

## UC Series 85°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

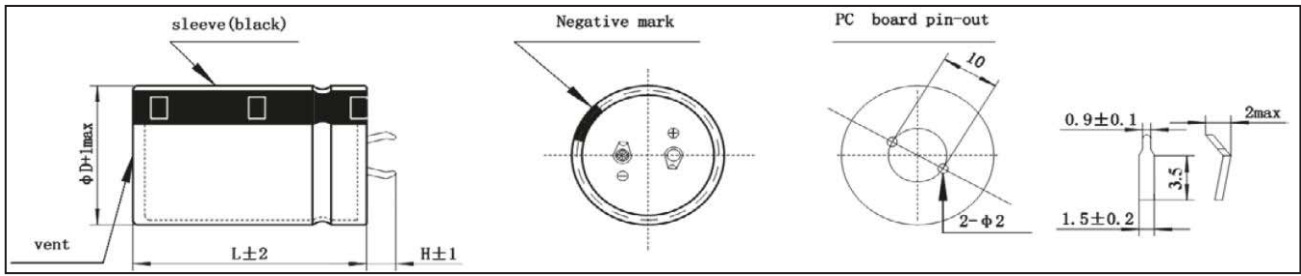
Item	Performance Characteristics				
Operating Temperature Range	-40 to +85°C	-25 to +85°C			
Rated voltage VR	200 to 450 V DC	≥500V DC			
Surge voltage VS	$V_R \leq 315V \quad 1.15 V_R \quad V_R > 315V \quad 1.10 V_R$				
Rated capacitance CR	56 ~ 6800 μF				
Capacitance tolerance	±20%(120Hz, +20°C)				
Dissipation Factor tanδ(at 20°C, 120Hz)	Less than the value under table(%)				
	W.V.(V)	200~420      450~630			
	D.F.(%) max	15                  20			
Leakage Current I <sub>leak</sub> (+20°C, max)	$I \leq 3\sqrt{CV} (\mu A)$ After 5minutes with rated working voltage applied				
Self-inductance ESL	approx. 20 nH				
Useful life 85 °C; VR, IAC, R	> 7000 h	Requirements: Δ C/C ≤ ±20% of initial value ESR ≤ 2 times initial specified limit I <sub>leak</sub> ≤ initial specified limit Failure rate : ≤ 1%/1000 hour			
		Post test requirements: Δ C/C ≤ ±10% of initial value ESR ≤ 1.3 times initial specified limit I <sub>leak</sub> ≤ initial specified limit			
Voltage Endurance test 85 °C; VR	3000 h	Requirements: Δ C/C ≤ ±20% of initial value ESR ≤ 2 times initial specified limit I <sub>leak</sub> ≤ initial specified limit			
		Post test requirements: Δ C/C ≤ ±10% of initial value ESR ≤ 1.3 times initial specified limit I <sub>leak</sub> ≤ initial specified limit			
Shelf Life 85 °C	1000 h	Requirements: Δ C/C ≤ ±20% of initial value ESR ≤ 2 times initial specified limit I <sub>leak</sub> ≤ initial specified limit			
		Post test requirements: Δ C/C ≤ ±10% of initial value ESR ≤ 1.3 times initial specified limit I <sub>leak</sub> ≤ 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				
	VR	200~250 V	315~ 450 V	500 V	550~ 630 V
	Z-25°C/	4	8	8	12
Z-40°C/	7	10	-	-	
Sectional specification	IEC 60384-4 and JIS-C-5101				

### Multiplier for Ripple Current vs. Frequency

VR(V)/Frequency(Hz)	50(60)	120	300	1K	10K	50K-100K
$10 \leq V_R \leq 100$	0.88	1	1.07	1.15	1.15	1.15
$160 \leq V_R \leq 250$	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

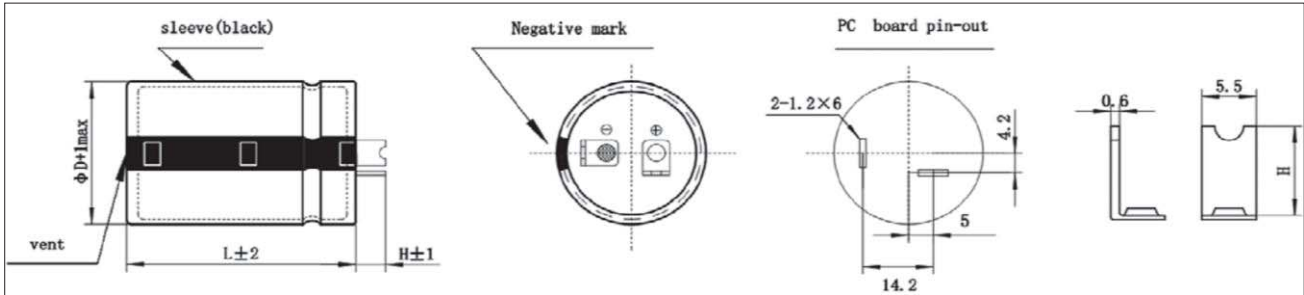
## Dimensional drawings

### 1. Standard 2 terminals



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

### 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/85°C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MA× ESR 20°C 120Hz mΩ
200	220	22×25	1.16	510	900
200	270	22×25	1.31	420	740
200	330	22×25	1.41	340	600
200	390	22×25	1.43	290	510
200	470	22×30	1.69	240	420
200	470	25×25	1.69	240	420
200	560	22×35	2.06	210	360
200	560	25×30	2.06	210	360
200	560	30×25	2.06	210	360
200	680	22×40	2.26	170	290
200	680	25×30	2.15	170	290
200	680	30×25	2.23	170	290
200	820	22×45	2.62	140	240
200	820	25×35	2.62	140	240
200	820	30×30	2.63	140	240
200	820	35×25	2.69	140	240
200	1000	22×50	2.7	110	200
200	1000	25×40	2.64	110	200
200	1000	30×30	2.63	110	200
200	1000	35×25	2.69	110	200
200	1200	25×45	2.9	97	170
200	1200	30×35	2.9	97	170
200	1200	35×30	3	97	170
200	1500	25×55	3.45	74	130
200	1500	30×45	3.47	74	130
200	1500	35×35	3.45	74	130
200	1800	30×50	4	63	110
200	1800	35×40	4	63	110
200	2200	30×60	4.6	52	90
200	2200	35×45	4.43	52	90
200	2200	40×40	4.52	52	90
200	2700	35×55	5	42	74
200	2700	40×50	5.24	42	74
200	3300	35×65	5.85	34	60
200	3300	40×60	5.91	34	60
200	3900	35×80	6.32	29	51
200	3900	40×60	6	29	51
200	4700	40×70	6.81	24	42
200	5600	40×80	7.45	20	36
200	6800	40×100	8.68	17	29
250	180	22×25	1.01	630	1110
250	220	22×25	1.26	510	900
250	270	22×25	1.41	420	740
250	330	22×30	1.59	340	600
250	330	25×25	1.54	340	600
250	390	22×30	1.6	290	510
250	390	25×25	1.58	290	510
250	470	22×35	1.74	240	420
250	470	25×30	1.74	240	420
250	470	30×25	1.81	240	420
250	560	22×45	2.13	210	360
250	560	25×35	2.05	210	360
250	560	30×25	2.02	210	360
250	680	22×50	2.5	170	290
250	680	25×45	2.55	170	290
250	680	30×30	2.4	170	290
250	820	25×50	2.93	140	240
250	820	30×35	2.8	140	240
250	820	35×30	2.9	140	240
250	1000	25×55	3.07	110	200

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MA× ESR 20°C 120Hz mΩ
250	1000	30×45	3.12	110	200
250	1000	35×35	3.07	110	200
250	1200	25×60	3.35	97	170
250	1200	30×50	3.41	97	170
250	1200	35×35	3.21	97	170
250	1500	30×60	4.1	74	130
250	1500	35×45	3.95	74	130
250	1500	40×40	4.05	74	130
250	1800	30×65	4.3	63	110
250	1800	35×50	4.2	63	110
250	1800	40×45	4.3	63	110
250	2200	35×60	4.95	52	90
250	2200	40×50	4.95	52	90
250	2700	35×80	6.1	42	74
250	2700	40×70	6.1	42	74
250	3300	35×80	6.52	34	60
250	3300	40×70	6.61	34	60
250	3900	40×80	7.5	29	51
250	4700	40×100	8.91	24	42
350	82	22×20	0.65	1390	2430
350	100	22×25	0.78	1140	1990
350	100	25×20	0.75	1140	1990
350	120	22×25	1	950	1660
350	120	25×20	0.98	950	1660
350	150	22×30	1.26	760	1330
350	150	25×25	1.26	760	1330
350	180	22×35	1.3	630	1110
350	180	25×30	1.32	630	1110
350	180	30×25	1.38	630	1110
350	220	22×40	1.41	510	900
350	220	25×30	1.48	510	900
350	220	30×25	1.48	510	900
350	270	22×45	1.63	420	740
350	270	25×35	1.66	420	740
350	270	30×30	1.71	420	740
350	270	35×25	1.72	420	740
350	330	22×50	1.9	340	600
350	330	25×40	1.85	340	600
350	330	30×30	1.75	340	600
350	330	35×25	1.78	340	600
350	390	25×45	2.1	290	510
350	390	30×35	2.15	290	510
350	390	35×30	2.2	290	510
350	470	30×40	2.52	240	420
350	470	35×30	2.36	240	420
350	560	30×45	2.63	210	360
350	560	35×35	2.63	210	360
350	680	35×40	2.8	170	290
350	820	35×45	3.36	140	240
350	1000	35×60	4.6	110	200
350	1000	40×50	4.48	110	200
350	1200	35×60	4.65	97	170
350	1200	40×50	4.65	97	170
350	1500	35×80	6.1	74	130
350	1500	40×70	6.1	74	130
350	1500	45×60	6.15	74	130
350	1800	40×80	7	63	110
350	1800	45×70	7	63	110
350	2200	45×80	8.07	52	90
350	2700	45×100	9.48	42	74

## Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MA× ESR 20°C 120Hz mΩ
400	68	22×20	0.67	1670	2930
400	82	22×25	0.81	1390	2430
400	100	22×25	0.82	1140	1990
400	100	25×20	0.8	1140	1990
400	120	22×25	1.01	950	1660
400	120	25×20	1.01	950	1660
400	150	22×25	1.4	760	1330
400	150	22×30	1.48	760	1330
400	150	25×25	1.48	760	1330
400	180	22×30	1.58	630	1110
400	180	22×35	1.65	630	1110
400	180	25×30	1.63	630	1110
400	180	30×25	1.65	630	1110
400	220	22×30	1.74	510	900
400	220	22×35	1.82	510	900
400	220	25×25	1.78	510	900
400	220	25×30	1.8	510	900
400	220	30×25	1.8	510	900
400	270	22×35	1.99	420	740
400	270	22×40	2.06	420	740
400	270	25×30	2.06	420	740
400	270	25×35	2.16	420	740
400	270	30×25	2.06	420	740
400	270	30×30	2.1	420	740
400	330	22×45	2.32	340	600
400	330	22×50	2.4	340	600
400	330	25×35	2.23	340	600
400	330	25×40	2.32	340	600
400	330	30×30	2.23	340	600
400	330	30×35	2.27	340	600
400	330	30×40	2.32	340	600
400	330	35×25	2.23	340	600
400	330	35×35	2.32	340	600
400	390	22×50	2.64	290	510
400	390	25×40	2.5	290	510
400	390	30×30	2.3	290	510
400	390	30×35	2.41	290	510
400	390	30×40	2.64	290	510
400	390	35×25	2.3	290	510
400	390	35×30	2.41	290	510
400	390	35×35	2.64	290	510
400	470	25×45	2.81	240	420
400	470	25×55	2.95	240	420
400	470	30×35	2.61	240	420
400	470	30×40	2.7	240	420
400	470	30×50	2.86	240	420
400	470	35×30	2.61	240	420
400	470	35×40	2.81	240	420
400	470	35×45	2.86	240	420
400	560	25×55	3.24	210	360
400	560	30×40	3.1	210	360
400	560	30×45	3.21	210	360
400	560	30×55	3.36	210	360
400	560	35×35	3.1	210	360
400	560	35×45	3.36	210	360
400	680	30×50	3.4	170	290
400	680	30×55	3.55	170	290
400	680	35×40	3.4	170	290
400	680	35×50	3.55	170	290
400	820	30×55	3.74	140	240

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MA× ESR 20°C 120Hz mΩ
400	820	30×60	3.85	140	240
400	820	35×45	3.45	140	240
400	820	35×50	3.74	140	240
400	820	35×55	3.85	140	240
400	1000	35×55	4.6	110	200
400	1000	35×70	4.76	110	200
400	1000	40×45	4.48	110	200
400	1000	40×60	4.76	110	200
400	1000	45×40	4.48	110	200
400	1200	35×55	4.6	97	170
400	1200	35×60	4.77	97	170
400	1200	35×65	4.9	97	170
400	1200	40×60	4.95	97	170
400	1200	45×50	5.2	97	170
400	1500	35×80	6.2	74	130
400	1500	40×70	6.2	74	130
400	1500	45×60	6.2	74	130
400	1800	40×80	7.1	63	110
400	1800	45×70	7.1	63	110
400	2200	45×85	8.25	52	90
450	68	22×20	0.68	2230	3900
450	82	22×25	0.82	1850	3230
450	100	22×25	0.84	1510	2650
450	120	22×25	1.3	1260	2210
450	120	22×30	1.36	1260	2210
450	120	25×25	1.4	1260	2210
450	150	22×30	1.53	1010	1770
450	150	22×35	1.59	1010	1770
450	150	25×30	1.59	1010	1770
450	150	30×25	1.55	1010	1770
450	180	22×35	1.65	840	1470
450	180	22×40	1.71	840	1470
450	180	25×35	1.71	840	1470
450	180	30×25	1.69	840	1470
450	220	22×35	1.79	690	1210
450	220	22×40	1.88	690	1210
450	220	25×30	1.85	690	1210
450	220	30×30	1.9	690	1210
450	270	22×40	2.15	560	980
450	270	22×45	2.22	560	980
450	270	25×35	2.12	560	980
450	270	30×30	2.12	560	980
450	330	22×50	2.41	460	800
450	330	22×55	2.46	460	800
450	330	25×40	2.41	460	800
450	330	25×45	2.44	460	800
450	330	30×30	2.22	460	800
450	330	30×35	2.41	460	800
450	330	35×25	2.11	460	800
450	390	25×50	2.65	390	680
450	390	30×35	2.51	390	680
450	390	30×40	2.65	390	680
450	390	35×30	2.39	390	680
450	470	25×55	3.09	320	560
450	470	30×40	2.82	320	560
450	470	30×45	3.09	320	560
450	470	35×35	2.82	320	560
450	470	35×40	3.09	320	560
450	470	35×45	3.2	320	560
450	560	25×60	3.4	270	470

## Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MA× ESR 20°C 120Hz mΩ
450	560	30×50	3.17	270	470
450	560	30×55	3.23	270	470
450	560	35×35	2.82	270	470
450	560	35×40	3.17	270	470
450	680	30×55	3.5	220	390
450	680	35×45	3.4	220	390
450	680	35×50	3.5	220	390
450	680	40×40	3.4	220	390
450	820	35×50	3.6	180	320
450	820	35×55	3.86	180	320
450	820	40×50	4.1	180	320
450	820	45×45	4.1	180	320
450	1000	35×55	4.6	150	270
450	1000	35×60	4.71	150	270
450	1000	40×55	4.71	150	270
450	1000	45×50	4.71	150	270
450	1200	35×80	5.52	130	220
450	1200	40×65	5.43	130	220
450	1200	45×55	5.2	130	220
450	1500	45×70	6.28	100	180
450	1800	45×80	7.1	86	150
450	2200	45×90	8.5	69	120
500	56	22×25	0.6	2710	4740
500	68	22×25	0.64	2230	3900
500	68	25×20	0.63	2230	3900
500	82	22×30	0.76	1850	3230
500	82	25×25	0.76	1850	3230
500	100	22×35	0.87	1510	2650
500	100	25×30	0.87	1510	2650
500	100	30×20	0.85	1510	2650
500	120	22×40	1.05	1260	2210
500	120	25×30	1.05	1260	2210
500	120	30×25	1.05	1260	2210
500	150	22×45	1.2	1010	1770
500	150	25×35	1.2	1010	1770
500	150	30×30	1.2	1010	1770
500	150	35×25	1.2	1010	1770
500	180	22×50	1.35	840	1470
500	180	25×40	1.31	840	1470
500	180	30×30	1.3	840	1470
500	180	35×25	1.23	840	1470
500	220	30×35	1.52	690	1210
500	220	35×30	1.55	690	1210
500	270	30×40	1.78	560	980
500	270	35×35	1.83	560	980
500	330	30×50	2.16	460	800
500	330	35×35	2.04	460	800
500	390	35×45	2.45	390	680
500	390	35×50	2.58	390	680
500	470	35×50	2.8	320	560
500	470	35×55	2.92	320	560
500	560	35×60	3.37	270	470
500	560	40×50	3.32	270	470
500	680	35×70	3.92	220	390
500	680	40×55	3.83	220	390
500	680	40×60	3.92	220	390
500	820	35×80	4.57	180	320
500	820	40×60	4.35	180	320
500	1000	40×80	5.45	150	270
500	1500	40×100	6.58	100	180

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/85°C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MA× ESR 20°C 120Hz mΩ
575	180	30×45	1.16	840	1470
575	220	30×50	1.31	690	1210
575	270	30×60	1.65	560	980
575	270	35×45	1.65	560	980
575	330	30×70	1.76	460	800
575	330	35×50	1.76	460	800
575	330	40×45	1.76	460	800
575	390	30×85	2	390	680
575	390	35×60	2	390	680
575	390	40×55	2	390	680
575	470	35×70	2.25	320	560
575	470	40×60	2.25	320	560
575	470	45×50	2.25	320	560
575	560	35×80	2.5	270	470
575	560	40×70	2.5	270	470
575	560	45×55	2.5	270	470
575	680	35×95	2.85	220	390
575	680	40×80	2.85	220	390
575	680	45×65	2.85	220	390
575	820	40×100	3.2	180	320
575	820	45×75	3.2	180	320
575	1000	45×90	3.36	150	270
575	1200	45×105	3.56	130	220
600	150	30×45	1.1	1010	1770
600	180	30×50	1.11	840	1470
600	220	30×60	1.24	690	1210
600	270	30×70	1.35	560	980
600	330	30×80	1.36	460	800
600	330	40×50	1.36	460	800
600	390	40×60	1.6	390	680
600	470	40×70	1.75	320	560
600	470	45×55	1.75	320	560
600	560	40×80	1.9	270	470
600	560	45×60	1.9	270	470
600	680	40×90	2	220	390
600	680	45×70	2	220	390
600	820	45×85	2.5	180	320
600	1000	45×100	2.9	150	270
630	150	30×45	1	1010	1770
630	180	30×50	1.02	840	1470
630	220	30×60	1.11	690	1210
630	270	30×70	1.3	560	980
630	330	30×85	1.33	460	800
630	330	40×50	1.33	460	800
630	470	40×70	1.7	320	560
630	470	45×55	1.7	320	560
630	560	40×80	1.8	270	470
630	560	45×65	1.8	270	470
630	680	40×95	1.95	220	390
630	680	45×75	1.95	220	390
630	820	45×90	2.3	180	320
630	1000	45×105	2.3	150	270

Useful life

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

