



# PCB Snap-In Capacitors

## ALC10/40 series

Listed here are only samples of the range of PCB mounting Snap-In Capacitors we can produce.

Electrical characteristics and case size are just two parameters that can be optimised by our design engineers to achieve the exact product you require. Please contact our sales office for more details.



### ALC10 Series

The ALC10 series of snap-in capacitors cover a wide range of case sizes and voltage ratings featuring high ripple currents and long life performance. They are ideally suited for industrial and commercial applications demanding high reliability and long life expectancy such as frequency converters, UPS systems and switch mode power supplies.

### ALC40 Series

The ALC40 series of snap-in capacitors feature the same high ripple currents and long life characteristics as the ALC10 series but can operate at higher temperatures. They are similarly suited for high reliability and long life applications such as frequency converters, UPS systems and switch mode power supplies, but the extended temperature range allows increased ripple currents at lower temperatures.

### ALC12/42

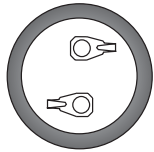
The ALC12 (85°C) and ALC42 (105°C) are high CV, snap-in, versions of the ALC10 and ALC40 ranges. Both series are designed for applications where high reliability and compact sizes are important such as switch mode power supplies and frequency converters. An overview of both series can be found on pages 43 to 46.

	ALC10	ALC40
Capacitance Range	39µF to 220,000µF	33µF to 220,000µF
Capacitance Tolerance	±20%	±20%
Voltage Range	10V to 500V d.c.	10V to 450V d.c.
Temperature range	-40°C to +85°C	-40°C to +105°C
Case sizes	22 x 30mm to 50 x 105mm	22 x 30mm to 50 x 105mm

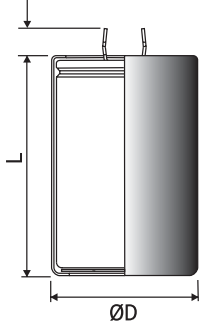
# PCB Snap-In Capacitors

ALC10/40  
case sizes

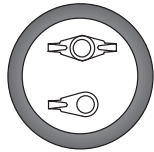
**STYLE A/D**  
2 Pin



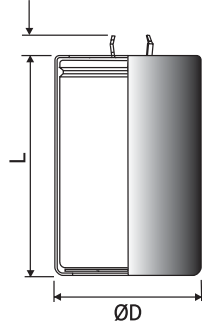
Style A - 6.3 ±1  
Style D - 4.0 ±1



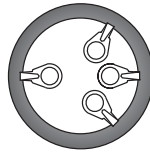
**STYLE F**  
3 Pin



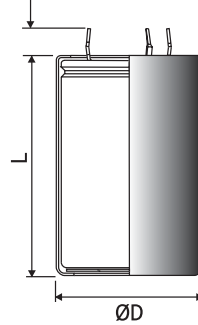
4.0 ±1



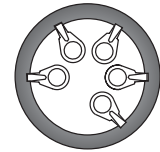
**STYLE C/E**  
4 Pin



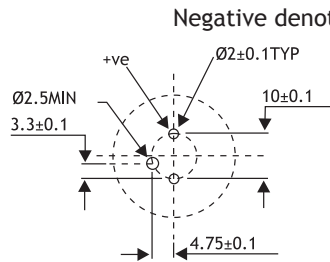
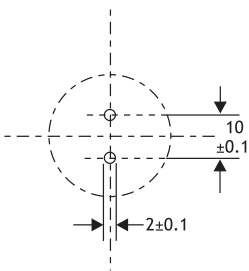
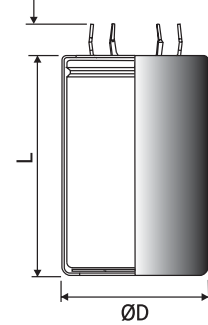
Style C - 6.3 ±1  
Style E - 4.0 ±1



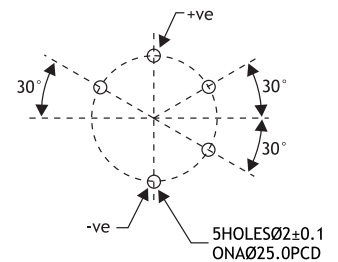
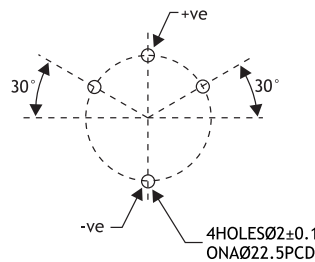
**STYLE G/H**  
5 Pin



Style G - 6.3 ±1  
Style H - 4.0 ±1



Negative denoted by line on sleeve



## Mounting

These capacitors are designed to be mounted by their terminations alone, and may be used in any position. Dummy pins must be isolated on 4 and 5 pin styles.

## CASE CODE (COMPONENT WEIGHT grams - nom.)

DIA. mm	LENGTH mm ±2									
	-0+1	30	35	40	45	50	55	60	80	105
22		AB (25)	AC (26)	AD (30)						
25		BB (28)	BC (30)	BD (35)						
30		CB (35)	CC (40)	CD (45)	CE (50)	CF (55)				
35		DB (42)	DC (50)	DD (55)	DE (65)	DF (70)	DG (75)	DH (80)	DL (105)	
40		EB (49)	EC (57)	ED (65)	EE (80)	EF (82)	EG (95)	EH (98)	EL (131)	EP (170)
45		FB (62)	FC (72)	FD (82)	FE (92)	FF (103)	FG (113)	FH (123)	FL (164)	FP (215)
50		KB (75)	KC (88)	KD (100)	KE (113)	KF (126)	KG (138)	KH (151)	KL (201)	KP (264)

Other sizes available upon request

## TERMINAL STYLE

DESCRIPTION	2 pin standard	2 pin short	3 pin short	4 pin standard	4 pin short	5 pin standard	5 pin short
PIN LENGTH	6.3 ±1	4.0 ±1	4.0 ±1	6.3 ±1	4.0 ±1	6.3 ±1	4.0 ±1
CODE	A	D	F	C	E	G	H
DIA. mm -0+1							
22	●						
25	●		●	●			
30	●		●	●			
35	●		●		●	●	
40	●	●			●		●
45				●	●	●	●
50				●	●	●	●



## TECHNICAL DATA

### Related documents

IEC 384-4

### Temperature range

ALC10: Storage -55°C to +85°C  
Operating -40°C to +85°C  
Environmental classification 40/085/56

ALC40: Storage -55°C to +105°C  
Operating -40°C to +105°C  
Environmental classification 40/105/56

### Surge voltage

1000 surges (30 seconds) at 85°C (ALC10) and 105°C (ALC40) with surge voltage applied. See electrical characteristics for more details.

### Charge/discharge

10<sup>6</sup> cycles at 25°C and rated voltage. One cycle per second with a time constant of 0.1.

### D.C. leakage current

After application of rated d.c. voltage for 5 minutes at 20°C, the d.c. leakage current shall not exceed (0.006 C<sub>r</sub> U<sub>r</sub>) μA. Where C<sub>r</sub> is the rated capacitance in μF and U<sub>r</sub> is the rated d.c. voltage.

### Vibration

10Hz to 500Hz at 0.75mm or 10g for 3x2hrs duration.  
10Hz to 500Hz at 0.35mm or 5g for 3x0.5hrs duration (45/50mm diameter cans).

### Insulation resistance

≥ 100MΩ at 100V d.c., across insulating sleeve.

### Voltage proof

≥ 2500V d.c., across insulating sleeve.

### Ripple current

The following values are approximate only, to give an indication of the effects of frequency and temperature on ripple current. More accurate data can be obtained by referring to the Application Notes available from BHC.

#### FREQUENCY CORRECTION - ALC10/40

Capacitors shall withstand the rated r.m.s. ripple current as given in the tables at upper category temperature in circulating air. For frequencies other than those shown the following formula should be used:

$$\text{Ripple current} = \sqrt{\frac{F \times A^2 \times B^2}{100 \times (B^2 - A^2) + (F \times A^2)}}$$

A = 100Hz ripple current

B = 10kHz ripple current

F = Required frequency (Hz)

#### TEMPERATURE CORRECTION - ALC10

For ambient temperatures other than 85°C the following correction factors should be employed.

AMBIENT TEMPERATURE	FACTOR
30°C	2.5
50°C	2.1
70°C	1.6
85°C	1.0

#### TEMPERATURE CORRECTION - ALC40

For ambient temperatures other than 105°C the following correction factors should be employed.

AMBIENT TEMPERATURE	FACTOR
50°C	2.5
60°C	2.4
70°C	2.2
85°C	1.8
105°C	1.0

N.B. The sum of the d.c. and a.c. voltage components should not exceed the d.c. voltage rating.

### Life expectancy

At rated temperature with rated voltage and ripple current applied.

CAN DIAMETER (mm)	RANGE	LIFE EXPECTANCY (hours)
22	ALC10	8000
22	ALC40	4000
25	ALC10	10000
25	ALC40	6000
30	ALC10	13000
30	ALC40	7000
35	ALC10	15000
35	ALC40	8000
40, 45, 50	ALC10	18000
40, 45, 50	ALC40	9000

### Capacitor marking

The capacitors are marked with items 1 to 6 from the following list as a minimum, and as much of the remaining information as is practical.

1. Rated capacitance in μF
2. Rated voltage d.c.
3. Polarity of terminations
4. Tolerance on rated capacitance
5. Date code/ Batch number
6. BHC part number
7. Environmental classification

# PCB Snap-In Capacitors

ALC10

Rated voltage d.c.	Cap ( $\mu\text{F}$ )	Case Size (mm)	ESR ( $\text{m}\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $\text{m}\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 85 °C		Type number
					100 Hz	10 KHz	
<b>10V d.c.</b> (11.5V surge)	8200	22x30	151	136	1.95	2.02	ALC10A822AB010
	12000	25x30	119	107	2.39	2.48	ALC10A123BB010
	12000	22x40	103	93	2.63	2.72	ALC10A123AD010
	15000	25x35	94	85	2.84	2.94	ALC10A153BC010
	18000	30x30	102	92	2.91	3.01	ALC10A183CB010
	18000	25x40	80	72	3.23	3.34	ALC10A183BD010
	22000	30x35	80	72	3.46	3.58	ALC10A223CC010
	27000	30x40	69	62	3.91	4.05	ALC10A273CD010
	33000	35x35	74	67	3.98	4.12	ALC10A333DC010
	39000	30x50	52	47	4.89	5.06	ALC10A393CF010
	39000	35x40	64	58	4.48	4.64	ALC10A393DD010
	47000	35x50	49	44	5.55	5.75	ALC10A473DF010
	56000	40x30	65	59	4.91	5.08	ALC10A563EB010
	68000	40x40	52	47	6.78	7.02	ALC10A683ED010
	82000	40x45	43	39	7.72	7.99	ALC10A823EE010
	100000	40x50	36	32	8.79	9.10	ALC10A104EF010
	120000	40x55	32	29	9.11	9.43	ALC10A124EG010
	150000	40x60	27	24	10.04	10.40	ALC10A154EH010
180000	40x80	20	18	13.14	13.61	ALC10A184EL010	
220000	40x105	17	16	13.64	14.05	ALC10A224EP010	
<b>16V d.c.</b> (18.5V surge)	6800	22x30	139	122	2.03	2.11	ALC10A682AB016
	8200	25x30	128	113	2.30	2.40	ALC10A822BB016
	10000	22x40	94	83	2.76	2.87	ALC10A103AD016
	10000	25x35	101	89	2.74	2.85	ALC10A103BC016
	12000	30x30	115	101	2.74	2.85	ALC10A123CB016
	12000	25x40	87	77	3.10	3.23	ALC10A123BD016
	18000	30x35	87	77	3.32	3.46	ALC10A183CC016
	22000	30x40	75	66	3.75	3.91	ALC10A223CD016
	22000	35x35	86	76	3.69	3.84	ALC10A223DC016
	27000	30x50	59	52	4.59	4.78	ALC10A273CF016
	27000	35x40	74	65	4.17	4.34	ALC10A273DD016
	33000	40x30	76	68	5.06	5.17	ALC10A333EB016
	39000	35x50	55	48	5.23	5.45	ALC10A393DF016
	39000	40x35	66	60	5.63	5.74	ALC10A393EC016
	47000	40x40	53	48	6.68	6.83	ALC10A473ED016
	56000	40x45	44	40	7.67	7.84	ALC10A563EE016
	68000	40x50	37	33	8.74	8.93	ALC10A683EF016
	82000	40x55	33	29	9.05	9.22	ALC10A823EG016
100000	40x60	27	25	10.05	10.23	ALC10A104EH016	
120000	40x80	20	18	13.13	13.43	ALC10A124EL016	
220000	40x105	17	16	13.64	14.05	ALC10A224EP016	
<b>25V d.c.</b> (28.5V surge)	4700	22x30	139	118	2.03	2.14	ALC10A472AB025
	5600	25x30	129	110	2.29	2.41	ALC10A562BB025
	6800	22x40	95	81	2.74	2.89	ALC10A682AD025
	8200	25x35	95	81	2.82	2.97	ALC10A822BC025
	10000	30x30	113	96	2.76	2.91	ALC10A103CB025
	10000	25x40	81	69	3.21	3.38	ALC10A103BD025
	12000	30x35	88	75	3.30	3.48	ALC10A123CC025
	15000	30x40	75	64	3.75	3.95	ALC10A153CD025
	18000	35x35	85	72	3.71	3.91	ALC10A183DC025
	18000	30x50	59	50	4.59	4.84	ALC10A183CF025
	22000	35x40	74	63	4.17	4.40	ALC10A223DD025
	27000	35x50	55	47	5.23	5.51	ALC10A273DF025
	27000	40x30	84	76	4.10	4.15	ALC10A273EB025
	39000	40x40	59	54	5.65	5.73	ALC10A393ED025
	47000	40x45	49	44	6.44	6.53	ALC10A473EE025
	56000	40x50	40	37	7.42	7.52	ALC10A563EF025
	68000	40x55	37	34	7.56	7.64	ALC10A683EG025
	100000	40x80	22	20	11.20	11.36	ALC10A104EL025
120000	40x105	18	17	12.96	13.53	ALC10A124EP025	

## Ordering information

For details of ordering see pages 54 & 55.

## ALC10

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 85 °C		Type number
					100 Hz	10 KHz	
<b>35V d.c.</b> (40V surge)	3300	22x30	145	120	2.00	2.14	ALC10A332AB035
	4700	25x30	127	107	2.31	2.47	ALC10A472BB035
	5600	22x40	98	82	2.70	2.88	ALC10A562AD035
	6800	25x35	97	81	2.80	2.99	ALC10A682BC035
	8200	30x30	114	95	2.75	2.94	ALC10A822CB035
	8200	25x40	83	70	3.17	3.39	ALC10A822BD035
	10000	30x35	89	75	3.28	3.50	ALC10A103CC035
	12000	30x40	76	64	3.73	3.99	ALC10A123CD035
	15000	35x35	86	72	3.70	3.95	ALC10A153DC035
	15000	30x50	59	49	4.59	4.90	ALC10A153CF035
	15000	40x30	87	78	4.24	4.31	ALC10A153EB035
	18000	35x40	75	63	4.16	4.44	ALC10A183DD035
	18000	40x35	77	70	4.66	4.73	ALC10A183EC035
	22000	35x50	55	46	5.23	5.59	ALC10A223DF035
	22000	40x40	61	55	5.56	5.65	ALC10A223ED035
	27000	40x45	51	46	6.30	6.40	ALC10A273EE035
	33000	40x50	42	38	7.16	7.27	ALC10A333EF035
	39000	40x60	33	30	8.75	8.91	ALC10A393EH035
	56000	40x80	23	21	10.94	11.14	ALC10A563EL035
	100000	40x105	17	16	12.67	13.34	ALC10A104EP035
<b>40V d.c.</b> (46V surge)	2700	22x30	148	121	1.97	2.14	ALC10A272AB040
	3900	25x30	125	103	2.33	2.53	ALC10A392BB040
	3900	22x40	101	83	2.66	2.89	ALC10A392AD040
	4700	25x35	99	81	2.77	3.01	ALC10A472BC040
	5600	30x30	115	94	2.74	2.98	ALC10A562CB040
	5600	25x40	85	70	3.14	3.42	ALC10A562BD040
	6800	30x35	90	74	3.26	3.55	ALC10A682CC040
	8200	30x40	77	63	3.70	4.03	ALC10A822CD040
	10000	35x35	86	71	3.69	4.01	ALC10A103DC040
	12000	30x50	59	48	4.59	4.99	ALC10A123CF040
	12000	35x40	75	62	4.14	4.50	ALC10A123DD040
	15000	40x30	89	79	4.42	4.51	ALC10A153EB040
	18000	35x50	55	45	5.23	5.69	ALC10A183DF040
	18000	40x35	78	70	4.88	4.97	ALC10A183EC040
	22000	40x40	62	56	5.81	5.92	ALC10A223ED040
	27000	40x50	43	38	7.23	7.36	ALC10A273EF040
	33000	40x60	33	30	8.74	8.91	ALC10A333EH040
	47000	40x80	23	21	10.96	11.17	ALC10A473EL040
	82000	40x105	18	17	12.63	13.44	ALC10A823EP040
	<b>50V d.c.</b> (57V surge)	1800	22x30	175	140	1.85	2.07
2700		25x30	137	110	2.23	2.49	ALC10A272BB050
2700		22x40	125	100	2.43	2.72	ALC10A272AD050
3300		25x35	114	91	2.60	2.91	ALC10A332BC050
3900		30x30	113	91	2.75	3.07	ALC10A392CB050
3900		25x40	99	80	2.94	3.29	ALC10A392BD050
5600		30x35	91	73	3.25	3.63	ALC10A562CC050
6800		30x40	80	65	3.63	4.06	ALC10A682CD050
8200		35x35	81	65	3.82	4.27	ALC10A822DC050
8200		30x50	68	54	4.33	4.84	ALC10A822CF050
10000		35x40	73	59	4.23	4.73	ALC10A103DD050
10000		40x30	81	72	4.15	4.24	ALC10A103EB050
12000		35x50	60	48	5.05	5.65	ALC10A123DF050
12000		40x40	65	57	5.75	5.89	ALC10A123ED050
15000		40x45	53	47	6.48	6.64	ALC10A153EE050
18000		40x50	44	39	7.41	7.59	ALC10A183EF050
22000		40x55	40	36	7.60	7.75	ALC10A223EG050
27000		40x60	33	30	8.41	8.56	ALC10A273EH050
39000		40x80	23	21	10.49	10.68	ALC10A393EL050
68000		40x105	18	16	12.42	13.30	ALC10A683EP050

**Ordering information**

For details of ordering see pages 54 &amp; 55.

# PCB Snap-In Capacitors

ALC10

Rated voltage d.c.	Cap ( $\mu\text{F}$ )	Case Size (mm)	ESR ( $\text{m}\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $\text{m}\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 85 °C		Type number
					100 Hz	10 KHz	
<b>63V d.c.</b> (72.5V surge)	1500	22x30	199	157	1.70	1.89	ALC10A152AB063
	2200	25x30	149	118	2.13	2.37	ALC10A222BB063
	2200	22x40	149	118	2.19	2.44	ALC10A222AD063
	2700	25x35	128	101	2.43	2.70	ALC10A272BC063
	3300	30x30	112	88	2.77	3.08	ALC10A332CB063
	3300	25x40	112	88	2.73	3.04	ALC10A332BD063
	4700	30x35	91	72	3.24	3.61	ALC10A472CC063
	5600	30x40	83	66	3.56	3.96	ALC10A562CD063
	6800	35x35	75	59	3.95	4.40	ALC10A682DC063
	6800	30x50	75	59	4.07	4.53	ALC10A682CF063
	8200	35x40	69	55	4.31	4.80	ALC10A822DD063
	8200	40x30	82	72	3.95	4.03	ALC10A822EB063
	10000	35x50	64	51	4.85	5.40	ALC10A103DF063
	10000	40x35	80	72	4.58	4.67	ALC10A103EC063
	12000	40x40	64	57	5.42	5.55	ALC10A123ED063
	15000	40x50	44	39	7.02	7.18	ALC10A153EF063
	18000	40x60	35	31	8.54	8.75	ALC10A183EH063
	27000	40x80	24	21	10.53	10.78	ALC10A273EL063
	39000	40x105	19	17	12.23	13.51	ALC10A393EP063
	<b>100V d.c.</b> (115V surge)	680	22x30	355	266	1.27	1.55
1000		25x30	243	182	1.67	2.04	ALC10A102BB100
1200		22x40	203	152	1.88	2.30	ALC10A122AD100
1200		25x35	203	152	1.93	2.36	ALC10A122BC100
1500		30x40	163	122	2.30	2.81	ALC10A152CB100
1500		25x40	163	122	2.27	2.78	ALC10A152BD100
1800		30x35	137	103	2.64	3.23	ALC10A182CC100
2200		30x40	113	85	3.05	3.73	ALC10A222CD100
2700		35x35	92	69	3.57	4.37	ALC10A272DC100
2700		40x30	121	104	3.72	3.88	ALC10A272EB100
3300		30x50	76	57	4.05	4.95	ALC10A332CF100
3300		35x40	76	57	4.11	5.03	ALC10A332DD100
3300		40x35	106	92	4.09	4.24	ALC10A332EC100
3900		40x40	85	74	4.88	5.08	ALC10A392ED100
4700		35x50	55	41	5.23	6.40	ALC10A472DF100
4700		40x45	70	61	5.60	5.83	ALC10A472EE100
5600		40x50	59	51	6.41	6.68	ALC10A562EF100
6800		40x55	53	46	6.61	6.84	ALC10A682EG100
8200		40x60	44	39	7.36	7.61	ALC10A822EH100
12000		40x80	31	27	9.14	9.45	ALC10A123EL100
18000	40x105	19	17	11.34	12.61	ALC10A183EP100	
<b>200V d.c.</b> (230V surge)	220	22x30	727	509	0.89	1.23	ALC10A221AB200
	330	25x30	486	340	1.18	1.63	ALC10A331BB200
	330	22x40	486	340	1.21	1.67	ALC10A331AD200
	390	25x35	412	288	1.36	1.87	ALC10A391BC200
	470	30x30	343	240	1.58	2.18	ALC10A471CB200
	470	25x40	343	240	1.56	2.15	ALC10A471BD200
	560	30x35	288	202	1.82	2.51	ALC10A561CC200
	680	30x40	238	167	2.10	2.89	ALC10A681CD200
	820	35x35	198	139	2.43	3.35	ALC10A821DC200
	820	40x30	178	142	3.06	3.63	ALC10A821EB200
	1000	30x50	163	114	2.76	3.80	ALC10A102CF200
	1000	35x40	163	114	2.81	3.87	ALC10A102DD200
	1000	40x35	153	124	3.43	3.99	ALC10A102EC200
	1200	35x50	135	82	3.06	4.01	ALC10A122DF200
	1200	40x40	124	99	4.02	4.69	ALC10A122ED200
	1500	35x50	110	77	3.70	5.10	ALC10A152DF200
	1500	40x45	101	81	4.61	5.38	ALC10A152EE200
	1800	40x50	84	68	5.27	6.15	ALC10A182EF200
	2200	40x60	67	53	6.29	7.43	ALC10A222EH200
	3300	40x80	46	37	7.83	9.17	ALC10A332EL200
	4700	40x105	45	32	8.08	11.73	ALC10A472EP200
	5600	45x105	42	29	8.51	12.16	ALC10G562FP200
	8200	50x105	33	25	9.17	11.76	ALC10G822KP200

## Ordering information

For details of ordering see pages 54 & 55.

## ALC10

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 85 °C		Type number
					100 Hz	10 KHz	
<b>250V d.c.</b> (287V surge)	180	22x30	888	577	0.80	1.17	ALC10A181AB250
	220	25x30	727	473	0.97	1.41	ALC10A221BB250
	270	22x40	593	385	1.10	1.60	ALC10A271AD250
	270	25x35	593	385	1.13	1.65	ALC10A271BC250
	330	30x30	486	316	1.33	1.94	ALC10A331CB250
	330	25x35	490	320	1.34	1.95	ALC10A331BC250
	330	25x40	486	316	1.31	1.91	ALC10A331BD250
	470	30x35	343	223	1.67	2.43	ALC10A471CC250
	560	30x40	288	187	1.91	2.78	ALC10A561CD250
	680	35x35	238	155	2.22	3.23	ALC10A681DC250
	680	30x50	238	155	2.29	3.34	ALC10A681CF250
	680	40x30	187	144	2.79	3.56	ALC10A681EB250
	820	35x40	198	129	2.55	3.72	ALC10A821DD250
	820	40x40	153	116	3.80	4.91	ALC10A821ED250
	1000	35x50	163	106	3.26	4.75	ALC10A102DF250
	1000	40x45	126	96	4.33	5.58	ALC10A102EE250
	1200	35x60	140	100	3.76	5.48	ALC10A122DH250
	1200	40x50	104	80	4.94	6.37	ALC10A122EF250
	1500	40x55	89	69	5.29	6.58	ALC10A152EG250
	1800	35x80	100	82	4.60	6.69	ALC10A182DL250
	1800	40x60	74	58	5.92	7.34	ALC10A182EH250
	2200	40x80	57	43	7.33	9.49	ALC10A222EL250
	3900	40x105	46	32	7.78	11.71	ALC10A392EP250
	4700	45x105	42	29	8.22	12.11	ALC10G472FP250
5600	50x105	38	27	8.63	12.03	ALC10G562KP250	
<b>350V d.c.</b> (385V surge)	100	22x30	1359	876	0.69	1.49	ALC10A101AB350
	120	25x30	1139	736	0.83	1.75	ALC10A121BB350
	150	22x40	908	585	0.95	2.03	ALC10A151AD350
	150	25x35	912	589	0.99	2.07	ALC10A151BC350
	180	25x40	761	492	1.13	2.37	ALC10A181BD350
	180	30x30	776	506	1.11	2.19	ALC10A181CB350
	270	30x35	527	346	1.41	2.65	ALC10A271CC350
	330	30x40	432	284	1.65	3.07	ALC10A331CD350
	330	40x30	424	277	2.02	3.97	ALC10A331EB350
	390	30x50	364	238	1.92	3.65	ALC10A391CF350
	390	35x35	386	259	1.82	3.07	ALC10A391DC350
	390	40x35	361	236	2.33	4.50	ALC10A391EC350
	470	35x40	321	216	2.07	3.47	ALC10A471DD350
	470	40x40	299	195	2.69	5.22	ALC10A471ED350
	560	35x50	268	180	2.80	4.80	ALC10A561DF350
	560	40x45	251	164	3.04	5.88	ALC10A561EE350
	680	40x50	207	136	3.46	6.65	ALC10A681EF350
	820	35x60	190	130	3.40	5.50	ALC10A821DH350
	820	40x55	174	114	3.84	7.16	ALC10A821EG350
	820	40x60	172	112	3.99	7.67	ALC10A821EH350
	1000	35x80	154	104	3.90	6.40	ALC10A102DL350
	1200	40x80	119	78	4.95	9.20	ALC10A122EL350
	1800	40x105	81	54	6.14	10.73	ALC10A182EP350
	2700	45x105	63	42	7.00	11.44	ALC10G272FP350
3300	50x105	54	36	7.54	11.57	ALC10G332KP350	

**Ordering information**

For details of ordering see pages 54 &amp; 55.



# PCB Snap-In Capacitors

ALC10

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 85 °C		Type number
					100 Hz	10 KHz	
<b>400V d.c.</b> (440V surge)	68	22x30	2042	1370	0.59	1.25	ALC10A680AB400
	100	25x30	1400	943	0.77	1.60	ALC10A101BB400
	100	22x40	1389	933	0.80	1.69	ALC10A101AD400
	120	25x35	1166	785	0.90	1.87	ALC10A121BC400
	150	30x30	950	645	1.04	2.03	ALC10A151CB400
	150	25x40	935	630	1.06	2.18	ALC10A151BD400
	180	30x35	791	536	1.20	2.36	ALC10A181CC400
	220	30x35	650	400	1.31	2.47	ALC10A221CC400
	220	30x40	648	440	1.41	2.74	ALC10A221CD400
	270	35x35	547	376	1.61	2.88	ALC10A271DC400
	270	40x30	441	284	1.85	3.67	ALC10A271EB400
	330	35x35	461	320	1.73	2.92	ALC10A331DC400
	330	30x50	438	299	1.82	3.42	ALC10A331CF400
	330	35x40	449	309	1.84	3.27	ALC10A331DD400
	330	40x35	378	252	2.29	4.21	ALC10A331EC400
	390	35x50	377	226	2.19	3.96	ALC10A391DF400
	390	40x40	312	203	2.62	4.86	ALC10A391ED400
	470	35x50	321	223	2.62	4.41	ALC10A471DF400
	470	40x40	230	156	2.74	5.21	ALC10A471ED400
	470	40x45	258	168	3.00	5.49	ALC10A471EE400
	560	35x50	278	180	2.57	4.04	ALC10A561DF400
	560	35x60	264	184	3.01	5.11	ALC10A561DH400
	560	40x50	216	141	3.41	6.19	ALC10A561EF400
	680	35x60	232	142	2.90	4.73	ALC10A681DH400
	680	40x60	177	114	3.99	7.14	ALC10A681EH400
	820	35x80	181	127	3.70	6.09	ALC10A821DL400
	1000	35x80	112	77	3.98	6.32	ALC10A102DL400
	1000	40x80	120	78	5.00	8.82	ALC10A102EL400
	1500	40x105	99	68	5.79	10.16	ALC10A152EP400
	2200	45x105	77	53	6.56	10.90	ALC10G222FP400
2700	50x105	66	45	7.11	11.13	ALC10G272KP400	
<b>450V d.c.</b> (495V surge)	56	22x30	2067	1372	0.57	1.27	ALC10A560AB450
	68	25x30	1708	1135	0.69	1.50	ALC10A680BB450
	82	22x40	1413	938	0.77	1.71	ALC10A820AD450
	100	25x35	1167	777	0.88	1.90	ALC10A101BC450
	120	30x30	989	663	1.00	2.03	ALC10A121CB450
	120	25x40	973	648	1.01	2.18	ALC10A121BD450
	150	25x40	785	524	1.12	2.35	ALC10A151BD450
	150	30x30	805	543	1.10	2.12	ALC10A151CB450
	150	30x35	792	531	1.17	2.38	ALC10A151CC450
	180	30x40	661	443	1.36	2.76	ALC10A181CD450
	220	35x35	559	379	1.56	2.89	ALC10A221DC450
	220	30x50	540	362	1.61	3.27	ALC10A221CF450
	220	40x30	517	311	1.77	3.68	ALC10A221EB450
	270	30x50	446	301	1.76	3.43	ALC10A271CF450
	270	35x35	470	322	1.68	2.91	ALC10A271DC450
	270	35x40	458	311	1.78	3.27	ALC10A271DD450
	270	40x35	427	259	2.07	4.22	ALC10A271EC450
	330	30x50	373	253	1.91	3.54	ALC10A331CF450
	330	35x50	373	253	2.41	4.38	ALC10A331DF450
	330	40x40	348	210	2.47	4.91	ALC10A331ED450
	390	35x50	240	166	2.60	4.41	ALC10A391DF450
	390	40x45	293	177	2.70	5.53	ALC10A391EE450
	470	35x50	252	155	2.43	4.03	ALC10A471DF450
	470	35x60	270	185	2.95	5.12	ALC10A471DH450
	470	40x50	243	147	3.08	6.25	ALC10A471EF450
	560	40x60	202	121	3.56	7.04	ALC10A561EH450
	680	35x80	190	131	3.61	6.09	ALC10A681DL450
	820	40x80	138	83	4.47	8.78	ALC10A821EL450
	1000	40x80	114	75	4.95	9.32	ALC10A102EL450
	1200	40x105	103	70	5.57	10.15	ALC10A122EP450
1800	45x105	82	55	6.27	10.87	ALC10G182FP450	
2200	50x105	70	47	6.81	11.12	ALC10G222KP450	

## Ordering information

For details of ordering see pages 54 & 55.

## ALC10

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 85 °C		Type number
					100 Hz	10 KHz	
500V d.c. (550V surge)	39	22x30	3150	2339	0.57	1.13	ALC10A390AB500
	56	25x30	2207	1642	0.74	1.44	ALC10A560BB500
	68	22x40	1811	1345	0.84	1.65	ALC10A680AD500
	68	25x35	1816	1351	0.87	1.70	ALC10A680BC500
	82	25x40	1507	1120	1.00	1.95	ALC10A820BD500
	82	30x30	1527	1140	0.99	1.84	ALC10A820CB500
	100	30x30	1000	765	1.08	1.94	ALC10A101CB500
	100	30x35	1220	840	1.15	2.16	ALC10A101CC500
	120	30x35	1052	786	1.25	2.28	ALC10A121CC500
	150	30x40	843	631	1.48	2.67	ALC10A151CD500
	180	30x50	699	522	1.78	3.27	ALC10A181CF500
	180	35x35	728	549	1.70	2.84	ALC10A181DC500
	180	40x30	699	522	1.76	3.22	ALC10A181EB500
	220	35x40	596	450	1.96	3.26	ALC10A221DD500
	220	40x35	571	426	2.07	3.82	ALC10A221EC500
	270	35x50	481	362	2.34	3.97	ALC10A271DF500
	270	40x40	466	348	2.41	4.42	ALC10A271ED500
	330	40x45	382	286	2.74	5.00	ALC10A331EE500
	390	35x60	340	258	2.87	4.67	ALC10A391DH500
	390	40x50	324	242	3.09	5.59	ALC10A391EF500
	470	40x60	269	201	3.56	6.43	ALC10A471EH500
	560	35x80	240	182	3.50	5.57	ALC10A561DL500
	680	40x80	187	140	4.40	7.77	ALC10A681EL500
1000	40x105	130	98	5.43	9.18	ALC10A102EP500	
1500	45x105	110	82	5.97	9.76	ALC10G152FP500	
1800	50x105	94	70	6.45	10.09	ALC10G182KP500	

**Ordering information**

For details of ordering see pages 54 & 55.

# PCB Snap-In Capacitors

ALC40

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 105 °C		Type number
					100 Hz	10 KHz	
<b>10V d.c.</b> (11.5V surge)	12000	22x30	233	201	1.95	2.05	ALC40A123AB010
	15000	22x40	181	155	2.60	2.74	ALC40A153AD010
	18000	22x40	154	133	2.70	2.84	ALC40A183AD010
	18000	25x30	172	150	2.19	2.29	ALC40A183BB010
	22000	25x35	139	121	2.59	2.71	ALC40A223BC010
	27000	25x40	114	99	3.04	3.18	ALC40A273BD010
	27000	30x30	138	123	2.45	2.55	ALC40A273CB010
	33000	30x35	111	98	2.97	3.09	ALC40A333CC010
	39000	30x40	92	82	3.40	3.54	ALC40A393CD010
	47000	35x35	98	89	3.26	3.39	ALC40A473DC010
	56000	30x50	66	58	4.41	4.59	ALC40A563CF010
	56000	35x40	81	74	3.74	3.90	ALC40A563DD010
	56000	40x30	65	59	4.91	5.00	ALC40A563EB010
	68000	35x50	61	55	4.85	5.03	ALC40A683DF010
	68000	40x40	52	47	6.78	6.91	ALC40A683ED010
	82000	35x50	58	53	4.85	5.05	ALC40A823DF010
	82000	40x45	43	39	7.72	7.87	ALC40A823EE010
	100000	40x50	36	32	8.79	8.95	ALC40A104EF010
	120000	40x55	32	29	9.11	9.25	ALC40A124EG010
	150000	40x60	27	24	10.04	10.19	ALC40A154EH010
180000	40x80	19	18	13.18	13.48	ALC40A184EL010	
220000	40x105	17	16	14.15	14.61	ALC40A224EP010	
<b>16V d.c.</b> (18.5V surge)	8200	22x30	228	195	1.83	1.94	ALC40A822AB016
	10000	22x40	177	151	2.47	2.63	ALC40A103AD016
	12000	22x40	154	131	2.53	2.69	ALC40A123AD016
	12000	25x30	179	156	2.01	2.12	ALC40A123BB016
	15000	25x35	142	124	2.39	2.51	ALC40A153BC016
	18000	25x40	118	103	2.80	2.95	ALC40A183BD016
	18000	30x30	153	136	2.23	2.34	ALC40A183CB016
	22000	30x35	122	108	2.70	2.84	ALC40A223CC016
	27000	30x40	100	89	3.10	3.26	ALC40A273CD016
	33000	30x50	75	67	4.02	4.22	ALC40A333CF016
	33000	35x35	113	102	2.97	3.12	ALC40A333DC016
	33000	40x30	76	68	5.06	5.17	ALC40A333EB016
	39000	35x40	94	85	3.41	3.58	ALC40A393DD016
	39000	40x35	66	60	5.63	5.74	ALC40A393EC016
	47000	35x50	69	62	4.41	4.63	ALC40A473DF016
	47000	40x40	53	48	6.68	6.83	ALC40A473ED016
	56000	35x50	68	61	4.41	4.63	ALC40A563DF016
	56000	40x45	44	40	7.67	7.84	ALC40A563EE016
	68000	40x50	37	33	8.74	8.93	ALC40A683EF016
	82000	40x55	33	29	9.05	9.22	ALC40A823EG016
100000	40x60	27	25	10.05	10.23	ALC40A104EH016	
120000	40x80	20	18	13.13	13.43	ALC40A124EL016	
220000	40x105	17	16	14.15	14.61	ALC40A224EP016	
<b>25V d.c.</b> (28.5V surge)	5600	22x30	233	196	1.80	1.94	ALC40A562AB025
	6800	22x40	182	151	2.42	2.63	ALC40A682AD025
	8200	22x40	157	132	2.48	2.68	ALC40A822AD025
	8200	25x30	183	157	1.97	2.11	ALC40A822BB025
	10000	25x35	148	126	2.33	2.50	ALC40A103BC025
	12000	25x40	123	105	2.74	2.93	ALC40A123BD025
	12000	30x30	157	138	2.18	2.33	ALC40A123CB025
	15000	30x35	125	109	2.65	2.83	ALC40A153CC025
	18000	30x40	103	91	3.04	3.24	ALC40A183CD025
	22000	35x35	116	104	2.91	3.10	ALC40A223DC025
	27000	30x50	73	64	3.94	4.21	ALC40A273CF025
	27000	35x40	96	86	3.34	3.56	ALC40A273DD025
	27000	40x30	75	69	4.03	4.09	ALC40A273EB025
	33000	35x50	70	63	4.32	4.61	ALC40A333DF025
	33000	40x35	66	62	4.83	4.90	ALC40A333EC025
	39000	35x50	69	62	4.32	4.61	ALC40A393DF025
	39000	40x40	53	49	5.57	5.65	ALC40A393ED025
	47000	40x50	41	37	7.30	7.40	ALC40A473EF025
	56000	40x55	38	35	7.51	7.61	ALC40A563EG025
	82000	40x80	22	20	11.06	11.24	ALC40A823EL025
120000	40x105	18	17	13.41	14.05	ALC40A124EP025	

## Ordering information

For details of ordering see pages 54 & 55.

## ALC40

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 105 °C		Type number
					100 Hz	10 KHz	
<b>35V d.c.</b> (40V surge)	3900	22x30	239	196	1.75	1.93	ALC40A392AB035
	4700	22x40	187	152	2.35	2.63	ALC40A472AD035
	5600	22x40	163	133	2.41	2.67	ALC40A562AD035
	5600	25x30	190	159	1.93	2.10	ALC40A562BB035
	6800	25x35	153	128	2.27	2.49	ALC40A682BC035
	8200	25x40	127	106	2.67	2.92	ALC40A822BD035
	8200	30x30	162	140	2.13	2.32	ALC40A822CB035
	10000	30x35	130	112	2.59	2.82	ALC40A103CC035
	12000	30x40	107	92	2.96	3.23	ALC40A123CD035
	15000	35x35	120	105	2.84	3.09	ALC40A153DC035
	15000	40x30	87	78	4.24	4.31	ALC40A153EB035
	18000	30x50	76	66	3.85	4.19	ALC40A183CF035
	18000	35x40	99	87	3.25	3.55	ALC40A183DD035
	18000	40x35	77	70	4.66	4.73	ALC40A183EC035
	22000	35x50	73	64	4.22	4.59	ALC40A223DF035
	22000	40x40	61	55	5.49	5.58	ALC40A223ED035
	27000	35x50	71	63	4.22	4.59	ALC40A273DF035
	27000	40x45	51	46	6.30	6.40	ALC40A273EE035
	33000	40x50	42	38	7.16	7.27	ALC40A333EF035
	39000	40x60	33	30	8.75	8.91	ALC40A393EH035
56000	40x80	23	21	10.94	11.14	ALC40A563EL035	
100000	40x105	17	16	13.04	13.77	ALC40A104EP035	
<b>40V d.c.</b> (46V surge)	2700	22x30	259	207	1.69	1.92	ALC40A272AB040
	3300	22x40	202	160	2.26	2.60	ALC40A332AD040
	3900	25x30	202	166	1.87	2.09	ALC40A392BB040
	4700	22x40	154	124	2.38	2.69	ALC40A472AD040
	5600	25x35	149	124	2.23	2.49	ALC40A562BC040
	5600	30x30	171	144	2.08	2.31	ALC40A562CB040
	6800	25x40	123	102	2.61	2.92	ALC40A682BD040
	6800	30x35	145	120	2.55	2.84	ALC40A682CC040
	8200	30x35	129	110	2.53	2.81	ALC40A822CC040
	10000	30x40	107	91	2.90	3.22	ALC40A103CD040
	12000	30x50	80	68	3.75	4.18	ALC40A123CF040
	12000	35x35	121	106	2.77	3.08	ALC40A123DC040
	12000	40x30	88	79	4.13	4.22	ALC40A123EB040
	15000	35x40	100	87	3.18	3.53	ALC40A153DD040
	15000	40x40	63	56	5.66	5.78	ALC40A153ED040
	18000	35x50	73	64	4.12	4.58	ALC40A183DF040
	18000	40x45	53	47	6.46	6.60	ALC40A183EE040
	22000	40x50	43	39	7.34	7.50	ALC40A223EF040
	27000	40x55	39	35	7.50	7.63	ALC40A273EG040
	47000	40x80	23	21	10.42	10.59	ALC40A473EL040
68000	40x105	17	16	12.71	13.47	ALC40A683EP040	
<b>50V d.c.</b> (57.5V surge)	1800	22x30	282	218	1.60	1.90	ALC40A182AB050
	2200	22x40	222	170	2.13	2.57	ALC40A222AD050
	2700	22x40	187	145	2.22	2.64	ALC40A272AD050
	2700	25x30	213	169	1.80	2.09	ALC40A272BB050
	3300	25x35	172	136	2.13	2.47	ALC40A332BC050
	3900	25x35	156	126	2.15	2.48	ALC40A392BC050
	3900	30x30	178	147	2.01	2.31	ALC40A392CB050
	4700	25x40	129	104	2.52	2.90	ALC40A472BD050
	5600	30x35	135	112	2.44	2.80	ALC40A562CC050
	6800	30x40	112	93	2.80	3.21	ALC40A682CD050
	8200	30x50	84	69	3.63	4.16	ALC40A822CF050
	8200	35x35	126	107	2.68	3.07	ALC40A822DC050
	8200	40x30	91	80	4.15	4.26	ALC40A822EB050
	10000	30x50	104	88	3.40	4.04	ALC40A103CF050
	10000	35x40	104	88	3.08	3.52	ALC40A103DD050
	12000	35x50	77	65	3.98	4.56	ALC40A123DF050
	12000	40x40	64	57	5.42	5.53	ALC40A123ED050
	15000	35x50	57	44	4.73	5.42	ALC40A153DF050
	15000	40x45	53	47	6.11	6.23	ALC40A153EE050
	18000	40x50	44	39	6.98	7.12	ALC40A183EF050
22000	40x60	34	30	8.45	8.63	ALC40A223EH050	
33000	40x80	24	21	10.41	10.62	ALC40A333EL050	
56000	40x105	18	16	12.64	13.72	ALC40A563EP050	

**Ordering information**

For details of ordering see pages 54 &amp; 55.



# PCB Snap-In Capacitors

ALC40

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 105 °C		Type number
					100 Hz	10 KHz	
<b>63V d.c.</b> (72V surge)	1800	22x30	256	200	1.55	1.83	ALC40A182AB063
	2200	25x30	227	180	1.69	1.98	ALC40A222BB063
	2700	22x40	170	132	2.15	2.55	ALC40A272AD063
	3300	25x35	165	133	2.01	2.35	ALC40A332BC063
	3900	25x40	138	111	2.36	2.75	ALC40A392BD063
	3900	30x30	185	154	1.88	2.18	ALC40A392CB063
	4700	30x35	148	123	2.28	2.65	ALC40A472CC063
	5600	30x40	122	102	2.61	3.03	ALC40A562CD063
	5600	40x30	102	90	3.82	3.91	ALC40A562EB063
	6800	30x50	92	75	3.39	3.93	ALC40A682CF063
	6800	35x35	141	119	2.50	2.90	ALC40A682DC063
	6800	40x35	91	81	4.18	4.26	ALC40A682EC063
	8200	30x50	48	35	3.33	3.98	ALC40A822CF063
	8200	35x40	116	99	2.87	3.33	ALC40A822DD063
	8200	40x40	72	64	5.01	5.12	ALC40A822ED063
	10000	35x50	85	72	3.71	4.31	ALC40A103DF063
	10000	40x45	60	53	5.69	5.81	ALC40A103EE063
	12000	40x50	50	44	6.50	6.64	ALC40A123EF063
	15000	40x60	39	34	7.81	7.99	ALC40A153EH063
	22000	40x80	27	24	9.70	9.92	ALC40A223EL063
33000	40x105	18	17	12.01	13.01	ALC40A333EP063	
<b>100V d.c.</b> (115V surge)	560	22x30	383	276	1.22	1.67	ALC40A561AB100
	680	22x40	302	214	1.60	2.26	ALC40A681AD100
	820	22x40	259	186	1.68	2.31	ALC40A821AD100
	820	25x30	294	220	1.39	1.82	ALC40A821BB100
	1000	25x35	238	177	1.65	2.16	ALC40A102BC100
	1200	25x40	198	147	1.93	2.53	ALC40A122BD100
	1200	30x30	245	191	1.57	2.01	ALC40A122CB100
	1500	30x35	195	151	1.90	2.44	ALC40A152CC100
	1800	30x40	162	125	2.18	2.80	ALC40A182CD100
	2200	30x50	123	94	2.82	3.63	ALC40A222CF100
	2200	35x35	177	142	2.10	2.67	ALC40A222DC100
	2200	40x30	128	110	3.58	3.80	ALC40A222EB100
	2700	35x40	146	118	2.41	3.07	ALC40A272DD100
	2700	40x40	95	80	4.92	5.24	ALC40A272ED100
	3300	35x50	108	86	3.12	3.97	ALC40A332DF100
	3300	40x45	78	66	5.59	5.95	ALC40A332EE100
	3900	40x50	65	55	6.41	6.83	ALC40A392EF100
	4700	40x55	58	50	6.67	7.04	ALC40A472EG100
	5600	40x60	49	42	7.46	7.87	ALC40A562EH100
	8200	40x80	34	29	9.28	9.78	ALC40A822EL100
10000	40x105	24	21	11.33	13.12	ALC40A103EP100	
<b>200V d.c.</b> (230V surge)	220	22x30	644	442	0.88	1.41	ALC40A221AB200
	270	25x30	542	377	1.01	1.56	ALC40A271BB200
	330	22x40	428	294	1.21	1.95	ALC40A331AD200
	390	25x35	386	271	1.24	1.86	ALC40A391BC200
	470	25x40	320	224	1.45	2.19	ALC40A471BD200
	470	30x30	369	270	1.24	1.76	ALC40A471CB200
	560	30x35	301	219	1.50	2.13	ALC40A561CC200
	680	30x40	249	181	1.72	2.44	ALC40A681CD200
	680	40x30	202	158	2.97	3.67	ALC40A681EB200
	820	30x50	196	140	2.18	3.16	ALC40A821CF200
	820	35x35	252	191	1.70	2.34	ALC40A821DC200
	820	40x35	173	137	3.35	4.06	ALC40A821EC200
	1000	35x40	208	158	1.95	2.69	ALC40A102DD200
	1000	40x40	140	110	3.92	4.80	ALC40A102ED200
	1200	35x50	159	119	2.50	3.48	ALC40A122DF200
	1200	40x45	116	91	4.50	5.50	ALC40A122EE200
	1500	40x50	94	74	5.13	6.23	ALC40A152EF200
	1800	40x60	76	60	6.10	7.53	ALC40A182EH200
	2700	40x80	52	41	7.62	9.32	ALC40A272EL200
	3900	40x105	49	34	7.90	12.31	ALC40A392EP200
5600	45x105	40	28	8.68	12.54	ALC40G562FP200	
6800	50x105	36	26	9.08	12.29	ALC40G682KP200	

## Ordering information

For details of ordering see pages 54 & 55.

## ALC40

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 105 °C		Type number
					100 Hz	10 KHz	
250V d.c. (287V surge)	150	22x30	823	552	0.76	1.32	ALC40A151AB250
	180	22x40	674	448	0.96	1.73	ALC40A181AD250
	220	22x40	559	374	1.04	1.82	ALC40A221AD250
	220	25x30	592	405	0.93	1.50	ALC40A221BB250
	270	25x35	480	327	1.10	1.77	ALC40A271BC250
	330	25x40	393	268	1.29	2.08	ALC40A331BD250
	330	30x30	441	312	1.13	1.69	ALC40A331CB250
	390	30x35	364	256	1.36	2.04	ALC40A391CC250
	470	30x40	302	212	1.56	2.34	ALC40A471CD250
	470	40x30	258	193	2.59	3.49	ALC40A471EB250
	560	30x50	243	168	1.96	3.02	ALC40A561CF250
	560	35x35	297	217	1.57	2.25	ALC40A561DC250
	560	40x35	221	166	3.05	4.16	ALC40A561EC250
	680	35x40	245	179	1.80	2.59	ALC40A681DD250
	680	40x40	180	134	3.49	4.76	ALC40A681ED250
	820	35x50	190	137	3.12	4.66	ALC40A821DF250
	820	40x45	149	111	4.01	5.46	ALC40A821EE250
	1000	35x60	164	125	3.61	5.78	ALC40A102DH250
	1000	40x50	123	92	4.58	6.22	ALC40A102EF250
	1200	40x55	106	80	4.93	6.51	ALC40A122EG250
	1500	35x80	112	90	4.43	6.88	ALC40A152DL250
	1800	40x80	67	50	6.77	9.27	ALC40A182EL250
	2700	40x105	62	42	7.05	12.03	ALC40A272EP250
3900	45x105	50	33	7.90	12.43	ALC40G392FP250	
4700	50x105	44	30	8.36	12.30	ALC40G472KP250	
350V d.c. (385V surge)	82	22x30	1233	789	0.67	1.69	ALC40A820AB350
	100	22x40	1002	638	0.83	2.12	ALC40A101AD350
	120	22x40	841	537	0.91	2.27	ALC40A121AD350
	120	25x30	868	562	0.88	2.07	ALC40A121BB350
	150	25x35	694	449	1.04	2.46	ALC40A151BC350
	180	25x40	578	374	1.20	2.81	ALC40A181BD350
	180	30x30	618	410	1.17	2.46	ALC40A181CB350
	220	30x35	502	332	1.36	2.88	ALC40A221CC350
	270	30x40	410	272	1.59	3.33	ALC40A271CD350
	270	40x30	448	291	1.97	4.36	ALC40A271EB350
	330	35x35	378	260	1.79	3.24	ALC40A331DC350
	390	30x50	287	191	2.02	4.02	ALC40A391CF350
	390	35x40	317	218	2.02	3.67	ALC40A391DD350
	390	40x40	312	203	2.64	5.73	ALC40A391ED350
	470	35x50	251	170	2.72	4.90	ALC40A471DF350
	470	40x45	258	168	3.00	6.46	ALC40A471EE350
	560	35x50	224	155	2.57	4.44	ALC40A561DF350
	560	35x60	224	155	3.11	5.70	ALC40A561DH350
	560	40x50	216	141	3.41	7.27	ALC40A561EF350
	680	40x60	177	114	3.99	8.39	ALC40A681EH350
	820	35x80	150	102	3.82	6.72	ALC40A821DL350
	1000	40x80	120	78	5.00	9.98	ALC40A102EL350
	1500	40x105	99	68	6.00	11.47	ALC40A152EP350
2200	45x105	77	53	6.79	12.06	ALC40G222FP350	
2700	50x105	66	45	7.34	12.08	ALC40G272KP350	

**Ordering information**

For details of ordering see pages 54 &amp; 55.

# PCB Snap-In Capacitors

ALC40

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 105 °C		Type number
					100 Hz	10 KHz	
<b>400V d.c.</b> (440V surge)	68	22x30	1717	1123	0.65	1.71	ALC40A680AB400
	82	22x40	1415	923	0.80	2.14	ALC40A820AD400
	100	22x40	1166	762	0.88	2.30	ALC40A101AD400
	100	25x30	1193	788	0.85	2.09	ALC40A101BB400
	120	25x35	991	653	1.00	2.45	ALC40A121BC400
	150	25x40	794	524	1.17	2.83	ALC40A151BD400
	150	30x30	835	562	1.14	2.46	ALC40A151CB400
	180	30x35	690	463	1.31	2.88	ALC40A181CC400
	220	30x40	565	379	1.54	3.33	ALC40A221CD400
	220	40x30	521	320	1.88	4.36	ALC40A221EB400
	270	35x35	470	322	1.73	3.23	ALC40A271DC400
	270	40x35	430	266	2.21	4.95	ALC40A271EC400
	330	30x50	383	258	1.98	4.02	ALC40A331CF400
	330	35x40	386	266	1.98	3.64	ALC40A331DD400
	330	40x40	350	216	2.56	5.76	ALC40A331ED400
	390	35x50	323	221	2.64	4.66	ALC40A391DF400
	390	40x45	295	182	2.88	6.48	ALC40A391EE400
	470	35x50	277	192	2.51	4.40	ALC40A471DF400
	470	35x60	270	185	3.04	5.78	ALC40A471DH400
	470	40x50	245	151	3.28	7.30	ALC40A471EF400
	560	40x55	209	130	3.62	7.78	ALC40A561EG400
	680	35x80	200	131	3.72	6.69	ALC40A681DL400
	680	40x60	173	107	4.08	8.58	ALC40A681EH400
	1000	40x80	118	73	4.85	10.16	ALC40A102EL400
	1200	40x105	103	70	5.76	11.46	ALC40A122EP400
	1800	45x105	82	55	6.48	12.04	ALC40G182FP400
2200	50x105	70	47	7.02	12.08	ALC40G222KP400	
<b>450V d.c.</b> (495V surge)	33	22x30	2851	1971	0.51	1.38	ALC40A330AB450
	47	22x40	2002	1385	0.67	1.84	ALC40A470AD450
	47	25x30	2011	1392	0.66	1.74	ALC40A470BB450
	56	25x35	1687	1168	0.76	2.03	ALC40A560BC450
	68	25x40	1391	963	0.88	2.34	ALC40A680BD450
	68	30x30	1403	974	0.87	2.19	ALC40A680CB450
	82	30x35	1163	807	1.01	2.54	ALC40A820CC450
	100	30x40	955	663	1.18	2.95	ALC40A101CD450
	120	35x35	810	565	1.36	3.11	ALC40A121DC450
	150	30x50	642	446	1.54	3.67	ALC40A151CF450
	150	35x40	651	454	1.57	3.53	ALC40A151DD450
	150	40x30	642	447	1.73	4.14	ALC40A151EB450
	180	35x50	541	377	1.88	4.27	ALC40A181DF450
	180	40x35	538	374	2.01	4.70	ALC40A181EC450
	220	35x50	449	315	2.28	4.71	ALC40A221DF450
	220	40x40	440	306	2.34	5.47	ALC40A221ED450
	270	40x50	356	248	2.80	6.74	ALC40A271EF450
	330	35x60	285	198	2.91	5.53	ALC40A331DH450
	330	40x55	293	204	3.14	7.29	ALC40A331EG450
	390	40x60	249	174	3.50	8.04	ALC40A391EH450
	470	35x80	203	138	3.51	6.68	ALC40A471DL450
	560	40x80	175	122	4.32	9.57	ALC40A561EL450
	820	40x105	121	85	5.34	11.05	ALC40A821EP450
	1200	45x105	105	71	5.84	11.64	ALC40G122FP450
	1500	50x105	86	59	6.44	11.85	ALC40G152KP450

## Ordering information

For details of ordering see pages 54 & 55.

# PCB Snap-In Capacitors

## ALC12/42 series

A high CV range of snap-in capacitors.

Both series are designed for applications where high reliability and compact case

sizes are important, such as switch mode power supplies and frequency converters.



	ALC12	ALC42
Capacitance Range	150 $\mu$ F to 8,200 $\mu$ F	120 $\mu$ F to 6,800 $\mu$ F
Capacitance Tolerance	$\pm$ 20%	$\pm$ 20%
Voltage Range	200V to 450V d.c.	200V to 450V d.c.
Temperature range	-40 $^{\circ}$ C to +85 $^{\circ}$ C	-40 $^{\circ}$ C to +105 $^{\circ}$ C
Case sizes	30 x 30mm to 50 x 105mm	30 x 30mm to 50 x 105mm

Case Sizes 22, 25mm diameter available upon request.  
For case size and terminal style details see page 30.

### TECHNICAL DATA

#### Related documents

IEC 384-4

#### Temperature range

ALC12

Storage -55 $^{\circ}$ C to +85 $^{\circ}$ C

Operating -40 $^{\circ}$ C to +85 $^{\circ}$ C

Environmental classification 40/085/56

ALC42

Storage -55 $^{\circ}$ C to +105 $^{\circ}$ C

Operating -40 $^{\circ}$ C to +105 $^{\circ}$ C

Environmental classification 40/105/56

#### Surge voltage

1000 surges (30 seconds) at 85 $^{\circ}$ C (ALC12) and 105 $^{\circ}$ C (ALC42) with surge voltage applied. See electrical characteristics for more details.

#### Charge/discharge

10<sup>6</sup> cycles at 25 $^{\circ}$ C and rated voltage. One cycle per second with a time constant of 0.1.

#### D.C. leakage current

After application of rated d.c. voltage for 5 minutes at 20 $^{\circ}$ C, the d.c. leakage current shall not exceed (0.006 C<sub>r</sub> U<sub>r</sub>)  $\mu$ A. Where C<sub>r</sub> is the rated capacitance in  $\mu$ F and U<sub>r</sub> is the rated d.c. voltage.

#### Vibration

10Hz to 500Hz at 0.75mm or 10g for 3x2hrs duration.

10Hz to 500Hz at 0.35mm or 5g for 3x0.5hrs duration (45/50mm dia. cans).

#### Insulation resistance

$\geq$  100M $\Omega$  at 100V d.c., across insulating sleeve.

#### Voltage proof

$\geq$  2500V d.c., across insulating sleeve.

#### Life expectancy

2000 hours at rated temperature with rated voltage and ripple current applied.

#### Capacitor marking

The capacitors are marked with items 1 to 6 from the following list as a minimum, and as much of the remaining information as is practical.

1. Rated capacitance in  $\mu$ F
2. Rated voltage d.c.
3. Polarity of terminations
4. Tolerance on rated capacitance
5. Date code/Batch number
6. BHC part number
7. Environmental classification



# PCB Snap-In Capacitors

ALC12

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 85 °C		Type number
					100 Hz	10 KHz	
<b>200V d.c.</b> (230V surge)	560	30x30	342	224	1.75	2.81	ALC12A561CB200
	680	30x35	278	181	2.06	3.36	ALC12A681CC200
	1000	30x40	201	135	2.52	3.81	ALC12A102CD200
	1000	35x35	218	151	2.58	3.63	ALC12A102DC200
	1200	30x50	162	107	3.09	4.86	ALC12A122CF200
	1200	35x40	181	125	2.96	4.18	ALC12A122DD200
	1200	40x30	243	186	2.26	2.75	ALC12A122EB200
	1500	40x35	190	145	2.73	3.35	ALC12A152EC200
	1800	35x50	128	91	3.70	5.01	ALC12A182DF200
	1800	40x40	156	119	3.17	3.90	ALC12A182ED200
	2200	35x60	107	76	4.21	5.65	ALC12A222DH200
	2200	40x45	132	101	3.54	4.32	ALC12A222EE200
	2700	35x80	93	68	4.99	6.90	ALC12A272DL200
	2700	40x55	104	79	4.27	5.26	ALC12A272EG200
	3300	40x60	96	75	4.48	5.33	ALC12A332EH200
	3900	40x80	78	60	5.55	6.90	ALC12A392EL200
	5600	40x105	43	31	8.39	12.08	ALC12A562EP200
	6800	45x105	38	28	8.85	12.05	ALC12G682FP200
	8200	50x105	34	26	9.21	11.90	ALC12G822KP200
	<b>250V d.c.</b> (287V surge)	390	30x30	456	299	1.56	2.66
470		30x35	375	244	1.82	3.17	ALC12A471CC250
560		30x40	314	204	2.12	3.69	ALC12A561CD250
680		35x35	285	194	2.34	3.56	ALC12A681DC250
680		40x30	316	225	2.12	2.94	ALC12A681EB250
820		30x50	219	144	2.75	4.62	ALC12A821CF250
820		35x40	236	160	2.69	4.09	ALC12A821DD250
1000		40x35	232	170	2.58	3.41	ALC12A102EC250
1200		35x50	167	115	3.38	4.96	ALC12A122DF250
1200		40x40	192	140	2.99	3.96	ALC12A122ED250
1500		35x60	136	95	3.87	5.58	ALC12A152DH250
1500		40x45	160	118	3.36	4.35	ALC12A152EE250
1800		40x55	128	93	4.02	5.32	ALC12A182EG250
2200		35x80	94	66	4.79	6.81	ALC12A222DL250
2200		40x60	115	86	4.28	5.43	ALC12A222EH250
2700		40x80	85	61	5.28	7.01	ALC12A272EL250
3900		40x105	48	32	7.72	12.08	ALC12A392EP250
4700		45x105	42	29	8.22	12.11	ALC12G472FP250
5600		50x105	38	27	8.63	12.03	ALC12G562KP250
<b>350V d.c.</b> (385V surge)		220	30x30	643	397	1.30	2.55
	270	30x35	522	321	1.52	3.01	ALC12A271CC350
	390	30x40	370	231	1.90	3.55	ALC12A391CD350
	390	35x35	384	243	2.02	3.51	ALC12A391DC350
	470	30x50	304	188	2.31	4.42	ALC12A471CF350
	470	40x30	368	249	1.95	2.85	ALC12A471EB350
	560	35x40	279	181	2.44	3.97	ALC12A561DD350
	560	40x35	299	199	2.32	3.50	ALC12A561EC350
	680	35x50	225	144	2.92	4.93	ALC12A681DF350
	680	40x40	246	164	2.68	4.04	ALC12A681ED350
	820	40x45	207	139	3.02	4.50	ALC12A821EE350
	1000	35x60	163	107	3.51	5.45	ALC12A102DH350
	1000	40x50	175	118	3.39	4.92	ALC12A102EF350
	1200	40x60	146	99	3.89	5.62	ALC12A122EH350
	1500	35x80	111	73	4.37	6.64	ALC12A152DL350
	1800	40x80	100	68	4.85	6.89	ALC12A182EL350
	2200	40x105	81	55	5.61	7.99	ALC12A222EP350
	3300	45x105	49	32	7.53	11.79	ALC12G332FP350
	3900	50x105	44	29	7.95	11.73	ALC12G392KP350
	<b>400V d.c.</b> (440V surge)	180	30x30	794	509	1.21	2.38
220		30x35	648	414	1.42	2.82	ALC12A221CC400
270		30x40	529	339	1.66	3.28	ALC12A271CD400
330		35x35	457	299	1.91	3.35	ALC12A331DC400
330		40x30	485	326	1.79	2.86	ALC12A331EB400
390		30x50	370	238	2.16	4.17	ALC12A391CF400
390		35x40	385	252	2.18	3.85	ALC12A391DD400

## Ordering information

For details of ordering see pages 54 & 55.

## ALC12

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 85 °C		Type number
					100 Hz	10 KHz	
400V d.c. (440V surge)	470	40x35	352	240	2.21	3.38	ALC12A471EC400
	560	35x50	270	178	2.75	4.72	ALC12A561DF400
	560	40x40	295	200	2.54	3.92	ALC12A561ED400
	680	35x60	226	149	3.14	5.34	ALC12A681DH400
	680	40x45	245	168	2.87	4.37	ALC12A681EE400
	820	40x50	207	143	3.22	4.80	ALC12A821EF400
	1000	35x80	155	102	3.90	6.52	ALC12A102DL400
	1000	40x60	172	119	3.71	5.46	ALC12A102EH400
	1500	40x80	115	80	4.64	6.71	ALC12A152EL400
	1800	40x105	82	53	6.11	11.06	ALC12A182EP400
	2700	45x105	59	39	7.11	11.40	ALC12G272FP400
	3300	50x105	51	35	7.60	11.38	ALC12G332KP400
	450V d.c. (495V surge)	150	30x30	861	548	1.15	2.34
220		30x35	596	382	1.45	2.83	ALC12A221CC450
270		30x40	486	312	1.70	3.30	ALC12A271CD450
270		35x35	500	324	1.82	3.30	ALC12A271DC450
330		30x50	395	252	2.08	4.10	ALC12A331CF450
330		35x40	410	266	2.10	3.79	ALC12A331DD450
330		40x30	460	313	1.79	2.74	ALC12A331EB450
390		40x35	379	255	2.13	3.35	ALC12A391EC450
470		35x50	292	190	2.64	4.66	ALC12A471DF450
470		40x40	314	211	2.45	3.88	ALC12A471ED450
560		40x45	265	178	2.76	4.34	ALC12A561EE450
680		35x60	206	136	3.23	5.22	ALC12A681DH450
680		40x50	220	150	3.10	4.76	ALC12A681EF450
820		35x80	182	123	3.69	6.26	ALC12A821DL450
820		40x60	180	120	3.62	5.44	ALC12A821EH450
1000		40x80	156	107	4.21	6.69	ALC12A102EL450
1500		40x105	96	63	5.77	10.51	ALC12A152EP450
1800		45x105	82	55	6.27	10.87	ALC12G182FP450
2200		50x105	70	47	6.81	11.12	ALC12G222KP450

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 105 °C		Type number
					100 Hz	10 KHz	
200V d.c. (230V surge)	560	30x30	328	213	1.78	2.88	ALC42A561CB200
	680	30x35	266	171	2.09	3.46	ALC42A681CC200
	820	30x40	220	142	2.44	4.04	ALC42A821CD200
	1000	35x35	213	148	2.58	3.61	ALC42A102DC200
	1000	40x30	252	186	2.26	2.87	ALC42A102EB200
	1200	30x50	156	102	3.14	4.98	ALC42A122CF200
	1200	35x40	176	122	2.97	4.17	ALC42A122DD200
	1200	40x35	199	145	2.73	3.55	ALC42A122EC200
	1500	35x50	137	93	3.64	5.24	ALC42A152DF200
	1500	40x40	163	119	3.15	4.07	ALC42A152ED200
	1800	40x45	138	101	3.54	4.53	ALC42A182EE200
	2200	35x60	105	75	4.21	5.60	ALC42A222DH200
	2200	40x50	119	89	3.92	4.91	ALC42A222EF200
	2200	40x55	109	79	4.24	5.52	ALC42A222EG200
	2700	35x80	89	65	5.06	7.01	ALC42A272DL200
	2700	40x60	99	74	4.49	5.57	ALC42A272EH200
	3300	40x80	81	61	5.52	7.16	ALC42A332EL200
	4700	40x105	46	32	8.22	12.69	ALC42A472EP200
	5600	45x105	41	29	8.68	12.61	ALC42G562FP200
	6800	50x105	36	26	9.09	12.39	ALC42G682KP200
250V d.c. (287V surge)	390	30x30	442	285	1.59	2.81	ALC42A391CB250
	470	30x35	362	232	1.86	3.36	ALC42A471CC250
	560	30x40	303	194	2.16	3.92	ALC42A561CD250
	680	35x35	278	187	2.36	3.64	ALC42A681DC250
	680	40x30	313	221	2.12	2.95	ALC42A681EB250
	820	30x50	212	137	2.80	4.87	ALC42A821CF250
	820	35x40	230	155	2.72	4.19	ALC42A821DD250
	820	40x35	251	175	2.55	3.62	ALC42A821EC250
	1000	40x40	206	144	2.95	4.18	ALC42A102ED250
	1200	35x50	160	110	3.40	5.04	ALC42A122DF250

## Ordering information

For details of ordering see pages 54 & 55.

# PCB Snap-In Capacitors

ALC42

Rated voltage d.c.	Cap ( $\mu$ F)	Case Size (mm)	ESR ( $m\Omega$ ) at 20 °C 100Hz (max)	Impedance ( $m\Omega$ ) at 20 °C 10 KHz (max)	Ripple current (A) at 105 °C		Type number
					100 Hz	10 KHz	
<b>250V d.c.</b> (287V surge)	1200	40x45	174	122	3.31	4.65	ALC42A122EE250
	1500	35x60	134	92	3.90	5.66	ALC42A152DH250
	1500	40x50	146	104	3.70	5.02	ALC42A152EF250
	1800	35x80	105	70	4.64	7.19	ALC42A182DL250
	1800	40x55	127	92	4.01	5.31	ALC42A182EG250
	2700	40x80	84	60	5.28	7.02	ALC42A272EL250
	3300	40x105	53	34	7.47	12.71	ALC42A332EP250
	4700	45x105	41	28	8.32	12.45	ALC42G472FP250
	5600	50x105	37	26	8.70	12.21	ALC42G562KP250
<b>350V d.c.</b> (385V surge)	220	30x30	704	461	1.34	2.74	ALC42A221CB350
	270	30x35	571	373	1.57	3.26	ALC42A271CC350
	330	30x40	468	306	1.84	3.80	ALC42A331CD350
	390	35x35	420	282	2.06	3.65	ALC42A391DC350
	390	40x30	451	311	1.91	3.01	ALC42A391EB350
	470	30x50	332	218	2.37	4.75	ALC42A471CF350
	470	35x40	349	234	2.37	4.20	ALC42A471DD350
	560	40x35	328	230	2.34	3.51	ALC42A561EC350
	680	35x50	246	166	2.98	5.09	ALC42A681DF350
	680	40x40	270	189	2.71	4.06	ALC42A681ED350
	820	35x60	204	140	3.40	5.75	ALC42A821DH350
	820	40x50	216	149	3.31	5.19	ALC42A821EF350
	1000	40x55	182	127	3.63	5.48	ALC42A102EG350
	1200	35x80	140	96	4.21	7.01	ALC42A122DL350
	1200	40x60	160	114	3.83	5.62	ALC42A122EH350
	1500	40x80	120	84	4.76	7.20	ALC42A152EL350
	2200	40x105	72	48	6.71	12.34	ALC42A222EP350
	2700	45x105	62	41	7.26	12.35	ALC42G272FP350
	3300	50x105	53	36	7.77	12.21	ALC42G332KP350
<b>400V d.c.</b> (440V surge)	180	30x30	733	467	1.28	2.73	ALC42A181CB400
	220	30x35	587	375	1.49	3.25	ALC42A221CC400
	270	30x40	488	310	1.75	3.79	ALC42A271CD400
	330	35x35	426	280	1.99	3.61	ALC42A331DC400
	330	40x30	458	308	1.84	2.96	ALC42A331EB400
	390	30x50	342	218	2.28	4.74	ALC42A391CF400
	390	35x40	360	235	2.21	4.17	ALC42A391DD400
	390	40x35	377	251	2.18	3.65	ALC42A391EC400
	470	40x40	313	208	2.52	4.22	ALC42A471ED400
	560	35x50	250	164	2.88	5.06	ALC42A561DF400
	560	40x45	264	176	2.84	4.71	ALC42A561EE400
	680	35x60	211	139	3.27	5.72	ALC42A681DH400
	680	40x50	222	149	3.19	5.14	ALC42A681EF400
	820	40x55	189	128	3.50	5.45	ALC42A821EG400
	1000	35x80	145	96	4.06	6.96	ALC42A102DL400
	1200	40x80	128	86	4.56	7.20	ALC42A122EL400
	1800	40x105	76	49	6.41	12.32	ALC42A182EP400
	2200	45x105	65	42	6.96	12.32	ALC42G222FP400
	2700	50x105	55	37	7.48	12.17	ALC42G272KP400
<b>450V d.c.</b> (495V surge)	120	30x30	918	580	1.13	2.69	ALC42A121CB450
	180	30x35	622	396	1.40	3.20	ALC42A181CC450
	220	30x40	510	324	1.69	3.73	ALC42A221CD450
	220	35x35	525	335	1.80	3.66	ALC42A221DC450
	270	30x50	412	262	2.06	4.67	ALC42A271CF450
	270	35x40	428	275	2.08	4.19	ALC42A271DD450
	270	40x30	476	320	1.78	2.90	ALC42A271EB450
	330	40x35	385	257	2.13	3.54	ALC42A331EC450
	390	40x40	323	215	2.44	4.12	ALC42A391ED450
	470	35x50	260	171	2.78	4.94	ALC42A471DF450
	470	40x45	270	180	2.70	4.59	ALC42A471EE450
	560	40x50	230	154	3.02	5.03	ALC42A561EF450
	680	35x80	187	125	3.69	6.88	ALC42A681DL450
	680	40x60	191	128	3.55	5.73	ALC42A681EH450
	820	40x80	161	109	4.20	7.21	ALC42A821EL450
	1200	40x105	102	66	5.70	11.82	ALC42A122EP450
	1500	45x105	84	55	6.29	12.03	ALC42G152FP450
	1800	50x105	72	48	6.79	12.07	ALC42G182KP450

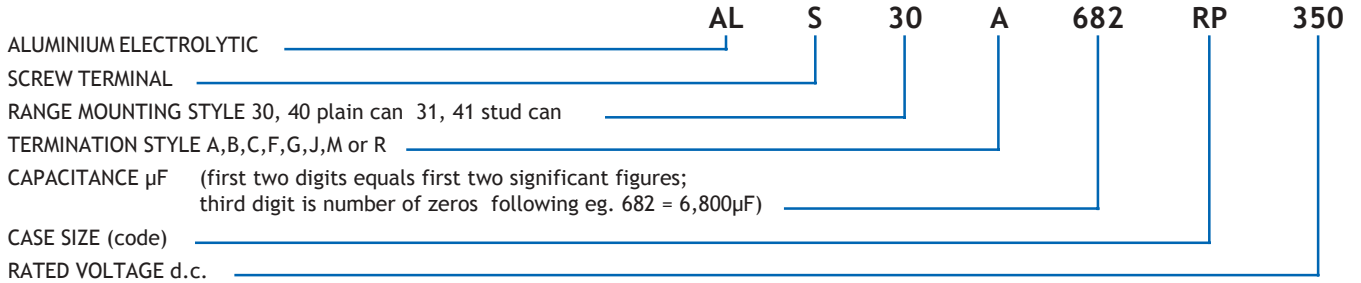
## Ordering information

For details of ordering see pages 54 & 55.

# Ordering Information

## SCREW TERMINAL CAPACITORS

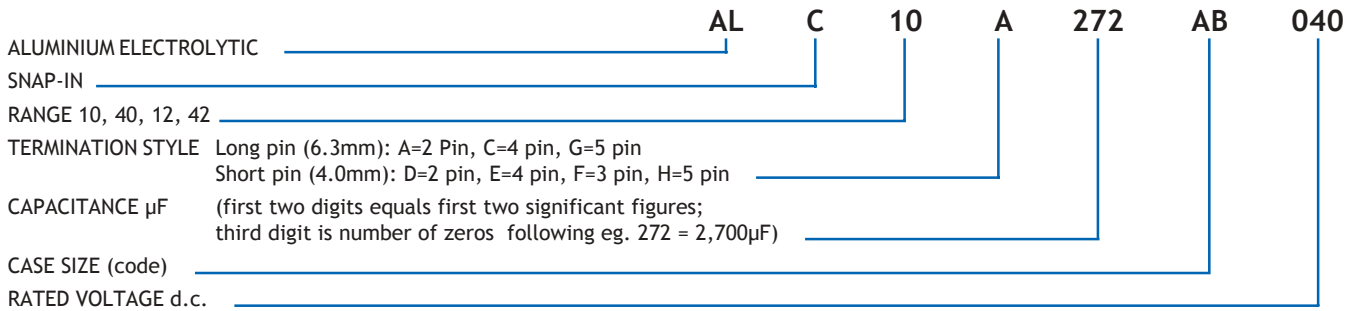
ALS30/31, ALS40/41



## SNAP-IN CAPACITORS

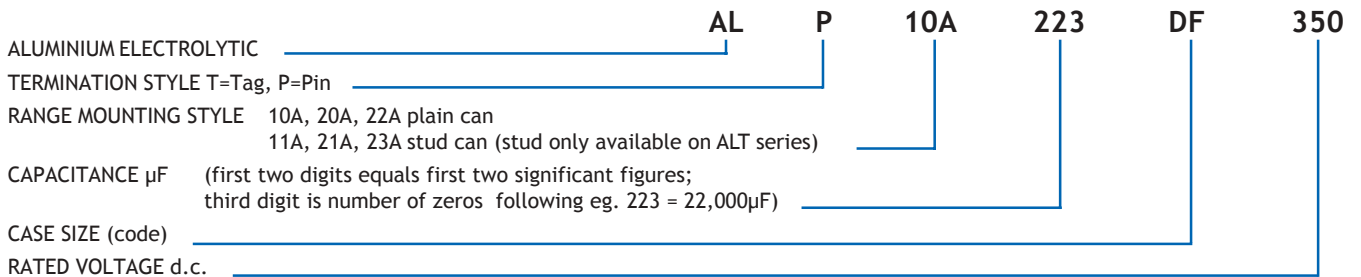
ALC10, ALC40

ALC12, ALC42



## PCB & SOLDER TAG CAPACITORS

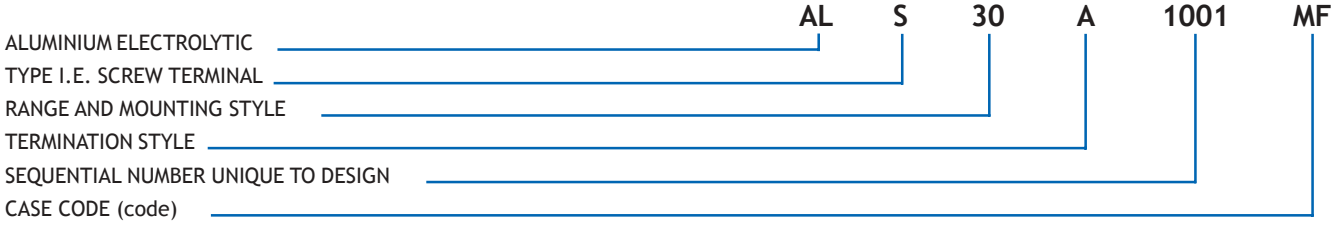
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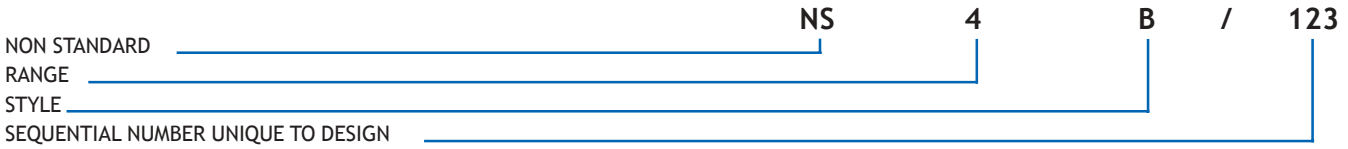
### SPECIAL PART NUMBERS

Used when the design is different in any way from the data listed for a standard item. This can include anything from special electrical parameters to special print detail.



### SAMPLE PART NUMBERS

The sample part number is used when a design has been raised as a feasibility, with or without samples being made. A full part number is issued, either as a standard or special design, once the item goes to full production.





CERTIFICATE OF REGISTRATION

Quality Management System

**BHC Components Limited**

20 Cumberland Drive  
Granby Industrial Estate  
Weymouth  
Dorset  
United Kingdom  
DT4 9TE



Operate a Quality Management System  
which complies with the requirements of  
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for the activities detailed in the scope of  
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Signed on behalf of BSI

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