

USA

7mmL, For General Purposes

USR

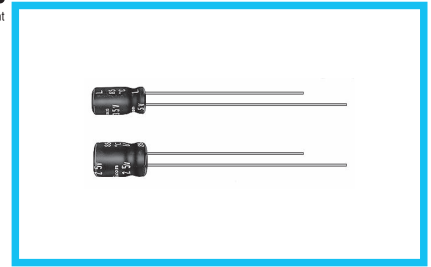
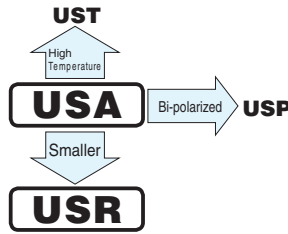
7mmL, High CV



Smaller (USR)
Anti-Solvent Feature

- Standard miniature series with 7mm height.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).

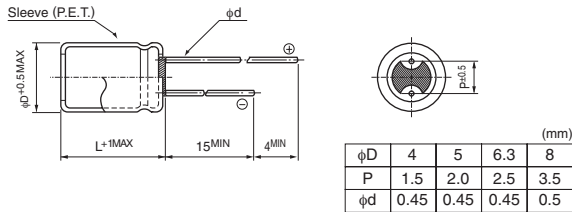
- Higher CV series with 7mm height.



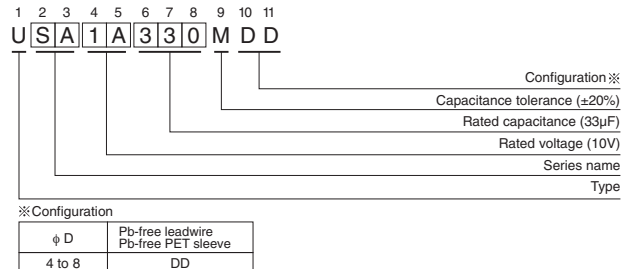
Specifications

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	1 to 220μF				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				
	tan δ (MAX.)	0.35	0.24	0.20	0.16	0.14	0.12	0.10				
Stability at Low Temperature	Measurement frequency : 120Hz											
	Rated voltage (V)	4	6.3	10	16	25	35	50				
	Impedance ratio	Z-25°C / Z+20°C	6	4	3	2	2	2				
	(MAX.)	Z-40°C / Z+20°C	12	8	6	4	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 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			
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 : USA : 10V 33μF)



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

• Dimension table in next page.

USA / USR

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 2 minutes)	Rated Ripple (mArms) (85°C/120Hz)	Part Number
4 (0G)	33	4×7	0.35	3	33	USR0G330MDD
	47	4×7	0.35	3	39	USR0G470MDD
	100	5×7	0.35	4	65	USR0G101MDD
	220	6.3×7	0.35	8.8	110	USR0G221MDD
	330	8×7	0.35	13.2	165	USR0G331MDD
	470	8×7	0.35	18.8	240	USR0G471MDD
6.3 (0J)	22	4×7	0.24	3	34	USA0J220MDD
	22	4×7	0.24	3	34	USR0J220MDD
	33	5×7	0.24	3	42	USA0J330MDD
	33	4×7	0.24	3	40	USR0J330MDD
	47	5×7	0.24	3	50	USA0J470MDD
	47	4×7	0.24	3	48	USR0J470MDD
	100	6.3×7	0.24	6.3	77	USA0J101MDD
	100	5×7	0.24	6.3	78	USR0J101MDD
	220	8×7	0.24	13.86	130	USA0J221MDD
	220	6.3×7	0.24	13.86	120	USR0J221MDD
10 (1A)	330	8×7	0.24	20.79	180	USR0J331MDD
	22	5×7	0.20	3	38	USA1A220MDD
	22	4×7	0.20	3	35	USR1A220MDD
	33	5×7	0.20	3.3	47	USA1A330MDD
	33	4×7	0.20	3.3	43	USR1A330MDD
	47	6.3×7	0.20	4.7	59	USA1A470MDD
	47	5×7	0.20	4.7	59	USR1A470MDD
	100	8×7	0.20	10	96	USA1A101MDD
16 (1C)	100	6.3×7	0.20	10	87	USR1A101MDD
	220	8×7	0.20	22	145	USR1A221MDD
	10	4×7	0.16	3	28	USA1C100MDD
	10	4×7	0.16	3	28	USR1C100MDD
	22	5×7	0.16	3.52	44	USA1C220MDD
	22	4×7	0.16	3.52	39	USR1C220MDD
	33	6.3×7	0.16	5.28	57	USA1C330MDD
	33	5×7	0.16	5.28	55	USR1C330MDD
	47	6.3×7	0.16	7.52	68	USA1C470MDD
	47	5×7	0.16	7.52	65	USR1C470MDD
25 (1E)	100	8×7	0.16	16	107	USA1C101MDD
	100	6.3×7	0.16	16	98	USR1C101MDD
	220	8×7	0.16	35.2	150	USR1C221MDD
	10	5×7	0.14	3	33	USA1E100MDD
	10	4×7	0.14	3	28	USR1E100MDD
	22	6.3×7	0.14	5.5	51	USA1E220MDD
	22	5×7	0.14	5.5	48	USR1E220MDD
	33	6.3×7	0.14	8.25	63	USA1E330MDD
	33	5×7	0.14	8.25	58	USR1E330MDD
	47	8×7	0.14	11.75	78	USA1E470MDD
25 (1E)	47	6.3×7	0.14	11.75	71	USR1E470MDD
	100	8×7	0.14	25	115	USR1E101MDD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

USA / USR

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μ F)	Case Size ϕ D \times L (mm)	tan δ	Leakage Current (μ A) (at 20°C after 2 minutes)	Rated Ripple (mArms) (85°C/120Hz)	Part Number
35 (1V)	4.7	4 \times 7	0.12	3	24	USA1V4R7MDD
	4.7	4 \times 7	0.12	3	24	USR1V4R7MDD
	10	5 \times 7	0.12	3.5	36	USA1V100MDD
	10	4 \times 7	0.12	3.5	31	USR1V100MDD
	22	6.3 \times 7	0.12	7.7	57	USA1V220MDD
	22	5 \times 7	0.12	7.7	52	USR1V220MDD
	33	8 \times 7	0.12	11.55	72	USA1V330MDD
	33	6.3 \times 7	0.12	11.55	65	USR1V330MDD
	47	8 \times 7	0.12	16.45	85	USR1V470MDD
50 (1H)	1	4 \times 7	0.10	3	10	USA1H010MDD
	1	4 \times 7	0.10	3	10	USR1H010MDD
	2.2	4 \times 7	0.10	3	19	USA1H2R2MDD
	2.2	4 \times 7	0.10	3	19	USR1H2R2MDD
	3.3	4 \times 7	0.10	3	24	USA1H3R3MDD
	3.3	4 \times 7	0.10	3	24	USR1H3R3MDD
	4.7	5 \times 7	0.10	3	29	USA1H4R7MDD
	4.7	4 \times 7	0.10	3	28	USR1H4R7MDD
	10	6.3 \times 7	0.10	5	44	USA1H100MDD
	10	5 \times 7	0.10	5	38	USR1H100MDD
	22	8 \times 7	0.10	11	65	USA1H220MDD
	22	6.3 \times 7	0.10	11	58	USR1H220MDD
	33	8 \times 7	0.10	16.5	75	USR1H330MDD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
If there is no size code in the part number, please add size code "1" and then add the appropriate code.

Please refer to page 18, 19 about the formed or taped product spec.
Please refer to page 4 for the minimum order quantity.