

## UJ Series 105°C



### Features

#### Standard capacitors

#### Applications

- ◆ Professional power supplies
- ◆ Frequency converters
- ◆ Uninterruptible power supplies
- ◆ Used for air conditioner, general-purpose inverter

#### Features

- ◆ High reliability
- ◆ Long useful life
- ◆ High ripple current capability
- ◆ Aluminum case designed explosion-proof vent
- ◆ RoHS-compatible

#### Construction

- ◆ Charge-discharge proof, polar
- ◆ Aluminum case with insulating sleeve
- ◆ Aluminum case designed explosion-proof vent
- ◆ Snap-in solder pins to hold component in place on PC-board

### Specifications

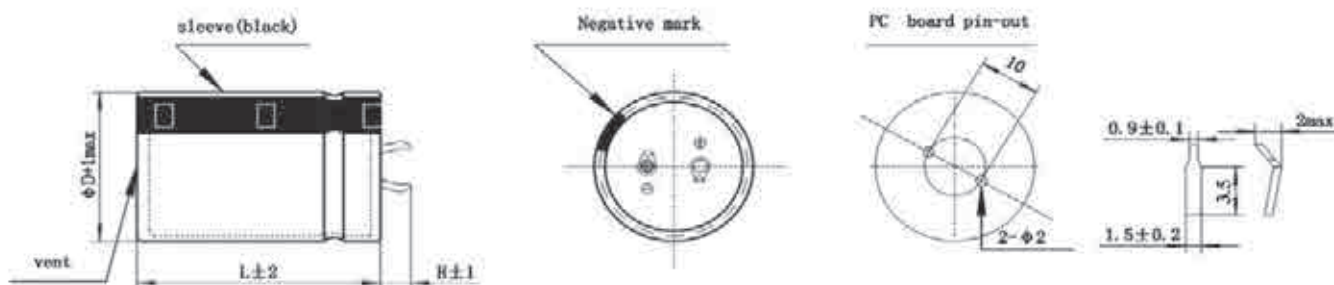
Item	Performance Characteristics			
Operating Temperature Range	-40 to +105°C	-25 to +105°C		
Rated voltage $V_R$	200 to 450 V DC	500 to 550 V DC		
Surge voltage $V_S$	$V_R \leq 315V$ 1.15 $V_R$ $V_R > 315V$ 1.10 $V_R$			
Rated capacitance $C_R$	82 ~ 3300 $\mu F$	47 ~ 1000 $\mu F$		
Capacitance tolerance	$\pm 20\%$ (120Hz, +20°C)			
Leakage Current $I_{leak}$ (+20°C, max.)	$I \leq 3 \sqrt{CV}$ ( $\mu A$ ) After 5 minutes with rated working voltage applied			
Dissipation Factor ( $\tan \delta$ , at 20°C, 120Hz)	Less than the value under table(%)			
	W.V.(V)	160~420    450~550		
	D.F.(%) max	15    20		
Self-inductance ESL	approx. 20 nH			
Useful life 105°C; $V_R, I_{AC,R}$	>5000 h	Requirements:		
		$\Delta C/C$ $\leq \pm 20\%$ of initial value $\tan \delta$ $\leq 2$ times initial specified limit $I_{leak}$ $\leq$ initial specified limit		
Voltage Endurance test 105°C; $V_R$	2000 h	Post test requirements:		
		$\Delta C/C$ $\leq \pm 10\%$ of initial value $\tan \delta$ $\leq 1.3$ times initial specified limit $I_{leak}$ $\leq$ initial specified limit		
Shelf Life 105°C	1000 h	Post test requirements:		
		$\Delta C/C$ $\leq \pm 10\%$ of initial value $\tan \delta$ $\leq 1.3$ times initial specified limit $I_{leak}$ $\leq$ initial specified limit		
Vibration Resistance test	To IEC 60068-2-6, test Fc:			
	Displacement amplitude 0.75 mm, frequency range 10 ... 55 Hz, acceleration max. 10 g, duration 3x2 h. Capacitor mounted by its body which is rigidly clamped to the work surface.			
Characteristics at low temperature	Max. impedance ratio at 120 Hz			
	$V_R(V)$	200-250 V	315-450 V	500~550 V
	$Z_{-25^\circ C} / Z_{20^\circ C}$	4	5	6
	$Z_{-40^\circ C} / Z_{20^\circ C}$	7	10	-
Sectional specification	IEC 60384-4 and JIS-C-5101			

### Multiplier for Ripple Current vs. Frequency

$V_R(V)/$ Frequency(Hz)	50(60)	120	300	1K	10K	50K-100K
$160 \leq V_R \leq 250$	0.81	1	1.17	1.32	1.45	1.5
$315 \leq V_R \leq 600$	0.77	1	1.16	1.30	1.41	1.43

## Dimensional drawings

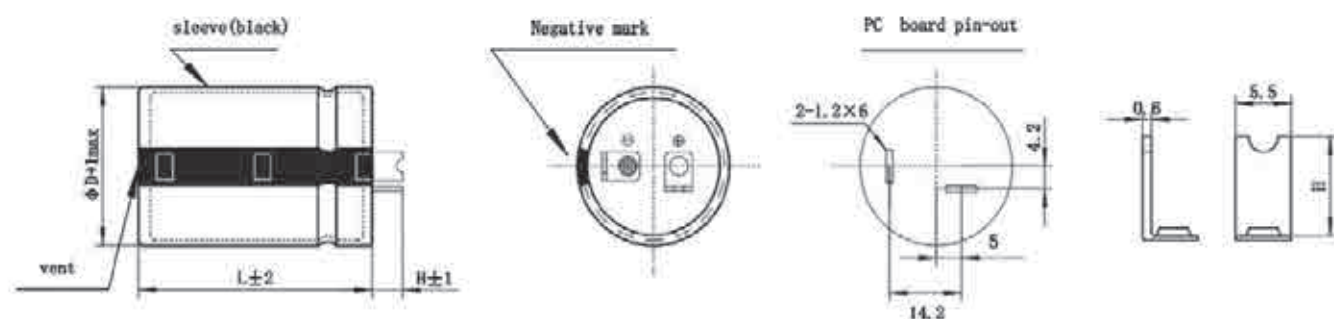
### 1. Standard 2 terminals



Standard snap-in terminals: length  $(6.0 \pm 1)$  mm  
 Also available with length of  $(4.0 \pm 1)$  mm

H	h
6	2.5
4	1.5

### 2. Vibration proof terminal T type



Standard terminals: Length  $4.5 \pm 1$  mm. Also available with length of  $5.5 \pm 1$  mm

## Packing

Capacitor diameter D(mm)	Length L(mm)	Terminal length H(mm)	Each carton packing Qty units(pcs.)	Box/carton units(pcs.)	Each box packing Qty units(pcs.)
20	all	/	720	6	120
22	< 55	/	600	6	100
22	≥ 55	/	400	4	100
25	< 65	/	500	5	100
25	≥ 65	/	400	4	100
30	≤ 36	< 6 (L=35、36)	400	8	50
30	35 ≤ L ≤ 65	≥ 6 (L=35、36)	300	6	50
30	> 65	/	200	4	50
35	≤ 25	/	400	8	50
35	25 < L < 45	/	300	6	50
35	45 ≤ L ≤ 85	/	200	4	50
35	> 85	/	100	2	50
40	35	< 6	200	5	40
40	35	≥ 6	160	4	40
40	40 ≤ L ≤ 45	/	160	4	40
40	45 < L ≤ 75	/	120	3	40
40	> 75	/	80	2	40
45	40 ≤ L ≤ 65	/	140	4	35
45	65 < L ≤ 100	/	70	2	35

## Packing of snap-in



## Case Size

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/105°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
200	330	22x25	1.13	330	600
200	390	22x25	1.21	280	510
200	390	22x30	1.25	280	510
200	390	25x25	1.31	280	510
200	470	22x30	1.40	230	420
200	470	25x25	1.40	230	420
200	470	25x30	1.52	230	420
200	560	22x35	1.61	200	360
200	560	25x30	1.61	200	360
200	560	30x25	1.62	200	360
200	680	22x40	1.86	160	290
200	680	25x30	1.69	160	290
200	680	30x25	1.98	160	290
200	820	22x45	2.14	130	240
200	820	25x35	2.14	130	240
200	820	30x30	2.29	130	240
200	1000	22x50	2.48	110	200
200	1000	25x40	2.48	110	200
200	1000	30x30	2.52	110	200
200	1000	35x25	2.44	110	200
200	1200	25x45	2.89	94	170
200	1200	30x35	2.89	94	170
200	1200	35x30	3.03	94	170
200	1500	25x55	3.52	72	130
200	1500	30x40	3.59	72	130
200	1500	35x35	3.52	72	130
200	1800	30x45	4.09	61	110
200	1800	35x35	3.77	61	110
200	2200	30x55	4.82	50	90
200	2200	35x45	4.82	50	90
200	2700	35x50	5.16	41	74
200	3300	35x55	5.85	33	60
250	220	22x25	0.91	500	900
250	270	22x25	1.03	410	740
250	330	22x30	1.20	330	600
250	390	22x35	1.37	280	510
250	390	25x25	1.26	280	510
250	470	22x35	1.53	230	420
250	470	25x30	1.53	230	420

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/105°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
250	470	30x25	1.69	230	420
250	560	22x40	1.76	200	360
250	560	25x35	1.68	200	360
250	680	22x45	2.04	160	290
250	680	25x40	2.13	160	290
250	680	30x30	2.13	160	290
250	680	35x25	2.12	160	290
250	820	25x45	2.23	130	240
250	820	30x35	2.45	130	240
250	820	35x30	2.62	130	240
250	1000	25x50	2.57	110	200
250	1000	30x40	2.85	110	200
250	1000	35x30	2.77	110	200
250	1200	30x45	3.42	94	170
250	1200	35x35	3.26	94	170
250	1500	30x50	3.72	72	130
250	1500	35x40	3.78	72	130
250	1800	35x45	4.09	61	110
250	2200	35x55	5.04	50	90
350	100	22x25	0.59	1110	1990
350	120	22x30	0.69	920	1660
350	120	25x25	0.69	920	1660
350	150	22x35	0.80	740	1330
350	180	25x30	0.85	620	1110
350	180	30x25	0.89	620	1110
350	220	22x40	0.99	500	900
350	220	25x40	1.10	500	900
350	220	30x30	1.08	500	900
350	220	35x25	1.08	500	900
350	270	25x45	1.28	410	740
350	270	30x35	1.25	410	740
350	270	35x25	1.25	410	740
350	330	25x50	1.55	330	600
350	330	30x35	1.46	330	600
350	330	35x30	1.46	330	600
350	390	35x40	1.92	280	510
350	470	35x45	2.17	230	420
350	560	35x45	2.41	200	360
350	560	40x40	2.46	200	360

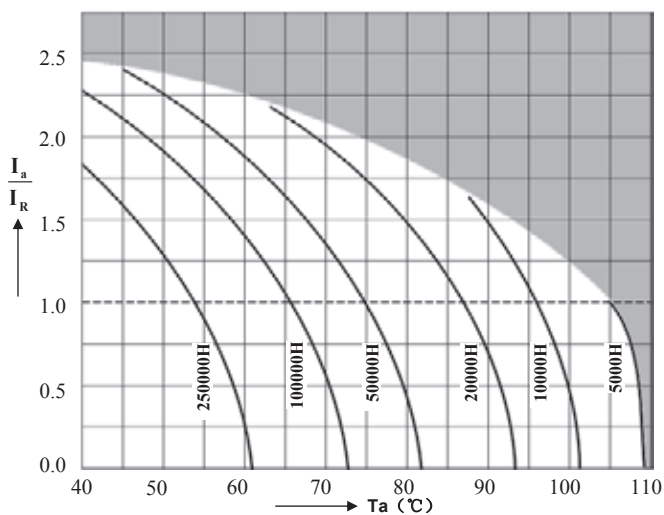
VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/105°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
350	680	35x55	2.79	160	290
350	680	40x45	2.79	160	290
350	820	35x60	3.21	130	240
350	820	40x50	3.15	130	240
350	820	45x40	3.11	130	240
350	1000	35x60	3.23	110	200
350	1000	40x50	3.26	110	200
350	1200	40x55	3.68	94	170
350	1500	40x65	4.56	72	130
350	1800	40x75	5.67	61	110
400	100	22x25	0.65	1110	1990
400	120	22x25	0.92	920	1660
400	150	22x30	1.08	740	1330
400	180	22x30	1.15	620	1110
400	180	25x25	1.12	620	1110
400	220	22x35	1.32	500	900
400	220	25x30	1.30	500	900
400	270	22x40	1.50	410	740
400	270	25x35	1.49	410	740
400	270	30x25	1.33	410	740
400	330	22x50	1.76	330	600
400	330	25x40	1.68	330	600
400	330	30x30	1.55	330	600
400	330	35x25	1.44	330	600
400	390	22x55	1.94	280	510
400	390	25x45	1.86	280	510
400	390	30x35	1.75	280	510
400	390	35x30	1.75	280	510
400	470	25x50	2.07	230	420
400	470	30x40	1.97	230	420
400	470	35x30	1.91	230	420
400	560	25x60	2.37	200	360
400	560	30x45	2.18	200	360
400	560	35x35	1.92	200	360
400	680	30x50	2.41	160	290
400	680	35x40	2.35	160	290
400	820	30x60	2.76	130	240
400	820	35x45	2.67	130	240
400	1000	35x55	3.16	110	200
400	1000	40x50	3.24	110	200
400	1200	35x60	3.56	94	170
400	1200	40x55	3.64	94	170
400	1500	45x70	4.68	72	130
400	1800	45x80	5.29	61	110
450	82	22x25	0.59	1790	3230
450	100	22x30	0.69	1470	2650
450	100	25x25	0.69	1470	2650
450	120	22x35	0.72	1230	2210
450	150	22x35	0.92	980	1770
450	150	25x30	0.91	980	1770
450	150	30x25	0.97	980	1770
450	180	22x40	1.28	820	1470
450	180	25x30	1.20	820	1470
450	180	30x25	1.18	820	1470
450	220	22x45	1.44	670	1210
450	220	25x35	1.37	670	1210
450	220	30x30	1.36	670	1210
450	330	22x60	1.86	440	800
450	330	25x50	1.82	440	800
450	330	30x35	1.64	440	800

VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/105°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
450	330	35x30	1.64	440	800
450	390	25x55	2.01	380	680
450	390	30x40	1.83	380	680
450	390	35x35	1.83	380	680
450	470	25x60	2.21	310	560
450	470	30x45	2.05	310	560
450	470	35x40	2.05	310	560
450	560	30x50	2.26	260	470
450	560	35x45	2.18	260	470
450	680	30x60	2.59	220	390
450	680	35x50	2.58	220	390
450	820	35x60	2.80	180	320
450	820	40x50	2.80	180	320
450	1000	35x65	3.21	150	270
450	1000	40x55	3.21	150	270
450	1200	40x70	3.54	120	220
500	56	22x25	0.63	2630	4740
500	82	22x35	0.82	1790	3230
500	82	25x25	0.78	1790	3230
500	120	22x45	1.05	1230	2210
500	120	25x35	1.02	1230	2210
500	120	30x25	0.97	1230	2210
500	150	22x50	1.20	980	1770
500	150	25x40	1.17	980	1770
500	150	30x30	1.13	980	1770
500	150	35x25	1.09	980	1770
500	180	22x60	1.37	820	1470
500	180	25x45	1.31	820	1470
500	180	30x35	1.28	820	1470
500	180	35x30	1.26	820	1470
500	220	25x50	1.46	670	1210
500	220	30x40	1.45	670	1210
500	220	35x35	1.44	670	1210
500	270	25x60	1.70	540	980
500	270	30x45	1.63	540	980
500	270	35x35	1.63	540	980
500	330	30x50	1.81	440	800
500	330	35x40	1.71	440	800
500	390	30x60	2.06	380	680
500	390	35x50	2.06	380	680
500	470	35x55	2.19	310	560
500	560	35x60	2.65	260	470
500	680	40x60	3.00	220	390
500	820	40x70	4.00	180	320
500	1000	40x80	4.68	150	270
550	47	25x25	0.47	3130	5640
550	56	25x30	0.54	2630	4740
550	68	25x35	0.62	2170	3900
550	68	30x25	0.65	2170	3900
550	82	25x35	0.69	1790	3230
550	82	30x30	0.73	1790	3230
550	100	25x40	0.80	1470	2650
550	100	30x35	0.84	1470	2650
550	100	35x25	0.87	1470	2650
550	120	25x50	0.92	1230	2210
550	120	30x35	0.94	1230	2210
550	120	35x30	1.04	1230	2210
550	150	25x55	1.09	980	1770
550	150	30x45	1.17	980	1770
550	150	35x35	1.21	980	1770

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/105°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
550	180	30x50	1.33	820	1470
550	180	35x35	1.29	820	1470
550	180	35x40	1.36	820	1470
550	220	30x55	1.54	670	1210
550	220	35x35	1.40	670	1210
550	220	35x45	1.56	670	1210

WV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/105°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
550	270	35x40	1.63	540	980
550	270	35x50	1.79	540	980
550	330	35x50	1.66	440	800
550	390	35x55	1.85	380	680
550	470	35x60	2.10	310	560

## Useful life



depending on ambient temperature  $T_a$  versus under ripple current operating conditions