nichicon

USA 7mmL, For General Purposes

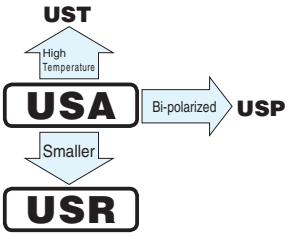
USR 7mmL, High CV

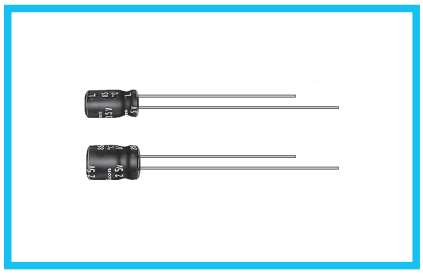
Smaller (USR)

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

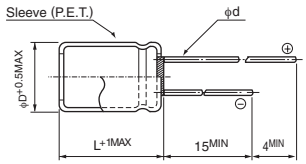
Rated voltage (V)		4	6.3	10	16	25	35	50
Impedance ratio (MAX.)	Z–25˚C / Z+20˚C	6	4	3	2	2	2	2
	Z–40˚C / Z+20˚C	12	8	6	4	4	3	3

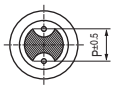
Endurance — The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.

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 (33μF)
- Rated voltage (10V)
- Series name
- Type

※Configuration

φD	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
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.