

Aluminium Electrolytic Capacitors LONG LIFE GRADE

ALS60/61 Series (PROVISIONAL DATA)



Screw Terminals - Plain and Stud Mountings

INTRODUCTION

This range offers high temperature operation with high ripple currents and long life performance

REFERENCE DATA

Capacitance range	1000 μ F to 150,000 μ F
Capacitance tolerance	$\pm 20\%$
Voltage range	16V to 100V d.c.
Temperature range	-55°C to +125°C
Case sizes	36 x 52mm to 77 x 146mm
Endurance test	2000 hours at 125°C with rated voltage and ripple current



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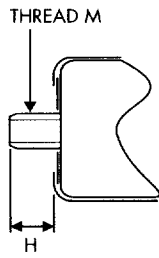


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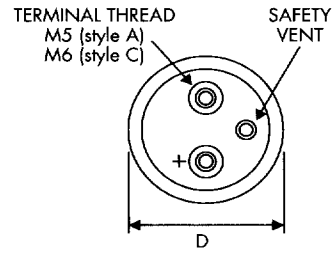
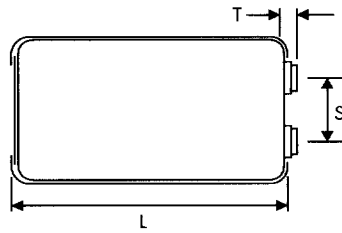
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DIMENSIONS mm

ALS61 (Stud can)



ALS60 (Plain can)



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
6. BHC part number
7. Environmental classification

DIMENSIONS (sleeved) mm

CASE CODE	D +2-1	L ± 2	S ± 0.5	T ± 0.8	M THREAD	H ± 1	MOUNTING CLIP
DA	36	52	12.7	6.4	M8	12	V3/H2
DB	36	62	12.7	6.4	M8	12	V3/H2
DE	36	82	12.7	6.4	M8	12	V3/H2
DF	36	105	12.7	6.4	M8	12	V3/H2
KE	51	82	22.2	5.0	M12	16	V4
KF	51	105	22.2	5.0	M12	16	V4
MF	66	105	28.5	5.0	M12	16	V10
NF	77	105	31.7	5.0	M12	16	V11
NP	77	146	31.7	5.0	M12	16	V11

Max torque: Terminals M5:2NM/M6:4NM, Stud M8:4NM/M12:10NM
 M6 terminals (style C) only available for 77mm diameter products.

ORDERING INFORMATION

AL S 60 A 223 NF 063



ALS60/61 SERIES

ALUMINIUM ELECTROLYTIC _____

SCREW TERMINAL _____

RANGE MOUNTING STYLE _____

(60 PLAIN CAN, 61 STUD CAN)

TERMINATION STYLE A or C _____

CAPACITANCE μF _____

(first two digits equals first two significant figures;
 third digit is no. of zeros following eg. 223 = 22,000 μF)

CASE SIZE (code) _____

RATED VOLTAGE d.c. _____

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TECHNICAL DATA

Related documents

IEC 384-4

Temperature range

Storage -65°C to +125°C
 Operating -55°C to +125°C
 Environmental classification 55/125/56

Surge voltage

1000 surges (30 seconds) at 125°C with surge voltage applied. See ratings tables

Charge/discharge

10⁵ 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 0.003 C_r U_r or 10mA whichever is the smaller. Where C_r is the rated capacitance in µF and U_r is the rated d.c. voltage.

Vibration

10Hz to 55Hz at 0.75mm or 10g.

Insulation resistance

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

Voltage proof

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

Endurance test

2000 hours at 125°C with rated voltage and ripple current applied.

Life expectancy

Life expectancy at ripple current and voltage (thousands of hours)

Can Dia mm	AMBIENT TEMPERATURE				
	40°C	60°C	85°C	105°C	125°C
36	400	108	20	5	2
51	400	275	42	11	3
66	400	400	44	11	3
77	400	400	45	12	3

Mounting

Vertically with vent uppermost or horizontally with vent uppermost.

Ripple current

TEMPERATURE CORRECTION
 For ambient temperatures other than 125°C the following multipliers should be applied to the 125°C ripple current.

AMBIENT TEMPERATURE	FACTOR
50°C	2.9
60°C	2.7
70°C	2.5
85°C	2.2
105°C	1.7
125°C	1.0

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

Standard ratings of capacitance and voltage values related to case size (diameter x length) mm

CAPACITANCE µF	RATED VOLTAGE d.c.				
	16	25	40	63	100
1,000					36 x 52
1,500					
2,200				36 x 52	36 x 82
3,300				36 x 82	51 x 82
4,700		36 x 52	36 x 82	36 x 105	51 x 105
6,800				51 x 82	66 x 105
10,000	36 x 52	36 x 82	36 x 105	51 x 105	77 x 105
15,000	36 x 82	36 x 105	51 x 82	66 x 105	77 x 146
22,000	36 x 105	51 x 82	51 x 105	77 x 105	
33,000	51 x 82	51 x 105	66 x 105	77 x 146	
47,000	51 x 105	66 x 105	77 x 105		
68,000	66 x 105	77 x 105	77 x 146		
100,000	77 x 105	77 x 146			
150,000	77 x 146				



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16V d.c. Rated voltage (18.4V surge)

Cap μF	ESR mΩ at		Impedance mΩ		Ripple current A at 125°C		Type number (Excluding style ref)
	20°C, 100 Hz	at 20°C, 10 KHz	100 Hz	10 KHz	100 Hz	10 KHz	
10000	32	20	4.8	5.1	ALS6--103DA016		
15000	24	16	7.1	7.7	ALS6--153DE016		
22000	16	14	9.1	9.9	ALS6--223DF016		
33000	14	12	10.7	11.1	ALS6--333KE016		
47000	10	8	14.4	15.1	ALS6--473KF016		
68000	7	6	20.9	21.9	ALS6--683MF016		
100000	6	6	22.2	22.8	ALS6--104NF016		
150000	4	4	31.0	31.8	ALS6--154NP016		

25V d.c. Rated voltage (28.5V surge)

Cap μF	ESR mΩ at		Impedance mΩ		Ripple current A at 125°C		Type number (Excluding style ref)
	20°C, 100 Hz	at 20°C, 10 KHz	100 Hz	10 KHz	100 Hz	10 KHz	
4700	46	38	4.4	4.8	ALS6--472DA025		
10000	22	18	7.3	8.0	ALS6--103DE025		
15000	15	12	9.4	10.2	ALS6--153DF025		
22000	14	12	10.3	10.7	ALS6--223KE025		
33000	10	9	13.9	14.5	ALS6--333KF025		
47000	7	6	20.3	21.2	ALS6--473MF025		
68000	7	6	20.9	21.5	ALS6--683NF025		
100000	5	4	29.3	30.1	ALS6--104NP025		

40V d.c. Rated voltage (46V surge)

Cap μF	ESR mΩ at		Impedance mΩ		Ripple current A at 125°C		Type number (Excluding style ref)
	20°C, 100 Hz	at 20°C, 10 KHz	100 Hz	10 KHz	100 Hz	10 KHz	
4700	26	21	6.7	7.6	ALS6--472DE040		
10000	13	11	9.4	10.4	ALS6--103DF040		
15000	14	12	9.7	10.1	ALS6--153KE040		
22000	10	9	13.0	13.6	ALS6--223KF040		
33000	7	6	18.9	19.7	ALS6--333MF040		
47000	7	6	18.9	19.3	ALS6--473NF040		
68000	5	5	26.6	27.3	ALS6--683NP040		

63V d.c. Rated voltage (72.5V surge)

Cap μF	ESR mΩ at		Impedance mΩ		Ripple current A at 125°C		Type number (Excluding style ref)
	20°C, 100 Hz	at 20°C, 10 KHz	100 Hz	10 KHz	100 Hz	10 KHz	
2200	47	37	3.9	4.5	ALS6--222DA063		
3300	32	25	5.6	6.6	ALS6--332DE063		
4700	22	18	7.1	8.4	ALS6--472DF063		
6800	20	17	8.6	10.0	ALS6--682KE063		
10000	13	11	11.6	12.7	ALS6--103KF063		
15000	10	8	16.7	18.4	ALS6--153MF063		
22000	9	8	17.9	19.0	ALS6--223NF063		
33000	6	5	25.0	26.5	ALS6--333NP063		

100V d.c. Rated voltage (115V surge)

Cap μF	ESR mΩ at		Impedance mΩ		Ripple current A at 125°C		Type number (Excluding style ref)
	20°C, 100 Hz	at 20°C, 10 KHz	100 Hz	10 KHz	100 Hz	10 KHz	
1000	106	86	2.9	3.6	ALS6--102DA100		
2200	51	41	4.8	5.8	ALS6--222DE100		
3300	48	41	6.2	6.9	ALS6--333KE100		
4700	32	27	8.4	9.5	ALS6--472KF100		
6800	21	18	12.2	13.9	ALS6--682MF100		
10000	21	18	12.6	13.5	ALS6--103NF100		
15000	14	13	17.6	18.8	ALS6--153NP100		

Note: Values of esr, impedance and ripple current above are maximum