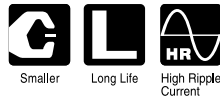
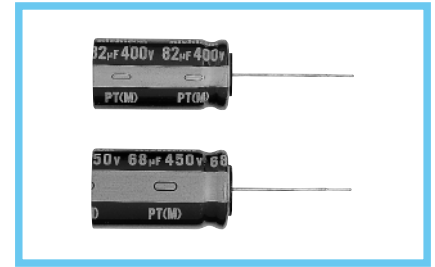
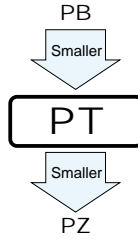


**PT** series Miniature Sized, High Ripple Current, Long Life



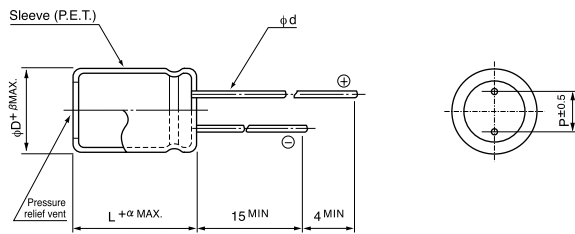
- High ripple current.
- Suited for ballast application.
- Adapted to the RoHS directive (2002/95/EC).



## 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)															
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	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 colspan="2">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.)</td> <td>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 storing the capacitors under no load at 105°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will 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



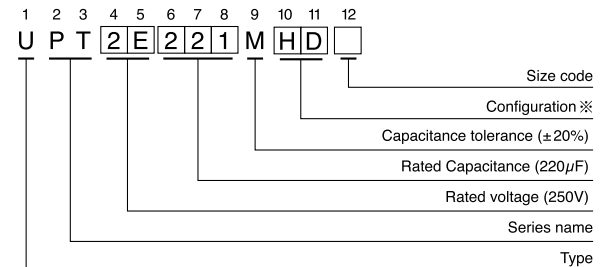
	(mm)						
φD	10	12.5	16	18	20	22	25
P	5.0	5.0	7.5	7.5	10.0	10.0	12.5
φd	0.6	0.6 <sup>α</sup>	0.8	0.8	1.0	1.0	1.0
β	0.5	0.5	0.5	0.5	0.5	1.0	1.0

※ 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

- Please refer to page 21 about the end seal configuration.

## 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 refer to page 21, 22, 23 about the formed or taped product spec.  
Please refer to page 3 for the minimum order quantity.

- Dimension table in next page.

### ■ Dimensions

Cap	Code	V		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	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	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	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 × 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	16 × 35.5	0.58	18 × 35.5	0.61	18 × 40	0.65
										▲18 × 31.5	0.58				
120	121	12.5 × 31.5	0.53	12.5 × 35.5	0.49	12.5 × 40	0.53	16 × 40	0.66	18 × 40	0.66	22 × 40	0.77	22 × 40	0.77
										▲18 × 35.5	0.67				
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 × 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	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 φ D × L (mm)	※

※ : Rated Ripple (Arms) 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