

UK 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

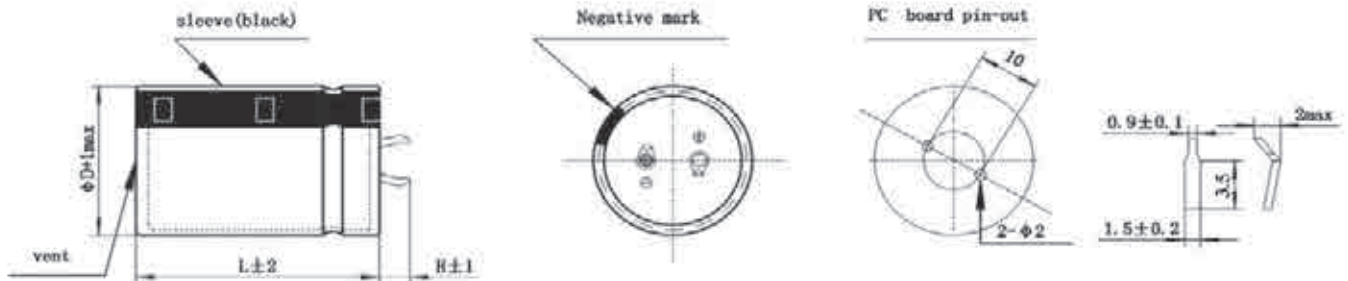
Item	Performance Characteristics			
Operating Temperature Range	-40 to +105°C	-25 to +105°C		
Rated voltage V_R	200 to 450 V DC	500 to 550 V DC		
Surge voltage V_S	$V_R \leq 315V$ 1.15 V_R $V_R > 315V$ 1.10 V_R			
Rated capacitance C_R	68 ~ 2200 μF	47 ~ 680 μF		
Capacitance tolerance	$\pm 20\%$ (120Hz, +20°C)			
Leakage Current I_{leak} (+20°C, max.)	$I \leq 3 \sqrt{CV}$ (μA) After 5 minutes with rated working voltage applied			
Dissipation Factor (tan δ , 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; $V_R, I_{AC, R}$	>8000 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	3000 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 ~550V
	$Z_{-25^\circ C} / Z_{20^\circ C}$	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

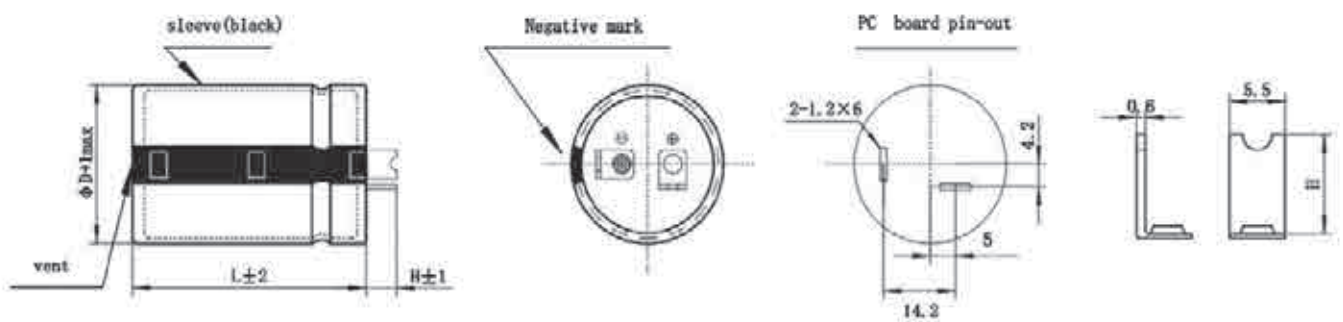
1. Standard 2 terminals



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

H	h
6	2.5
4	1.5

2. Vibration proof terminal T type



Standard terminals: Length 4.5 ± 1 mm. Also available with length of 5.5 ± 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	1.38	320	600
200	390	22x25	1.45	280	510
200	470	22x30	1.68	230	420
200	470	25x25	1.68	230	420
200	560	22x35	1.81	190	360
200	560	25x30	1.78	190	360
200	560	30x25	1.96	190	360
200	680	22x40	2.15	160	290
200	680	25x35	2.06	160	290
200	680	30x25	2.17	160	290
200	820	22x45	2.42	130	240
200	820	25x35	2.22	130	240
200	820	30x25	2.34	130	240
200	1000	25x45	2.72	110	200
200	1000	30x30	2.91	110	200
200	1000	35x25	3.14	110	200
200	1200	25x50	2.87	92	170
200	1200	30x35	3.42	92	170
200	1200	35x30	3.38	92	170
200	1500	25x60	3.29	70	130
200	1500	30x45	4.12	70	130
200	1500	35x35	3.91	70	130
200	1800	30x50	4.33	59	110
200	1800	35x40	4.46	59	110
200	2200	30x60	4.75	49	90
200	2200	35x45	5.11	49	90
250	220	22x25	1.15	490	900
250	270	22x25	1.21	400	740
250	330	22x30	1.52	320	600
250	330	25x25	1.45	320	600
250	390	22x35	1.72	280	510
250	390	22x40	1.82	280	510
250	390	25x30	1.58	280	510
250	390	30x25	1.62	280	510
250	470	22x40	1.96	230	420
250	470	25x30	1.72	230	420
250	470	30x25	1.88	230	420
250	560	22x45	2.16	190	360
250	560	25x35	1.96	190	360
250	560	30x30	2.22	190	360

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	560	35x25	2.08	190	360
250	680	22x50	2.41	160	290
250	680	25x40	2.21	160	290
250	680	30x30	2.35	160	290
250	680	35x25	2.50	160	290
250	820	30x35	2.78	130	240
250	820	35x30	2.90	130	240
250	1000	30x40	3.30	110	200
250	1000	35x35	3.36	110	200
250	1200	30x50	3.85	92	170
250	1200	35x40	3.82	92	170
250	1500	30x55	4.33	70	130
250	1500	35x45	4.34	70	130
250	1800	35x50	4.70	59	110
250	2200	35x60	5.58	49	90
315	150	22x25	1.00	720	1330
315	180	22x30	1.15	600	1110
315	220	22x30	1.30	490	900
315	220	25x25	1.30	490	900
315	270	22x35	1.41	400	740
315	270	25x30	1.42	400	740
315	330	22x40	1.74	320	600
315	330	25x35	1.58	320	600
315	330	30x25	1.62	320	600
315	390	22x50	1.94	280	510
315	390	25x35	1.70	280	510
315	390	30x30	1.78	280	510
315	390	35x25	1.80	280	510
315	470	22x55	2.05	230	420
315	470	25x45	2.04	230	420
315	470	30x35	2.03	230	420
315	470	35x30	2.07	230	420
315	560	25x50	2.28	190	360
315	560	30x35	2.23	190	360
315	560	35x30	2.25	190	360
315	680	25x55	2.70	160	290
315	680	30x40	2.66	160	290
315	680	35x35	2.70	160	290
315	820	30x50	3.12	130	240
315	820	35x40	3.10	130	240

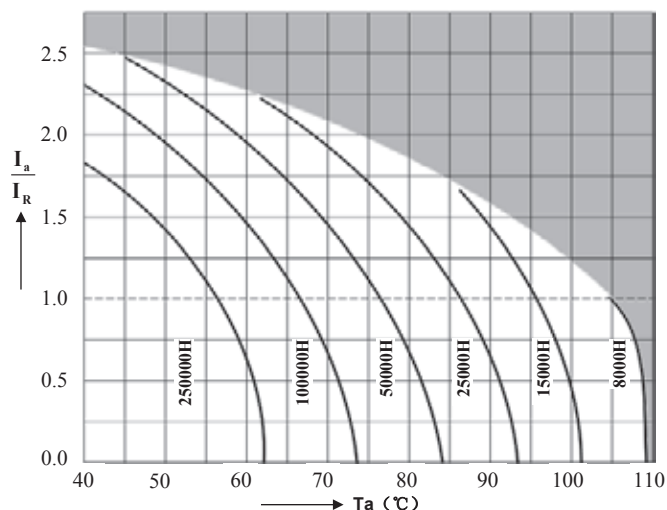
VV (Vdc)	Cap (uF)	Size (mm)	Rated Ripple current (Arms/105°C /120Hz)	Typ. ESR 20°C 120Hz (mΩ)	MAX ESR 20°C 120Hz (mΩ)
315	1000	30x55	3.64	110	200
315	1000	35x45	3.56	110	200
315	1200	35x50	4.05	92	170
315	1500	35x60	4.35	70	130
350	100	22x25	0.74	1080	1990
350	100	25x20	0.52	1080	1990
350	120	22x25	0.92	900	1660
350	150	22x30	1.06	720	1330
350	180	22x30	1.17	600	1110
350	180	25x25	1.17	600	1110
350	220	22x35	1.32	490	900
350	220	22x40	1.40	490	900
350	220	25x30	1.33	490	900
350	220	30x25	1.35	490	900
350	270	22x45	1.55	400	740
350	270	25x35	1.47	400	740
350	270	30x25	1.37	400	740
350	330	22x50	1.76	320	600
350	330	25x40	1.68	320	600
350	330	30x30	1.64	320	600
350	330	35x25	1.69	320	600
350	390	25x45	1.86	280	510
350	390	30x35	1.84	280	510
350	390	35x30	1.87	280	510
350	470	25x50	2.09	230	420
350	470	30x40	2.09	230	420
350	470	35x30	2.08	230	420
350	560	30x45	2.24	190	360
350	560	35x35	2.26	190	360
350	680	30x50	2.67	160	290
350	680	35x40	2.71	160	290
350	820	35x45	3.11	130	240
350	820	35x50	3.25	130	240
350	1000	35x55	3.58	110	200
350	1200	35x60	4.10	92	170
400	82	22x25	0.61	1310	2430
400	100	22x25	0.67	1080	1990
400	120	22x30	0.79	900	1660
400	120	25x25	0.79	900	1660
400	120	25x30	0.85	900	1660
400	150	22x35	0.95	720	1330
400	150	22x40	1.00	720	1330
400	150	25x25	0.89	720	1330
400	150	25x30	0.96	720	1330
400	150	30x25	0.99	720	1330
400	180	22x35	1.04	600	1110
400	180	22x40	1.10	600	1110
400	180	25x30	1.05	600	1110
400	180	25x35	1.12	600	1110
400	180	30x25	1.09	600	1110
400	180	30x30	1.17	600	1110
400	220	22x45	1.20	490	900
400	220	25x35	1.20	490	900
400	220	25x45	1.24	490	900
400	220	30x25	1.15	490	900
400	220	30x30	1.24	490	900
400	220	35x25	1.24	490	900
400	270	22x50	1.32	400	740
400	270	25x40	1.29	400	740
400	270	25x50	1.42	400	740
400	270	30x30	1.27	400	740
400	270	30x35	1.35	400	740

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)
400	270	35x25	1.30	400	740
400	270	35x30	1.39	400	740
400	330	25x45	1.50	320	600
400	330	25x50	1.57	320	600
400	330	30x35	1.50	320	600
400	330	30x40	1.58	320	600
400	330	35x30	1.54	320	600
400	330	35x35	1.64	320	600
400	390	25x50	1.70	280	510
400	390	30x40	1.72	280	510
400	390	30x45	1.80	280	510
400	390	35x30	1.70	280	510
400	390	35x35	1.78	280	510
400	470	30x45	1.98	230	420
400	470	30x50	2.07	230	420
400	470	35x35	1.98	230	420
400	470	35x40	2.07	230	420
400	470	35x45	2.16	230	420
400	560	30x50	2.26	190	360
400	560	35x40	2.26	190	360
400	560	35x45	2.36	190	360
400	680	30x50	2.49	160	290
400	680	35x45	2.60	160	290
400	680	35x50	2.72	160	290
400	820	35x55	3.11	130	240
400	820	35x60	3.23	130	240
400	1000	35x55	3.44	110	200
400	1000	35x60	3.57	110	200
400	1200	35x60	3.91	92	170
450	68	22x25	0.55	2110	3900
450	82	22x25	0.61	1750	3230
450	100	22x30	0.72	1430	2650
450	100	25x25	0.72	1430	2650
450	120	22x35	0.85	1190	2210
450	120	22x40	0.90	1190	2210
450	120	25x30	0.85	1190	2210
450	120	25x35	0.91	1190	2210
450	120	30x25	0.85	1190	2210
450	150	22x40	1.00	960	1770
450	150	25x30	0.96	960	1770
450	150	25x35	1.02	960	1770
450	150	30x25	1.00	960	1770
450	150	30x30	1.06	960	1770
450	150	35x25	1.09	960	1770
450	180	22x45	1.16	790	1470
450	180	22x50	1.21	790	1470
450	180	25x35	1.12	790	1470
450	180	25x40	1.21	790	1470
450	180	30x30	1.21	790	1470
450	180	30x35	1.24	790	1470
450	180	35x25	1.21	790	1470
450	180	35x30	1.28	790	1470
450	220	25x40	1.24	650	1210
450	220	25x45	1.28	650	1210
450	220	30x30	1.24	650	1210
450	220	30x35	1.28	650	1210
450	220	35x25	1.24	650	1210
450	220	35x30	1.28	650	1210
450	270	25x50	1.42	530	980
450	270	30x30	1.28	530	980
450	270	30x35	1.35	530	980
450	270	35x30	1.39	530	980

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)
450	270	35x35	1.48	530	980
450	330	30x40	1.58	430	800
450	330	30x45	1.66	430	800
450	330	35x30	1.58	430	800
450	330	35x35	1.66	430	800
450	390	30x45	1.80	370	680
450	390	30x50	1.89	370	680
450	390	35x40	1.89	370	680
450	390	35x45	1.97	370	680
450	470	30x50	2.08	300	560
450	470	35x35	1.97	300	560
450	470	35x40	2.08	300	560
450	470	35x45	2.16	300	560
450	560	35x50	2.47	250	470
450	560	35x55	2.57	250	470
450	680	35x50	2.72	210	390
450	680	35x60	2.94	210	390
450	820	35x60	3.23	170	320
450	820	35x65	3.35	170	320
500	47	22x25	0.45	3050	5640
500	56	22x30	0.52	2560	4740
500	68	22x30	0.52	2110	3900
500	68	22x35	0.56	2110	3900
500	68	25x25	0.54	2110	3900
500	68	25x30	0.58	2110	3900
500	82	22x35	0.70	1750	3230
500	82	25x30	0.71	1750	3230
500	100	22x40	0.81	1430	2650
500	100	25x35	0.86	1430	2650

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)
500	100	30x30	0.85	1430	2650
500	120	22x50	0.98	1190	2210
500	120	25x40	0.95	1190	2210
500	120	30x35	1.00	1190	2210
500	120	35x30	1.03	1190	2210
500	150	22x50	1.10	960	1770
500	150	25x45	1.13	960	1770
500	150	30x40	1.19	960	1770
500	150	35x35	1.23	960	1770
500	180	25x50	1.24	790	1470
500	180	30x45	1.31	790	1470
500	220	25x55	1.45	650	1210
500	220	30x45	1.47	650	1210
500	220	35x35	1.45	650	1210
500	220	35x40	1.53	650	1210
500	270	30x50	1.55	530	980
500	270	35x40	1.62	530	980
500	330	30x55	1.89	430	800
500	390	35x45	1.85	370	680
500	390	35x55	2.02	370	680
500	470	35x60	2.28	300	560
500	560	35x65	2.32	250	470
500	680	40x60	2.45	210	390
550	220	35x35	1.30	650	1210
550	270	35x45	1.60	530	980
550	330	35x50	1.63	430	800
550	390	35x55	1.80	370	680
550	470	35x65	2.10	300	560

Useful life



depending on ambient temperature T_a versus under ripple current operating conditions