

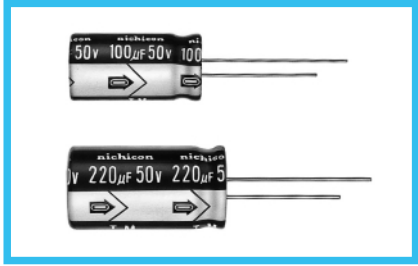
# ALUMINUM ELECTROLYTIC CAPACITORS

**TM** series Timer Circuit Use



- Ideally suited for timer circuits.
- Excellent leakage current stability, even subjected to load or no load at high temperature for a long time.
- Compliant to the RoHS directive (2002/95/EC).

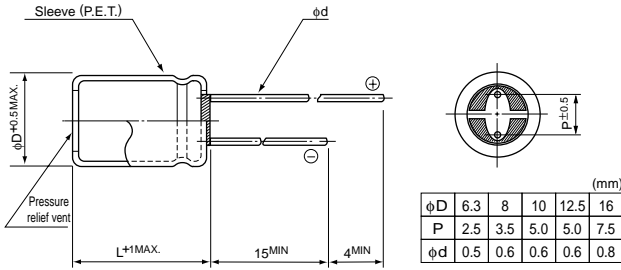
Products which are scheduled to be discontinued.  
Not recommended for new designs



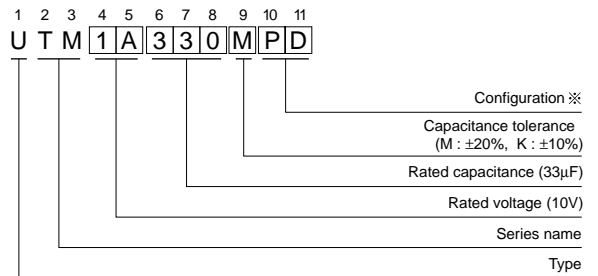
## Specifications

Item	Performance Characteristics					
Category Temperature Range	-40 to +85°C					
Rated Voltage Range	10 to 50V					
Rated Capacitance Range	1 to 470µF					
Capacitance Tolerance	±20% (M) (±10% (K) semi-standard) at 120Hz, 20°C					
Leakage Current	After 2 minutes' application of rated voltage, leakage current is 0.001CV+1 (µA) or less.					
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C					
	Rated voltage (V)	10	16	25	50	
	tan δ (MAX.)	0.17	0.13	0.10	0.08	
Stability at Low Temperature	Measurement frequency : 120Hz					
	Rated voltage (V)	10	16	25	50	
	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	2	2	1.5	1.5
		Z-40°C / Z+20°C	4	3	2	2
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.					
	Capacitance change	Within ±10% of the initial capacitance value				
	tan δ	150% 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 85°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 black sleeve.					

## Radial Lead Type



## Type numbering system (Example : 10V 33µF)



※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
6.3	ED
8 · 10	PD
12.5 · 16	HD

## Dimensions

		φ D × L (mm)			
V		10	16	25	50
Cap. (µF)	Code	1A	1C	1E	1H
1	010				6.3 × 11
2.2	2R2				6.3 × 11
3.3	3R3			6.3 × 11	6.3 × 11
4.7	4R7			6.3 × 11	8 × 11.5
10	100		6.3 × 11	8 × 11.5	10 × 12.5
22	220	6.3 × 11	8 × 11.5	10 × 12.5	10 × 16
33	330	8 × 11.5	10 × 12.5	10 × 16	10 × 20
47	470	8 × 11.5	10 × 12.5	10 × 16	12.5 × 20
100	101	10 × 16	10 × 20	12.5 × 20	12.5 × 25
220	221	10 × 20	12.5 × 25	16 × 25	16 × 31.5
330	331	12.5 × 25	16 × 25	16 × 25	
470	471	12.5 × 25	16 × 25	16 × 31.5	

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