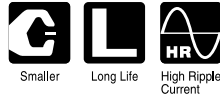
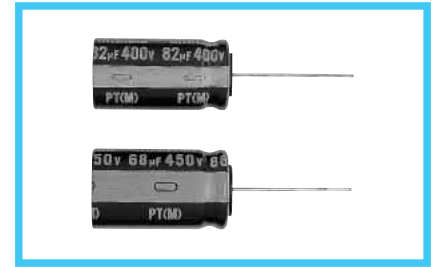
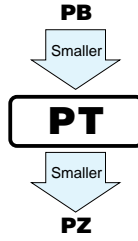


# ALUMINUM ELECTROLYTIC CAPACITORS

**PT** series Miniature Sized, High Ripple Current, Long Life



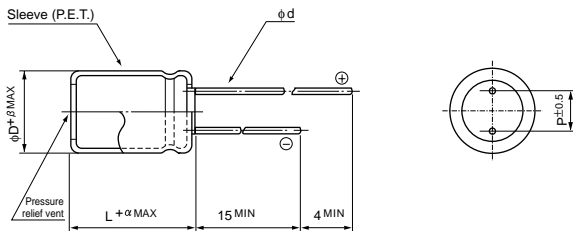
- High ripple current.
- Suited for ballast application.



## Specifications

Item	Performance Characteristics													
Category Temperature Range	-25 ~ +105°C													
Rated Voltage Range	200 ~ 450V													
Rated Capacitance Range	15 ~ 820µF													
Capacitance Tolerance	±20% at 120Hz, 20°C													
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.06CV+10 (µA) , whichever is greater.													
tan δ	Measurement frequency : 120Hz, Temperature : 20°C													
	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>200</th> <th>220</th> <th>250</th> <th>400</th> <th>420</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>tan δ (MAX.)</td> <td>0.12</td> <td>0.12</td> <td>0.12</td> <td>0.15</td> <td>0.20</td> <td>0.20</td> </tr> </tbody> </table>	Rated voltage (V)	200	220	250	400	420	450	tan δ (MAX.)	0.12	0.12	0.12	0.15	0.20
Rated voltage (V)	200	220	250	400	420	450								
tan δ (MAX.)	0.12	0.12	0.12	0.15	0.20	0.20								
Stability at Low Temperature	Measurement frequency : 120Hz													
	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>200</th> <th>220</th> <th>250</th> <th>400</th> <th>420</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Impedance ratio ZT / Z20 (MAX.) Z-25°C / Z+20°C</td> <td>3</td> <td>3</td> <td>3</td> <td>8</td> <td>8</td> <td>8</td> </tr> </tbody> </table>	Rated voltage (V)	200	220	250	400	420	450	Impedance ratio ZT / Z20 (MAX.) Z-25°C / Z+20°C	3	3	3	8	8
Rated voltage (V)	200	220	250	400	420	450								
Impedance ratio ZT / Z20 (MAX.) Z-25°C / Z+20°C	3	3	3	8	8	8								
Endurance	After an application of D.C. bias voltage plus the rated ripple current for 5000 hours 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.													
	Leakage current	Initial specified value or less												
Marking	Printed with white color letter on dark brown sleeve.													

## Radial Lead Type

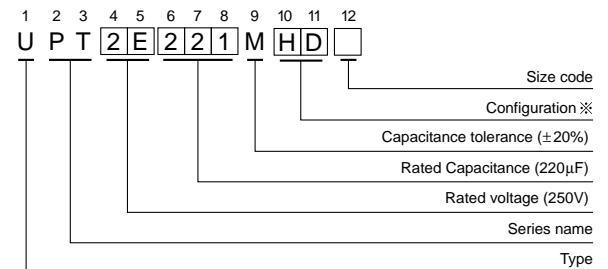


	(mm)						
φD	10	12.5	16	18	20	22	25
P	5.0	5.0	7.5	7.5	10.0	10.0	12.5
φd	0.6	0.6*	0.8	0.8	1.0	1.0	1.0
β	0.5	0.5	0.5	0.5	0.5	1.0	1.0

\* In case L > 25 for the φ12.5 dia. unit, lead dia. φ d = 0.8mm.

α	φD < 20 : 1.5
	φD ≥ 20 : 2.0

## Type numbering system (Example : 250V 220µF)



### Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
10	PD
12.5 ~ 18	HD
20 ~ 25	RD

\* Please contact to us if other configurations are required.

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 page.

## ■ Dimensions

φ D × L (mm)

Cap	V Code	200		220		250		400		420		450			
		2D		2P		2E		2G		W6		2W			
15	150											10 × 31.5	0.15		
18	180									10 × 31.5	0.17	12.5 × 25	0.18		
22	220							10 × 31.5	0.21	12.5 × 25	0.20	12.5 × 31.5	0.22		
27	270							12.5 × 25	0.24	12.5 × 31.5	0.24	12.5 × 31.5	0.25		
33	330							12.5 × 31.5	0.29	12.5 × 31.5	0.27	12.5 × 35.5	0.28		
39	390							12.5 × 31.5	0.32	12.5 × 35.5	0.31	12.5 × 40	0.32		
47	470					10 × 31.5	0.27	12.5 × 35.5	0.37	12.5 × 40	0.36	16 × 31.5	0.38		
56	560			10 × 31.5	0.29	12.5 × 25	0.31	12.5 × 40	0.42	16 × 31.5	0.43	16 × 35.5	0.44		
68	680	10 × 31.5	0.35	12.5 × 25	0.34	12.5 × 31.5	0.36	16 × 31.5	0.46	16 × 35.5	0.51	16 × 40	0.49		
										▲18 × 31.5	0.51	▲18 × 31.5	0.48		
82	820	12.5 × 25	0.41	12.5 × 31.5	0.39	12.5 × 31.5	0.40	16 × 31.5	0.50	16 × 40	0.57	18 × 35.5	0.55		
										▲18 × 31.5	0.57				
100	101	12.5 × 31.5	0.48	12.5 × 31.5	0.43	12.5 × 35.5	0.46	16 × 35.5	0.58	▲18 × 31.5	0.58	18 × 35.5	0.61	18 × 40	0.65
120	121	12.5 × 31.5	0.53	12.5 × 35.5	0.49	12.5 × 40	0.53	16 × 40	0.66	▲18 × 35.5	0.67	18 × 40	0.66	22 × 40	0.77
150	151	12.5 × 35.5	0.62	12.5 × 40	0.58	16 × 31.5	0.62	18 × 40	0.77	22 × 40	0.80	22 × 50	0.92	▲25 × 40	0.92
180	181	12.5 × 40	0.70	16 × 31.5	0.67	16 × 35.5	0.72	22 × 40	0.85	22 × 50	0.95	25 × 50	1.10		
										▲18 × 31.5	0.72			▲25 × 40	0.95
220	221	16 × 31.5	0.76	16 × 35.5	0.77	16 × 40	0.83								
		▲18 × 31.5	0.81	▲18 × 31.5	0.77	▲18 × 35.5	0.83								
270	271	16 × 35.5	0.88	16 × 40	0.88	18 × 40	0.95	22 × 50	1.30	25 × 50	1.20				
		▲18 × 31.5	0.87	▲18 × 35.5	0.88	▲25 × 40	1.30								
330	331	18 × 35.5	1.01	18 × 40	1.01	22 × 40	1.05	25 × 50	1.40						
390	391	18 × 40	1.13	22 × 40	1.15										
470	471	22 × 40	1.20			22 × 50	1.45								
				▲25 × 40	1.45										
560	561			22 × 50	1.50	25 × 50	1.55								
				▲25 × 40	1.50										
680	681	22 × 50	1.50	25 × 50	1.60										
		▲25 × 40	1.50												
820	822	25 × 50	1.60									Case size	※		

※ : Rated Ripple (A rms) 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	50Hz	120Hz	300Hz	1kHz	10kHz~
Coefficient	0.80	1.00	1.25	1.40	1.60