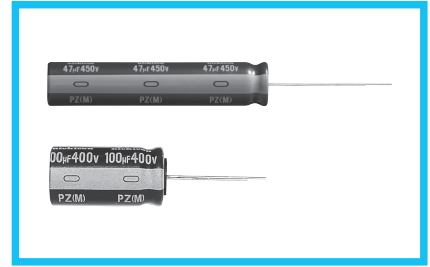
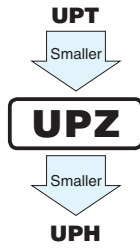


# UPZ

High Voltage, Miniature-sized



- High ripple current.
- Load life of 2000 hours at 105°C.
- Suited for ballast applications.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).



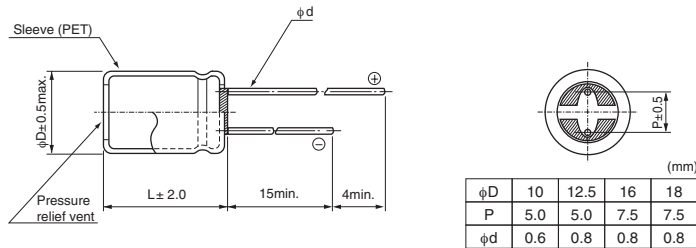
## Specifications

Item	Performance Characteristics											
Category Temperature Range	-40 to +105°C											
Rated Voltage Range	200 to 450V											
Rated Capacitance Range	18 to 470μF											
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 0.04CV+100 (μA).											
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C											
	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>200</td> <td>250</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>tan δ (max.)</td> <td>0.12</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> <td>0.20</td> </tr> </table>	Rated voltage (V)	200	250	400	420	450	tan δ (max.)	0.12	0.15	0.15	0.20
Rated voltage (V)	200	250	400	420	450							
tan δ (max.)	0.12	0.15	0.15	0.20	0.20							
Stability at Low Temperature	Measurement frequency : 120Hz											
	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>200</td> <td>250</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>Impedance ratio (max.)   Z(-25°C) / Z(+20°C)</td> <td>3</td> <td>3</td> <td>8</td> <td>8</td> <td>8</td> </tr> </table>	Rated voltage (V)	200	250	400	420	450	Impedance ratio (max.)   Z(-25°C) / Z(+20°C)	3	3	8	8
Rated voltage (V)	200	250	400	420	450							
Impedance ratio (max.)   Z(-25°C) / Z(+20°C)	3	3	8	8	8							
Endurance	<p>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 2000 hours at 105°C, the peak voltage shall not exceed the rated voltage.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±20% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>200% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	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					
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.											

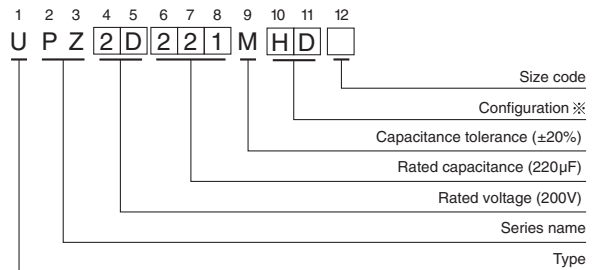
※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

## Radial Lead Type

- The 12th digit of the part number is 9 or none.



## Type numbering system (Example : 200V 220μF)

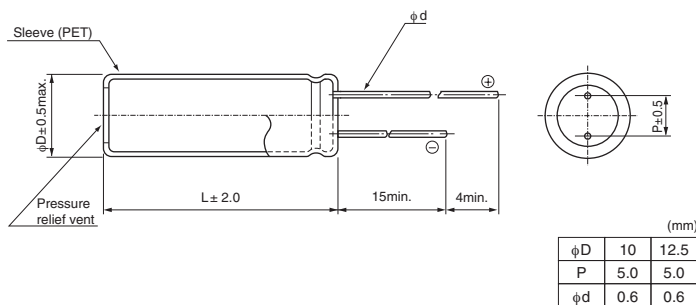


※ Configuration

Size code	Blank, 6	9
φ D	Pb-free leadwire	Pb-free PET sleeve
10	PD	ND
12.5 to 18	HD	NY

## Pencil - shaped Type

- 9 in the 12th digit of the part number.



## Frequency coefficient of rated ripple current

V	60Hz	120Hz	500Hz	1kHz	10kHz or more
200・250	0.80	1.00	1.20	1.30	1.40
400 to 450	0.80	1.00	1.25	1.40	1.50

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

• Dimension table in next page.

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## ■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 1 minute)	Rated Ripple (mArms) (105°C/120Hz)	Part Number
200 (2D)	82	10×30.5	0.12	756	400	UPZ2D820MPD
	120	10×40	0.12	1060	680	UPZ2D121MND9
	150	12.5×30.5	0.12	1300	620	UPZ2D151MHD
	150	10×50	0.12	1300	830	UPZ2D151MND9
	180	12.5×35.5	0.12	1540	700	UPZ2D181MHD
	220	12.5×40	0.12	1860	800	UPZ2D221MHD
	270	16×30.5	0.12	2260	870	UPZ2D271MHD
	270	12.5×50	0.12	2260	1265	UPZ2D271MNY9
	330	16×35.5	0.12	2740	1010	UPZ2D331MHD
	330	18×30.5	0.12	2740	1010	UPZ2D331MHD6
	390	16×40	0.12	3220	1130	UPZ2D391MHD
	390	18×35.5	0.12	3220	1120	UPZ2D391MHD6
	470	18×40	0.12	3860	1270	UPZ2D471MHD
250 (2E)	82	10×40	0.15	920	610	UPZ2E820MND9
	120	10×50	0.15	1300	740	UPZ2E121MND9
	220	12.5×50	0.15	2300	1140	UPZ2E221MNY9
400 (2G)	27	10×30.5	0.15	532	240	UPZ2G270MPD
	47	12.5×30.5	0.15	852	370	UPZ2G470MHD
	47	10×40	0.15	852	435	UPZ2G470MND9
	56	12.5×35.5	0.15	996	420	UPZ2G560MHD
	56	10×50	0.15	996	520	UPZ2G560MND9
	68	12.5×40	0.15	1188	480	UPZ2G680MHD
	100	16×30.5	0.15	1700	580	UPZ2G101MHD
	100	12.5×50	0.15	1700	770	UPZ2G101MNY9
	120	16×35.5	0.15	2020	670	UPZ2G121MHD
	120	18×30.5	0.15	2020	670	UPZ2G121MHD6
	150	16×40	0.15	2500	770	UPZ2G151MHD
	150	18×35.5	0.15	2500	770	UPZ2G151MHD6
	180	18×40	0.15	2980	880	UPZ2G181MHD
420 (W6)	22	10×30.5	0.20	469.6	200	UPZW6220MPD
	39	12.5×30.5	0.20	755.2	310	UPZW6390MHD
	47	12.5×35.5	0.20	889.6	360	UPZW6470MHD
	56	12.5×40	0.20	1040.8	430	UPZW6560MHD
	68	16×30.5	0.20	1242.4	510	UPZW6680MHD
	82	16×35.5	0.20	1477.6	570	UPZW6820MHD
	100	16×40	0.20	1780	610	UPZW6101MHD
	100	18×30.5	0.20	1780	610	UPZW6101MHD6
	120	18×35.5	0.20	2116	660	UPZW6121MHD
	150	18×40	0.20	2620	710	UPZW6151MHD

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.

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## ■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance ( $\mu$ F)	Case Size $\phi$ D×L (mm)	tan $\delta$	Leakage Current ( $\mu$ A) (at 20°C after 1 minute)	Rated Ripple (mArms) (105°C/120Hz)	Part Number
450 (2W)	18	10×30.5	0.20	424	180	UPZ2W180MPD
	33	12.5×30.5	0.20	694	280	UPZ2W330MHD
	33	10×40	0.20	694	360	UPZ2W330MND9
	39	12.5×35.5	0.20	802	320	UPZ2W390MHD
	47	12.5×40	0.20	946	380	UPZ2W470MHD
	47	10×50	0.20	946	450	UPZ2W470MND9
	56	16×30.5	0.20	1108	440	UPZ2W560MHD
	68	16×35.5	0.20	1324	490	UPZ2W680MHD
	82	16×40	0.20	1576	550	UPZ2W820MHD
	82	18×30.5	0.20	1576	550	UPZ2W820MHD6
	82	12.5×50	0.20	1576	730	UPZ2W820MNY9
	100	18×35.5	0.20	1900	650	UPZ2W101MHD
	120	18×40	0.20	2260	740	UPZ2W121MHD

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.