Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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nichicon

USA 7mmL, For General Purposes

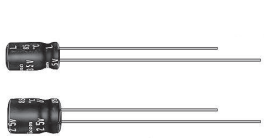
- Standard miniature series with 7mm height.
- Compliant to the RoHS directive (2011/65/EU).

USR 7mmL, High CV

- Higher CV series with 7mm height.

Smaller (USR) | Anti-Solvent Feature

UST
High Temperature
USA — Bi-polarized → USP
Smaller
USR



Values marked with an ※ in the dimension table are scheduled to be discontinued and are not recommended for new designs.

■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
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	2
ZT / Z20 (MAX.)	Z–40˚C / Z+20˚C	12	8	6	4	4	3	3

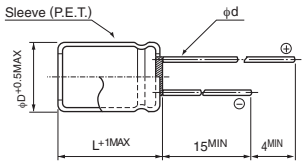
Endurance — The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.

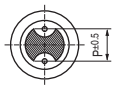
Capacitance change	Within ±20% of the initial capacitance value
tan δ	200% or less than the initial specified value
Leakage current	Less than or equal to the initial specified value

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





(mm)

φD	4	5	6.3	8
P	1.5	2.0	2.5	3.5
φd	0.45	0.45	0.45	0.5

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

1	2	3	4	5	6	7	8	9	10	11
U	S	A	1	A	3	3	0	M	D	D

Configuration※
Capacitance tolerance (±20%)
Rated capacitance (33 μF)
Rated voltage (10V)
Series name
Type

※Configuration

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

■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 24	4 × 7 24	5 × 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
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
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		
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											Case size φD × L (mm) Rated ripple	

Rated ripple current (mArms) at 85˚C 120Hz

● 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

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