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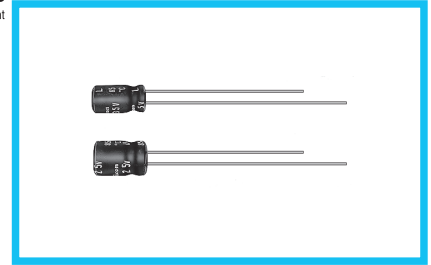
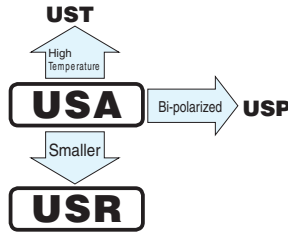
**ALUMINUM ELECTROLYTIC CAPACITORS**

**USA** 7mmL, For General Purposes

- Standard miniature series with 7mm height.
- Compliant to the RoHS directive (2011/65/EU).

**USR** 7mmL, High CV

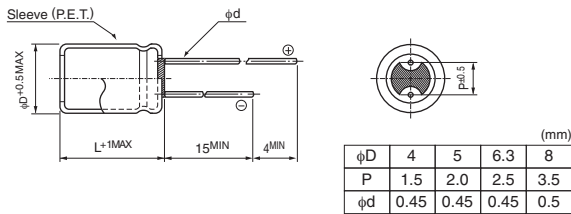
- Higher CV series with 7mm height.



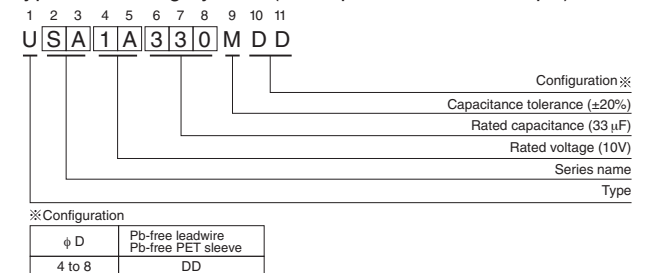
**Specifications**

Item	USA	USR							
Category Temperature Range	-40 to +85°C	-40 to +85°C							
Rated Voltage Range	6.3 to 50V	4 to 50V							
Rated Capacitance Range	0.1 to 220µF	0.1 to 470µF							
Capacitance Tolerance	±20% at 120Hz, 20°C								
Leakage Current	After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV or 3 (µA), whichever is greater.								
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C								
	Rated voltage (V)	4	6.3	10	16	25	35	50	
Stability at Low Temperature	tan δ (MAX.)	0.35	0.24	0.20	0.16	0.14	0.12	0.10	
	Measurement frequency : 120Hz								
	Rated voltage (V)	4	6.3	10	16	25	35	50	
Endurance	Impedance ratio	Z-25°C / Z+20°C	6	4	3	2	2	2	
	ZT / Z20 (MAX.)	Z-40°C / Z+20°C	12	8	6	4	4	3	
Shelf Life	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 ±20% of the initial capacitance value
			tan δ						200% or less than the initial specified value
			Leakage current						Less than or equal to the initial specified value
Marking	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.								
	Printed with white color letter on black sleeve.								

**Radial Lead Type**



**Type numbering system (Example : USA : 10V 33µF)**



**Dimensions**

Cap.(µF)	V(Code) Type-Series Code	4 (0G)		6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
		USR	USA	USR	USA	USR	USA	USR	USA	USR	USA	USR	USA	USR	
0.1	0R1													4 × 7 1.0	4 × 7 1.0
0.22	R22													4 × 7 2.3	4 × 7 2.3
0.33	R33													4 × 7 3.5	4 × 7 3.5
0.47	R47													4 × 7 5.0	4 × 7 5.0
1	010													4 × 7 10	4 × 7 10
2.2	2R2													4 × 7 19	4 × 7 19
3.3	3R3													4 × 7 24	4 × 7 24
4.7	4R7													4 × 7 29	4 × 7 28
10	100							4 × 7 28	4 × 7 28	5 × 7 33	4 × 7 28	5 × 7 36	4 × 7 31	6.3 × 7 44	5 × 7 38
22	220		4 × 7 34	4 × 7 34	5 × 7 38	4 × 7 35	5 × 7 44	4 × 7 39	6.3 × 7 51	5 × 7 48	6.3 × 7 57	5 × 7 52	8 × 7 65	6.3 × 7 58	6.3 × 7 58
33	330	4 × 7 33	5 × 7 42	4 × 7 40	5 × 7 47	4 × 7 43	6.3 × 7 57	5 × 7 55	6.3 × 7 63	5 × 7 58	8 × 7 72	6.3 × 7 65	8 × 7 75	8 × 7 75	8 × 7 75
47	470	4 × 7 39	5 × 7 50	4 × 7 48	6.3 × 7 59	5 × 7 59	6.3 × 7 68	5 × 7 65	8 × 7 78	6.3 × 7 71	8 × 7 85	8 × 7 85			
100	101	5 × 7 65	6.3 × 7 77	5 × 7 78	8 × 7 96	6.3 × 7 87	8 × 7 107	6.3 × 7 98	8 × 7 115						
220	221	6.3 × 7 110	8 × 7 130	6.3 × 7 120	8 × 7 145			8 × 7 150							
330	331	8 × 7 165		8 × 7 180											
470	471	8 × 7 240													

**Frequency coefficient of rated ripple current**

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz or more
Coefficient	0.70	1.00	1.17	1.36	1.50

Rated ripple current (mArms) at 85°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.