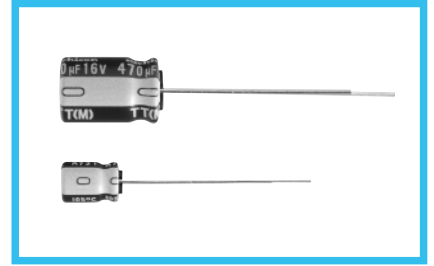
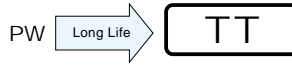


# ALUMINUM ELECTROLYTIC CAPACITORS

**TT** Miniature Sized, Low Impedance,  
High Reliability For Switching Power Supplies  
series



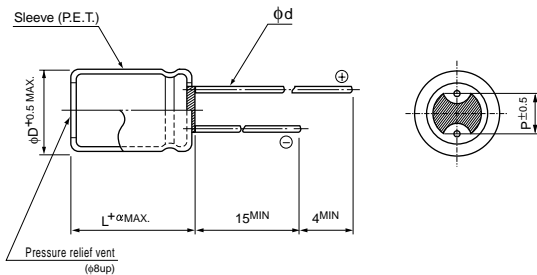
- Smaller case size and Long Life product.
- Compliant to the RoHS directive (2002/95/EC).



## Specifications

Item	Performance Characteristics							
Category Temperature Range	-40 to +105°C							
Rated Voltage Range	6.3 to 50V							
Rated Capacitance Range	1 to 470μF							
Capacitance Tolerance	±20% at 120Hz, 20°C							
Leakage Current	After 2 minutes' application of rated voltage, leakage current is less than 0.03CV or 3 (μA), whichever is greater.							
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C							
	Rated voltage (V)	6.3	10	16	25	35	50	
	tan δ (MAX.)	0.30	0.28	0.24	0.18	0.16	0.14	
Stability at Low Temperature	Measurement frequency : 120Hz							
	Rated voltage (V)		6.3	10	16	25	35	50
	Impedance ratio	Z-25°C / Z+20°C	5	4	3	3	3	3
	ZT / Z20 (MAX.)	Z-40°C / Z+20°C	10	10	8	6	4	4
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 5000 hours at 105°C.							
	Capacitance change	Within ±30% of the initial capacitance value						
	tan δ	300% or less than 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.							
	Leakage current	Less than or equal to the initial specified value						
Marking	Printed with white color letter on dark blown sleeve.							

## Radial Lead Type

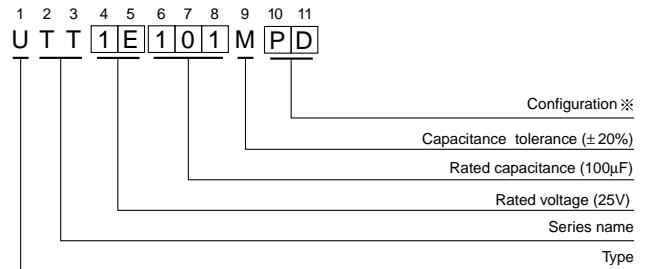


α	(L = 7) 1.0		(L ≥ 9) 1.5	
	φD	4	5	6.3
P	1.5	2.0	2.5	3.5
φd	0.45	0.45	0.5 (0.45)	0.6

(mm)

( ) : Applied to 7mmL products

## Type numbering system (Example : 25V 100μF)



※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
4	DD
5	
6.3	PD
8	

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

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

- Dimension table in next page.

## ■ Standard Ratings

V (Code)		6.3 (0J)			10 (1A)			16 (1C)		
Cap. (μF)	Item Code	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA <sub>rms</sub> ) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA <sub>rms</sub> ) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA <sub>rms</sub> ) 105°C / 100kHz
10	100							4 × 7	7.4	46
22	220	4 × 7	7.4	46				5 × 7	4.0	74
33	330				5 × 7	4.0	74			
47	470	5 × 7	4.0	74				6.3 × 7	2.1	120
100	101	6.3 × 7	2.1	120				6.3 × 9	1.1	163
150	151				6.3 × 9	1.1	163	8 × 9	0.68	230
220	221	6.3 × 9	1.1	163	8 × 9	0.68	230	8 × 9	0.68	230
330	331	8 × 9	0.68	230				8 × 9	0.68	230
470	471	8 × 9	0.68	230				8 × 11.5	0.40	298

V (Code)		25 (1E)			35 (1V)			50 (1H)		
Cap. (μF)	Item Code	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA <sub>rms</sub> ) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA <sub>rms</sub> ) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mA <sub>rms</sub> ) 105°C / 100kHz
1	010							4 × 7	30	23
2.2	2R2							4 × 7	23	26
3.3	3R3							4 × 7	20	29
4.7	4R7				4 × 7	7.4	37	5 × 7	14	37
10	100				5 × 7	4.0	74	6.3 × 7	4.4	84
22	220	5 × 7	4.0	74	6.3 × 7	2.1	120	6.3 × 9	2.4	112
33	330	6.3 × 7	2.1	120	6.3 × 9	1.1	163			
47	470	6.3 × 9	1.1	163	6.3 × 9	1.1	163	8 × 9	1.4	162
100	101	8 × 9	0.68	230						
150	151									
220	221	8 × 11.5	0.40	298						
330	331	8 × 11.5	0.40	298						

## ● Frequency coefficient of rated ripple current

Cap. (μF)	Frequency	50Hz	120Hz	300Hz	1kHz	10kHz	100kHz or more
1 to 4.7		0.25	0.30	0.50	0.70	0.90	1.00
10 to 47		0.30	0.40	0.60	0.75	0.90	1.00
100 to 470		0.60	0.60	0.70	0.80	0.90	1.00