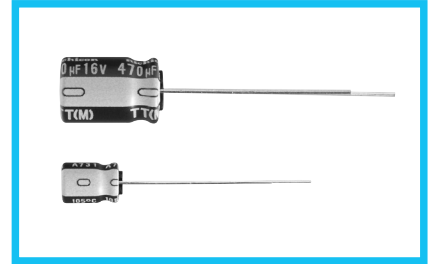


# ALUMINUM ELECTROLYTIC CAPACITORS

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



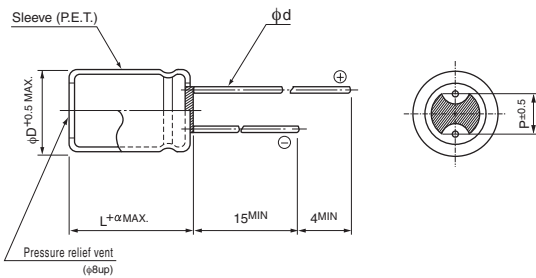
- Smaller case size and Long Life product.
- Compliant to the RoHS directive (2011/65/EU).



## 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 at 20°C, 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		
Stability at Low Temperature	Measurement frequency : 120Hz								
	Impedance ratio ZT / Z20 (MAX.)	Rated voltage (V)		6.3	10	16	25	35	50
		Z-25°C / Z+20°C	5	4	3	3	3	3	
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	
							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 blown sleeve.								

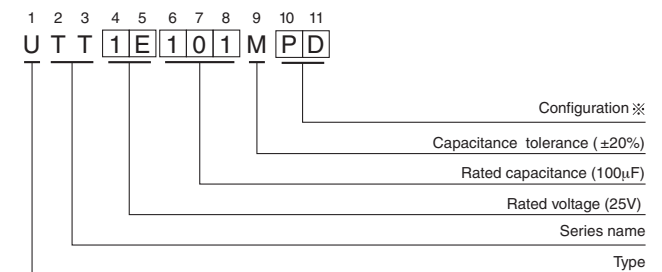
## Radial Lead Type



α	(L = 7)		(L ≥ 9)	
	1.0	1.5	1.5	1.5
φD	4	5	6.3	8
P	1.5	2.0	2.5	3.5
φd	0.45	0.45	0.5 (0.45)	0.6

( ) : Applied to 7mmL products

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



※ Configuration

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

- 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 (mArms) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mArms) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mArms) 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 (mArms) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mArms) 105°C / 100kHz	Case size φD × L (mm)	Impedance (Ω) MAX. 20°C / 100kHz	Rated ripple (mArms) 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