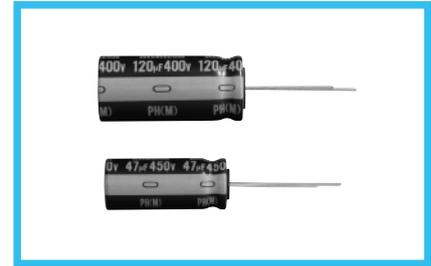
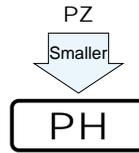


ALUMINUM ELECTROLYTIC CAPACITORS

PH High Voltage, Miniature-sized series



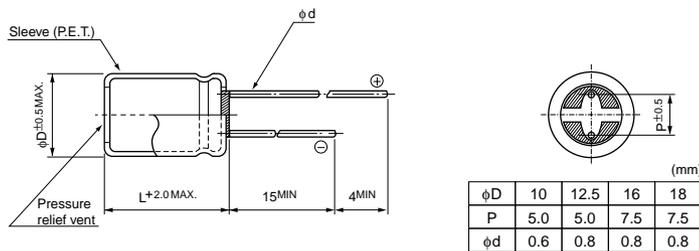
- High ripple current.
- Load life of 2000 hours at 105°C.
- Suited for ballast applications.
- Compliant to the RoHS directive (2011/65/EU).



Specifications

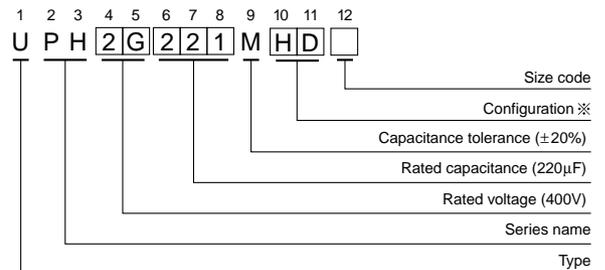
Item	Performance Characteristics							
Category Temperature Range	-25 to +105°C							
Rated Voltage Range	400 to 450V							
Rated Capacitance Range	27 to 220µF							
Capacitance Tolerance	±20% at 120Hz, 20°C							
Leakage Current	After 1 minute's application of rated voltage, leakage current is 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>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.15</td> <td>0.20</td> <td>0.20</td> </tr> </table>	Rated voltage (V)	400	420	450	tan δ (MAX.)	0.15	0.20
Rated voltage (V)	400	420	450					
tan δ (MAX.)	0.15	0.20	0.20					
Stability at Low Temperature	Measurement frequency : 120Hz							
	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>Impedance ratio ZT / Z20 (MAX.) Z-25°C / Z+20°C</td> <td>8</td> <td>8</td> <td>8</td> </tr> </table>	Rated voltage (V)	400	420	450	Impedance ratio ZT / Z20 (MAX.) Z-25°C / Z+20°C	8	8
Rated voltage (V)	400	420	450					
Impedance ratio ZT / Z20 (MAX.) Z-25°C / Z+20°C	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.							

Radial Lead Type



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

Type numbering system (Example : 400V 220µF)



※ Configuration

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

Dimensions

Cap	Code	400		420		450	
		2G	330	W6	320	2W	300
27	270					10×31.5	300
33	330	10×31.5	330	10×31.5	320		
39	390						
47	470					12.5×31.5	430
56	560	12.5×31.5	470	12.5×31.5	460	12.5×35.5	490
68	680	12.5×33.5	540			12.5×40	560
82	820	12.5×40	620			16×31.5	640
100	101	16×31.5	710	16×31.5	690	16×35.5	730
120	121	16×35.5	800	16×35.5	780	16×40	820
				▲18×31.5	800	▲18×31.5	800
150	151	16×40	920	18×35.5	920	18×40	970
		▲18×31.5	890				
180	181	18×40	1060	18×40	1040	18×46	1090
220	221	18×46	1200			Case size φD × L (mm)	Rated ripple

Rated ripple current (mArms) at 105°C 120Hz

▲ : In this case, [6] will be put at 12th digit of type numbering system.

Frequency coefficient of rated ripple current

Frequency	60Hz	120Hz	500Hz	1kHz	10kHz or more
Coefficient	0.80	1.00	1.25	1.40	1.50

Please refer to page 20, 21, 22 about the formed or taped product spec. Please refer to page 4 for the minimum order quantity.