

# ALP/T 20/22 Series 85°C

**RoHS**  
Compliant

- Solder tag (ALT) and DIN standard solder pin (ALP)
- Long Life 26000 hours at 85 °C (Ur, Ir applied)
- ALC snap-in should be considered for new designs

## APPLICATION

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.

## BASIC DESIGN

The ALP/T20 features low ESR, high ripple current ratings and outstandingly good high frequency impedance.

The ALP/T22 has the same features as the ALP/T20 series but with a very high CV per unit volume.

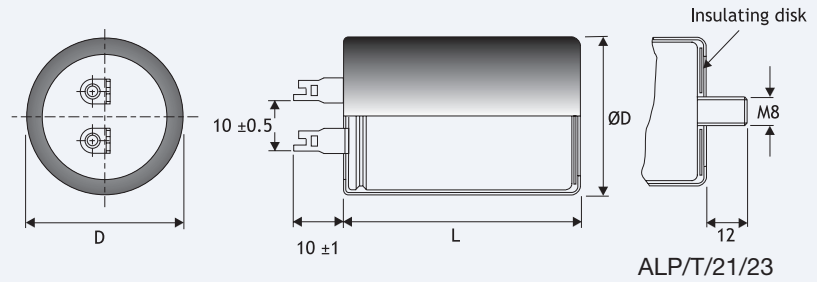
## SPECIFICATION

<b>Standards</b>	IEC 60384-4, DIN 41238, BS CECC 30301-033 (ALP/T20 only)											
<b>Capacitance range</b>	22 – 150000 µF											
<b>Capacitance tolerance</b>	-10 to +30% ALP/T 20 (except 200V ±20%) -20 to +20% ALP/T 22											
<b>Rated voltage <math>U_R</math></b>	40 - 450 VDC											
<b>Surge voltage <math>U_S</math></b>	1.15 x $U_R$ (for $U_R \leq 250$ VDC) 1.10 x $U_R$ (for $U_R \geq 350$ VDC)	Test Condition: ≤ 30s surge, 1000 cycles @ 85°C										
<b>Leakage current <math>I_L</math></b>	= 0.006 x $C_R$ x $U_R$ (µA) or 6mA whichever is the smaller. Note, $C_R$ is in µF.	Test Condition: $U_R$ , 5mins., 20°C										
<b>Operational life time +85°C, <math>U_R</math>, <math>I_R</math></b>	<table border="1"> <thead> <tr> <th>Can Diameter</th> <th>Life (hrs)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>12000</td> </tr> <tr> <td>30</td> <td>15000</td> </tr> <tr> <td>35</td> <td>18000</td> </tr> <tr> <td>40</td> <td>26000</td> </tr> </tbody> </table>	Can Diameter	Life (hrs)	25	12000	30	15000	35	18000	40	26000	End of Life requirement:  $\Delta C/C \leq \pm 10\%$ $ESR \leq 2 \times \text{initial ESR value}$ $I_L \leq \text{initial specified limit}$
Can Diameter	Life (hrs)											
25	12000											
30	15000											
35	18000											
40	26000											
<b>Shelf Life</b>	2000 hrs at 0V +85°C, or 30000 hrs at 0V +40°C											
<b>Temperature range</b>	-40 to +85°C (Operating) -55°C to +105°C (Storage)											

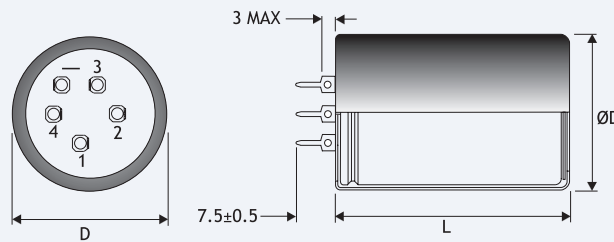
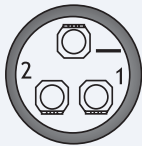
## SPECIFICATION

**ALT Tag style**

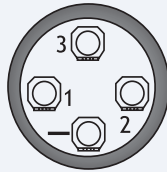
Designed for flying lead connection.

**ALP Pin style**

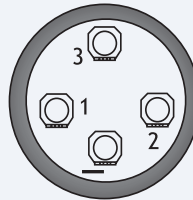
Designed for PCB mounting to DIN 41238.

**ALP Pin and mounting configurations**

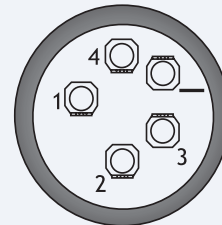
Ø 25 mm



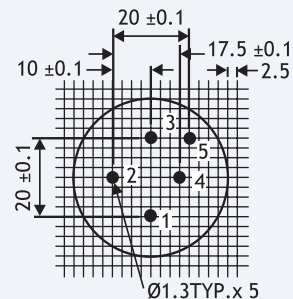
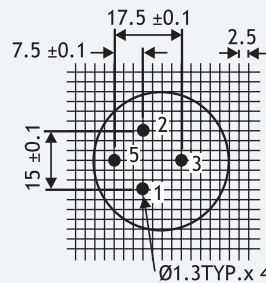
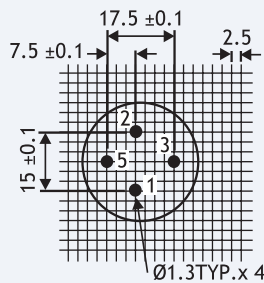
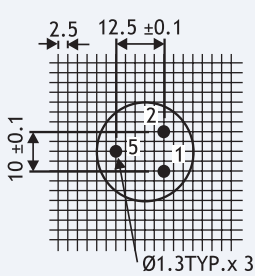
Ø 30 mm



Ø 35 mm



Ø 40 mm



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.

**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

## Can size (mm) / rating data - ALP/T20 series

Cap µF	Rated Voltage U <sub>R</sub>						
	40	63	100	200	250	400	450
22							25x35
33							25x35
47						25x35	25x35
68						25x45	25x45
100					25x35	30x45	30x45
150				25x35	25x45	35x45	35x55
220				25x45	30x45	35x55 / 40x45	40x55
330				30x45	35x45	40x55	40x75
470			25x35	35x45	35x55 / 40x45	40x75	40x105
680			25x45	35x55 / 40x45	40x55	40x105	
1000		25x35	30x45	40x55	40x75		
1500	25x35	25x45	35x45	40x75	40x105		
2200	25x45	30x45	35x55 / 40x45	40x105			
3300	30x45	35x45	40x55				
4700	35x45	35x55 / 40x45	40x75				
6800	35x55 / 40x45	40x55	40x105				
10000	40x55	40x75					
15000	40x75	40x105					
22000	40x105						

## Can size (mm) / rating data - ALP/T22 series

Cap µF	Rated Voltage U <sub>R</sub>						
	40	63	100	200	250	385	450
47							25x35
68						25x35	25x45
100					25x35	25x45	30x45
150				25x35	25x45	30x45	35x45
220				25x45	30x45	35x45	35x55 / 40x45
330				30x45	35x45	35x55 / 40x45	40x55
470				35x45	35x55 / 40x45	40x55	40x75
680			25x35	35x55 / 40x45	40x55	40x75	40x105
1000			25x45	40x55	40x75	40x105	
1500			30x45	40x75	40x105		
2200		25x35	35x45	40x105			
3300	25x35	25x45	35x55 / 40x45				
4700	25x45	30x45	40x55				
6800	30x45	35x45	40x75				
10000	35x45	35x55 / 40x55	40x105				
15000	35x55 / 40x45	40x75					
22000	40x55	40x105					
33000	40x75						
47000	40x105						

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