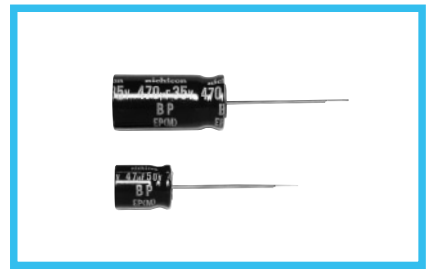
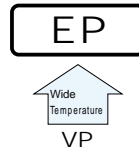


# ALUMINUM ELECTROLYTIC CAPACITORS

**EP** Bi-Polarized, Wide Temperature Range  
series



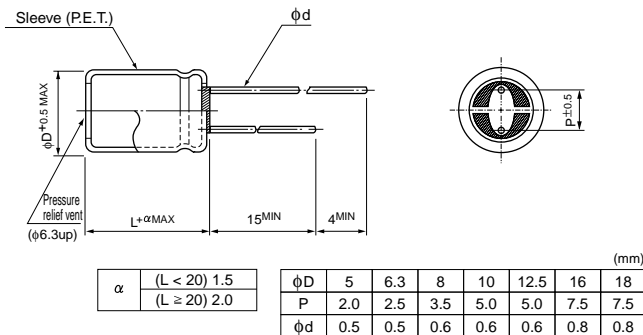
- Bi-polarized series for operations over wide temperature range of -55°C to +105°C.
- Compliant to the RoHS directive (2002/95/EC).



## Specifications

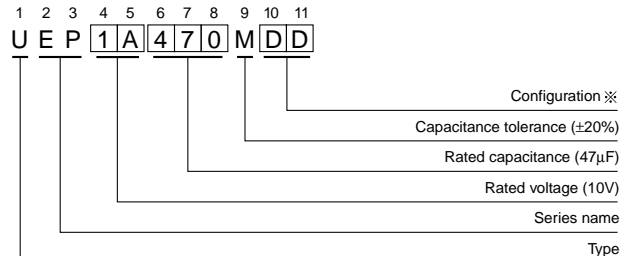
Item	Performance Characteristics									
Category Temperature Range	-55 to +105°C									
Rated Voltage Range	6.3 to 100V									
Rated Capacitance Range	0.47 to 6800μF									
Capacitance Tolerance	±20% at 120Hz, 20°C									
Leakage Current	After 5 minutes' application of rated voltage, leakage current is not more than 0.03CV or 3 (μA), whichever is greater.									
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz, Temperature : 20°C									
	Rated voltage (V)	6.3	10	16	25	35	50	63	100	
	tan δ (MAX.)	0.24	0.24	0.20	0.20	0.16	0.14	0.12	0.10	
Stability at Low Temperature	Measurement frequency : 120Hz									
	Rated voltage (V)	6.3	10	16	25	35	50	63	100	
	Impedance ratio Z-25°C / Z+20°C	4	3	2	2	2	2	2	2	
	ZT / Z20 (MAX.)	Z-40°C / Z+20°C	10	8	6	4	3	3	3	
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 105°C with the polarity inverted every 250 hours.									
	Capacitance change	Within ±25% of the initial capacitance value (6.3to16V)								
	tan δ	Within ±20% of the initial capacitance value (25to100V)								
	Leakage current	150% or less than the initial specified value								
		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 black sleeve.									

## Radial Lead Type



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

## Type numbering system (Example : 10V 47μF)



※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
5	DD
6.3	ED
8 - 10	PD
12.5 to 18	HD

## Dimensions

Cap. (μF)	V	Code	6.3		10		16		25		35		50		63		100	
			0J	1A	1C	1E	1V	1H	1J	2A								
0.47	R47												5 × 11	8			5 × 11	10
1	010												5 × 11	12			5 × 11	15
2.2	2R2												5 × 11	18			6.3 × 11	20
3.3	3R3												5 × 11	22	5 × 11	20	6.3 × 11	25
4.7	4R7												5 × 11	22	6.3 × 11	31	6.3 × 11	30
10	100				5 × 11	30	5 × 11	34	5 × 11	30	6.3 × 11	37	6.3 × 11	40	8 × 11.5	50		
22	220		5 × 11	42	5 × 11	40	6.3 × 11	55	6.3 × 11	51	8 × 11.5	63	8 × 11.5	68	10 × 16	97		
33	330	5 × 11	46	5 × 11	45	5 × 11	49	6.3 × 11	56	8 × 11.5	72	8 × 11.5	77	10 × 12.5	98	12.5 × 20	140	
47	470	5 × 11	54	5 × 11	54	6.3 × 11	67	6.3 × 11	67	8 × 11.5	86	10 × 12.5	105	10 × 16	130	12.5 × 20	170	
100	101	6.3 × 11	90	6.3 × 11	90	8 × 11.5	110	8 × 11.5	110	10 × 16	160	10 × 20	190	12.5 × 20	225	16 × 25	300	
220	221	8 × 11.5	150	8 × 11.5	150	10 × 12.5	195	10 × 16	215	12.5 × 20	290	12.5 × 25	340	16 × 25	405	18 × 35.5	510	
330	331	8 × 11.5	185	10 × 16	240	10 × 16	265	12.5 × 20	320	12.5 × 20	350	16 × 25	460	16 × 31.5	535			
470	471	10 × 12.5	260	10 × 16	290	10 × 20	345	12.5 × 20	380	12.5 × 25	465	16 × 31.5	590	18 × 35.5	680			
1000	102	10 × 20	460	12.5 × 20	510	12.5 × 25	605	16 × 25	670	16 × 31.5	805							
2200	222	12.5 × 25	820	16 × 25	910	16 × 31.5	1070	18 × 35.5	1140									
3300	332	16 × 25	1110	16 × 31.5	1200	18 × 35.5	1400											
4700	472	16 × 31.5	1430	18 × 35.5	1520													
6800	682	18 × 35.5	1830															

Rated ripple current (mArms) at 105°C 120Hz

Please refer to page 20, 21, 22 about the formed or taped product spec.

Please refer to page 4 for the minimum order quantity.