BHC COMPONENTS

part of the EVOX RIFA GROUP

Aluminium Electrolytic Capacitors

Solder Pin & Tag Capacitors

ALP/T 10/20/22 series

Listed here are only samples of the range of Solder Pin and Tag Capacitors we can produce.

It should be pointed out that the ALP, solder pin, ranges are an older design and as such should not be considered for any new applications. Details are incorporated here, primarily, for maintenance/replacement purposes.

ALP/T 10, 20 and 22 Series

A range of 85°C capacitors designed to meet the demands of inverters, switch mode power supplies and energy storage circuits. It should be noted that for any new applications requiring board mounting terminations, ALP, the ALC ranges of snap-in capacitors produced by BHC should be considered. The ALP/T10 is the older "General Purpose" range whereas the ALP/T20 is the "Long Life" equivalent. ALP/T22 is a higher CV version of ALP/T20 with the same long life characteristics.

	ALP/T10	ALP/T20	ALP/T22
Capacitance Range	100µF to 68,000µF	22µF to 68,000µF	47µF to 150,000µF
Capacitance Tolerance	-10% +30%	-10% +30% (200V ±20%)	±20%
Voltage Range	10V to 385V d.c.	10V to 450V d.c.	10V to 450V d.c.
Temperature range	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Case sizes mm	22 x 35 to 40 x 105	22 x 35 to 40 x 105	22 x 35 to 40 x 105

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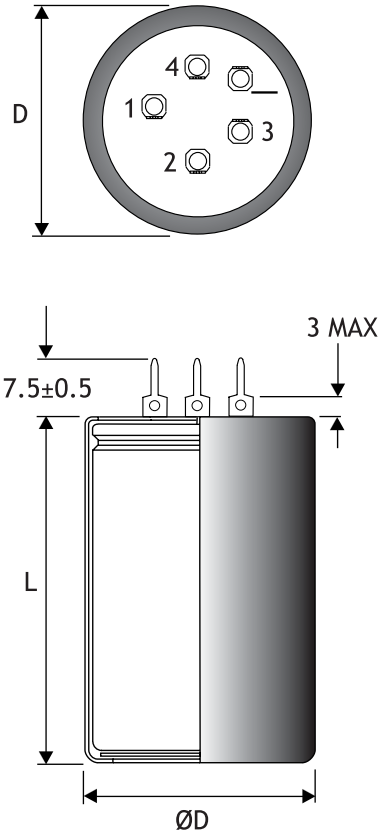
Solder Pin & Tag Capacitors

ALP/T 10/20/22 case sizes

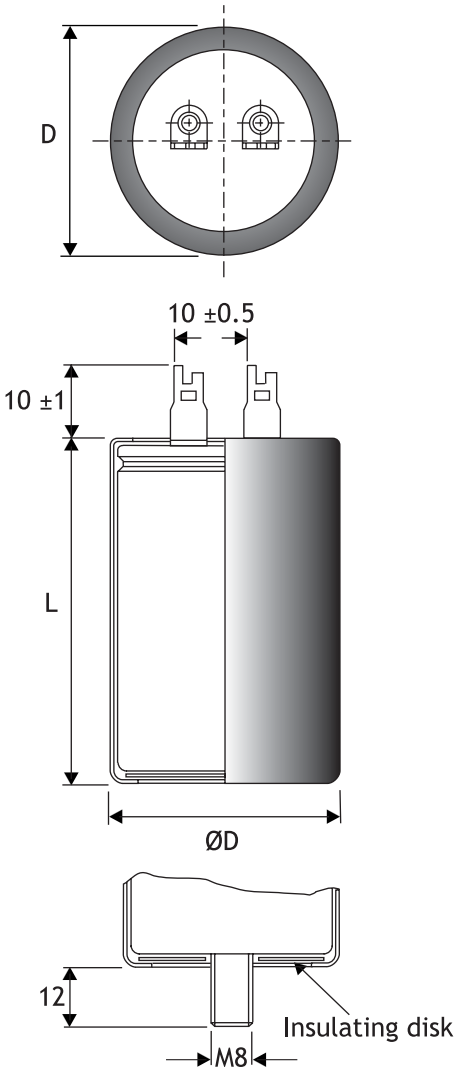
ALP *Pin style*

Designed for PCB mounting to DIN 41238.



ALT *Tag style*

Designed for flying lead connection.



ALT11\21\23

Stud Mounting

Max torque: stud M8:4NM

DIMENSIONS (sleeved) mm

CASE CODE	D ±1	L ±2	MOUNTING CLIP FOR ALT STYLE	WEIGHT grams nom.
AA	25	35	V2/H1	30
AB	25	45	V2/H1	39
BB	30	45	-	50
CB	35	45	V3/H2	65
CD	35	55	V3/H2	75
DB	40	45	V9	80
DD	40	55	V9	95
DE	40	75	V9	125
DF	40	105	V9	170

For details of mounting clips and stud mounting kits see pages 52 & 53.

Capacitor marking

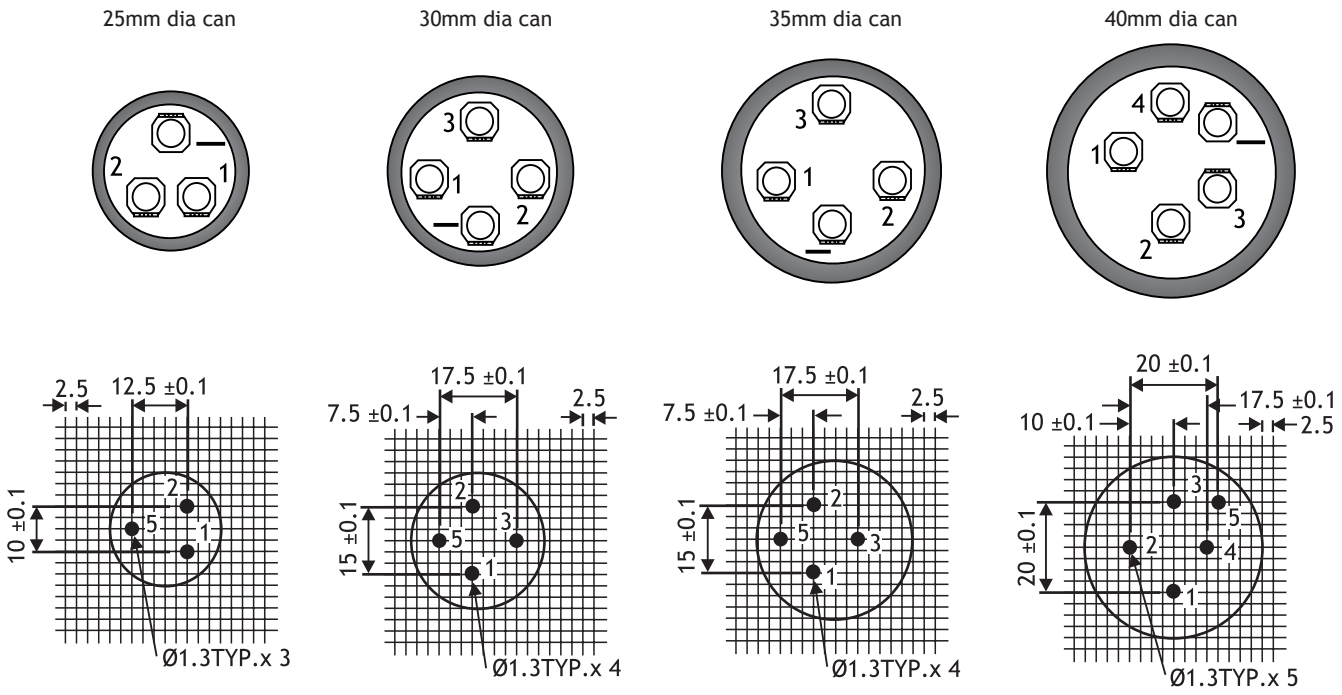
The capacitors are marked with items 1 to 6 from the following list as a minimum, and as much of the remaining information as is practical.

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

Ordering information

For details of ordering see pages 54 & 55.

ALP *Pin and mounting configurations*



Printed circuit board hole positions, viewed from component side.

Connections: Hole 1 represents +ve, Hole 5 represents -ve. Terminals 2,3 and 4 may be at negative terminal potential due to the presence of electrolyte. They are intended for mechanical connections only. It is recommended that they are soldered to the printed circuit board. Additional dummy pins are provided for stability. Note that the case and dummy pins may be at negative terminal potential.

TECHNICAL DATA

Related documents
IEC 384-4

DIN 41238

BS CECC 30301-033 (ALP/T20 Only)

Temperature range
Storage -55°C to +85°C
Operating -40°C to +85°C
Environmental classification 40/085/56

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

Charge/discharge
10^6 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_r U_r) µA. Where C_r is the rated capacitance in µF and U_r is the rated d.c. voltage.

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

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

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

Life expectancy
At rated temperature with rated voltage and ripple current applied.

CAN DIAMETER (mm)	RANGE	LIFE EXPECTANCY (hours)
25	ALP/T10	5000
	ALP/T20 & 22	12000
30	ALP/T10	5000
	ALP/T20 & 22	15000
35	ALP/T10	5000
	ALP/T20 & 22	18000
40	ALP/T10	5000
	ALP/T20 & 22	26000

Solder Pin & Tag Capacitors

ALP/T 10/20/22

ALP/T CAP AND VOLTAGE MATRIX

Cap µF	Rated Voltage D.C. (Surge Voltage in Brackets) 10 (11.5)	16 (18.5)	25 (28.5)	40 (46)	63 (72.5)	100 (115)	160 (184)	200 (230)	250 (287)	385 (425)	400 (440)	450 (495)
22												ALP/T20
33												ALP/T20
47											ALP/T20	ALP/T20 ALP/T22
68										ALP/T22	ALP/T20	ALP/T20 ALP/T22
100									ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T22	ALP/T20	ALP/T20 ALP/T22
150							ALP/T10	ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T22	ALP/T20	ALP/T20 ALP/T22
220							ALP/T10	ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T22	ALP/T20	ALP/T20 ALP/T22
330							ALP/T10	ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T22	ALP/T20	ALP/T20 ALP/T22
470						ALP/T10 ALP/T20	ALP/T10	ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T22	ALP/T20	ALP/T20 ALP/T22
680						ALP/T10 ALP/T20 ALP/T22	ALP/T10	ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T22	ALP/T20	ALP/T22
1000					ALP/T10 ALP/T20	ALP/T10 ALP/T20 ALP/T22	ALP/T10	ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T22		
1500				ALP/T10 ALP/T20	ALP/T10 ALP/T20	ALP/T10 ALP/T20 ALP/T22	ALP/T10	ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22			
2200			ALP/T10 ALP/T20	ALP/T10 ALP/T20	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10	ALP/T20 ALP/T22				
3300		ALP/T10 ALP/T20	ALP/T10 ALP/T20	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22						
4700	ALP/T10 ALP/T20	ALP/T10 ALP/T20	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22						
6800	ALP/T10 ALP/T20	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22						
10000	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T22						
15000	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22							
22000	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T22							
33000	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T22								
47000	ALP/T10 ALP/T20 ALP/T22	ALP/T10 ALP/T20 ALP/T22	ALP/T22	ALP/T22								
68000	ALP/T10 ALP/T20 ALP/T22	ALP/T22	ALP/T22									
100000	ALP/T22	ALP/T22										
150000	ALP/T22											

For technical data covering case size, ESR, impedance and ripple current rating, on any of the above designs, contact BHC Components technical sales.

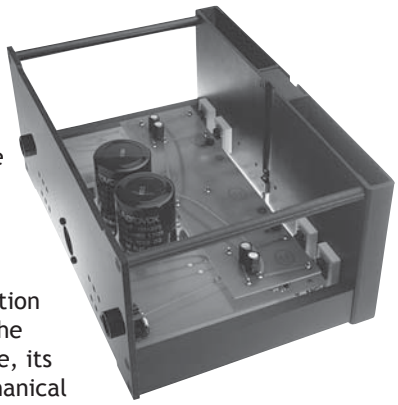
Audio Applications

SLIT FOIL CAPACITORS

Modern electrolytic capacitors are designed for use in power supplies so most aspects of their design have been optimised for this application. Some of the advances in design may not be beneficial in audio applications where the requirements of the capacitors are very different.

BHC, in collaboration with an audio research company, DNM Design, have produced the Slit Foil Capacitor specifically for audio applications. This is a patented design which eliminates circulating currents in the aluminium foils. This spurious current flow on the capacitor plates is known to occur, but is not apparent in most applications.

Voltage range	25V to 100V d.c.
Temperature range	-40°C to +85°C



Slit foil capacitor research has also indicated that improvements in the general construction of the capacitors give better results in audio where the fidelity of the waveshape is very important. Great attention has been paid to the construction details which can affect the performance, i.e. foil type, its connections and the mechanical construction. BHC manufacture a range of capacitors for this type of application in screw terminal, solder tag or board mounting configurations.

Details of capacitance and case sizes available in the Slit Foil Capacitors range are available from our sales office.

T-NETWORK

A new generation of audio capacitors is now available from BHC – T-Network Capacitor (TNC). The TNC has been designed specifically for audio applications by DNM design and is being manufactured in the UK by BHC.

In a normal capacitor unwanted resistance and inductance force the input and output together electrically, making its unwanted characteristics very critical for performance - figure 1.

The new T-Network capacitor (TNC) behaves differently because the input must flow along the capacitor plate to reach the output. The signal is forced into pure capacitance with most of the unwanted resistance and inductance appearing on each side of the bulk capacitance. The residual defects, therefore, tend to assist capacitance filtering in the T-Network design - figure 2.

The TNC is designed for the most demanding filtering situations and it will redefine performance standards in many non-audio applications. For use in audio amplifiers, the TNC incorporates current slit foil technology to produce the ultimate audio capacitor. These capacitors give excellent results against standard components on a direct replacement. However, TNC high frequency performance is so enhanced that the H.F. compensation of test amplifiers may need resetting for best results.

Figure 1: Conventional capacitor

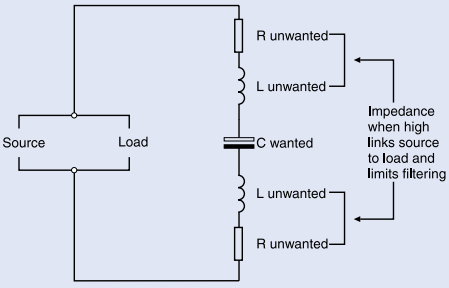
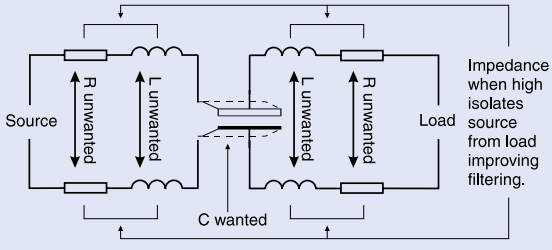


Figure 2: T-Network capacitor

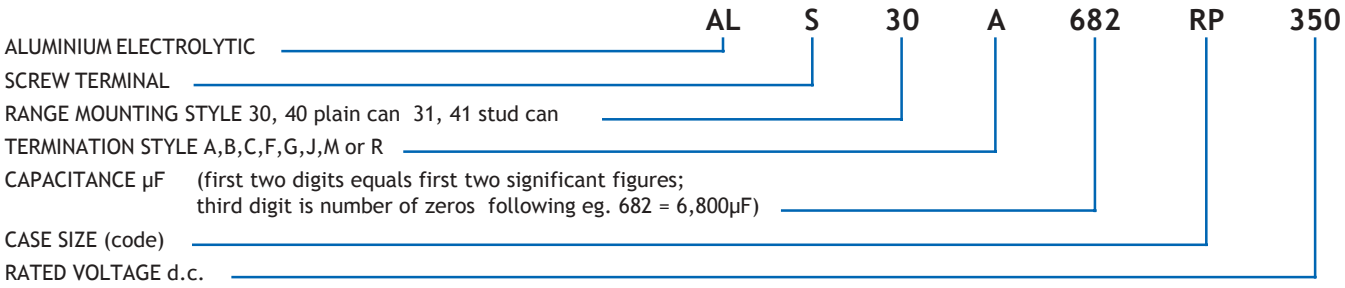


Cap µF	Cap Tolerance	Rated Voltage VDC	Part Number	Case Size (D x L) mm
10,000	-10/+30%	50	ALN20S1053DD	40 x 55
10,000	±20%	63	ALN20S1067DD	40 x 55

Ordering information

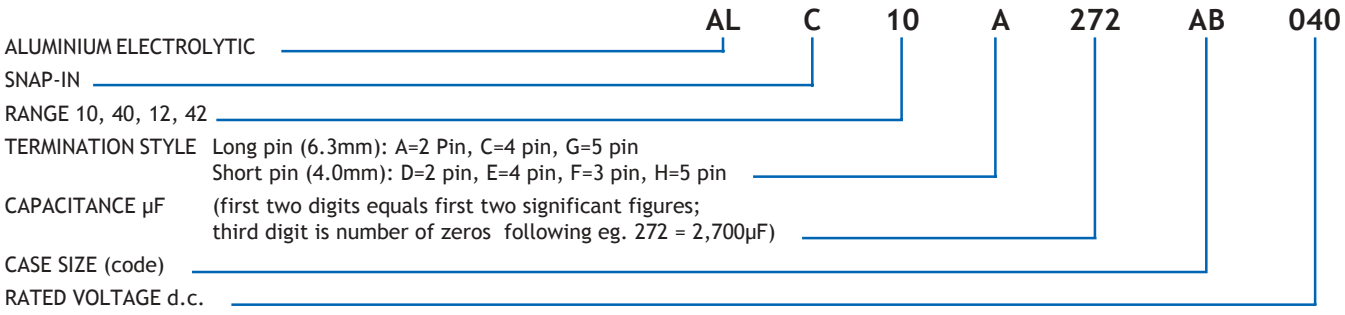
SCREW TERMINAL CAPACITORS

ALS30/31, ALS40/41



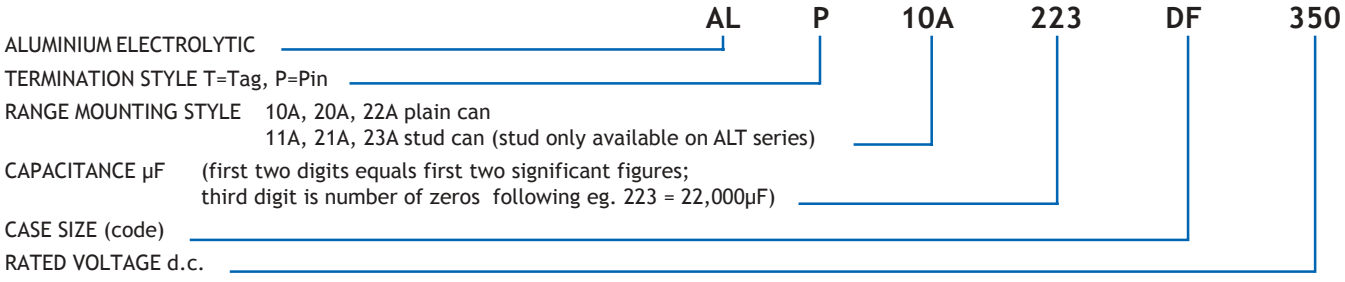
SNAP-IN CAPACITORS

ALC10, ALC40
ALC12, ALC42



PCB & SOLDER TAG CAPACITORS

ALP10/20/22, ALT10/11/20/21/22/23

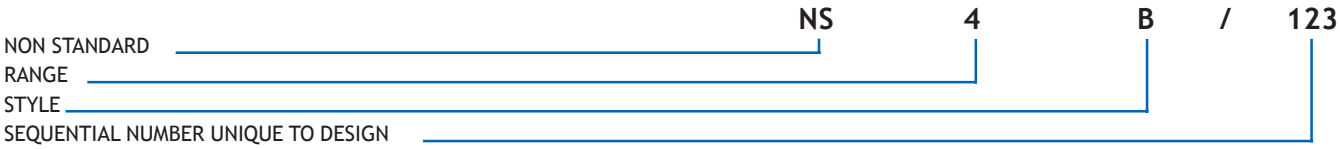


SPECIAL PART NUMBERS

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
BS EN ISO 9001:2000
for the activities detailed in the scope of
registration.

Certificate No: **FM 11885**

Signed on behalf of BSI

Originally registered: **12 Mar 1991**

UKAS QUALITY MANAGEMENT
003

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To check its validity telephone +44 (0)20 8996 9001 or visit www.bsi-global.com/BusinessPartners
Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2000 requirements may be obtained by consulting the organization. The British Standards Institution is incorporated by Royal Charter.
Group Headquarters: 389 Chiswick High Road, London W4 4AL, UK.

BSI Management Systems

MCA402/55/UE 15A/0132/UK/DP