

PG - 8K

-40°C +105°C



Capacitor Diameter (mm)	35	50	63	76	90
Max. Ripple Current (Amps)	20	20	40	40	72

## Specifications

- **Voltage range :** 50 VDC to 500 VDC
- **Can size :** 35φ x 62mm to 90φ x 220mm
- **Operating Temperature range :** -40°C to + 105°C
- **Capacitance :** 1000 MFD to 200000 MFD  
Tolerance ± 20%
- **Leakage current:** The max. leakage current (IL) is given by the formula:  
IL = 0.003 CV (microamps)  
C = capacitance in microfarads  
V = DC rated voltage  
Pre-conditioning of the capacitors prior to testing for leakage current is essential.
- **Ripple Current:** All capacitors withstand rms ripple current at 100 Hz at 105°C. When capacitors operate at temperatures other than 105°C, the permissible rms ripple current at 105°C should be multiplied by the factors given below :

+40°C	+45°C	+50°C	+65°C
2.7	2.6	2.5	2.2

Where capacitors are required to operate at frequencies other than 100 Hz, the multiplying factors given below, may be used to determine the ripple current capacity, at that frequency.

Frequency Hz	100	120	250	500	1k to10k	>10K
Multiplying Factor	1.0	1.02	1.05	1.20	1.32	1.35

- **Notes :**
  1. Can is negative, However, it is isolated with a PVC insulating sleeve and polypropylene end-disc.
  2. The base stud is also negative and can be insulated with a nylon nut. Please see the page regarding mounting accessories for details.
  3. Maximum ripple current for each capacitor diameter .

## Application

High Temperature 105 °C for High Ripple Current Applications like, PWM Inverters, High KVA On-Line UPS, Frequency Converters, AC Drives, Renewable Energy Power Supplies, elevators drive

## Capacitor mounting

Capacitors are available in screw terminals in three mounting styles

- **AEST** - Screw terminals with plain insulated base. *see page 6,7*
- **AEST-D** - Screw terminals with stud mounting. *see page 6,7*
- **AEST-AL** - Capacitor with aluminium bottom disc. *see page 8*

## Capacitor Terminal Style


Capacitors are available in two different terminal style, round and across flat. Below table summarizes the available terminal styles in different capacitors diameter

Capacitors Diameter (mm)	35	50	63	76	90
Terminal Style - Round	○	○	○	○	○
Terminal Style - Across Flat		○	○	○	○

*For details see pages 6,7,8*

## Marking on capacitors

Each capacitor will have the following information printed on it, sequentially:

- The Company's symbol  followed by the words ALCON ELECTRONICS
- The capacitor grade viz. PG-8K
- The capacitance value \_\_ MFD, rated voltage \_\_VDC
- The surge voltage
- Capacity tolerance
- Climatic category
- Part number on non-standard capacitors
- CE marking

### Useful life

Useful life is a period of time which the capacitor takes to reach “end of life”.

For PG-8K capacitors the useful life is estimated as 2000 hours at maximum rated temperature, ripple current and voltages.

End of the defined as follows :

1. Catastrophic failure : capacitor short or open circuit
2. Mechanical failure : operation of safety vent or sleeve damage
3. Parametric failure :
  - a. Capacitance change  $\pm 30\%$
  - b. ESR exceed three times specified value
  - c. Leakage current exceed specified value

The useful life for a known ripple current load and ambient temperature ( Ta ) °C is determined on the basis of the “ Life graph” shown below.

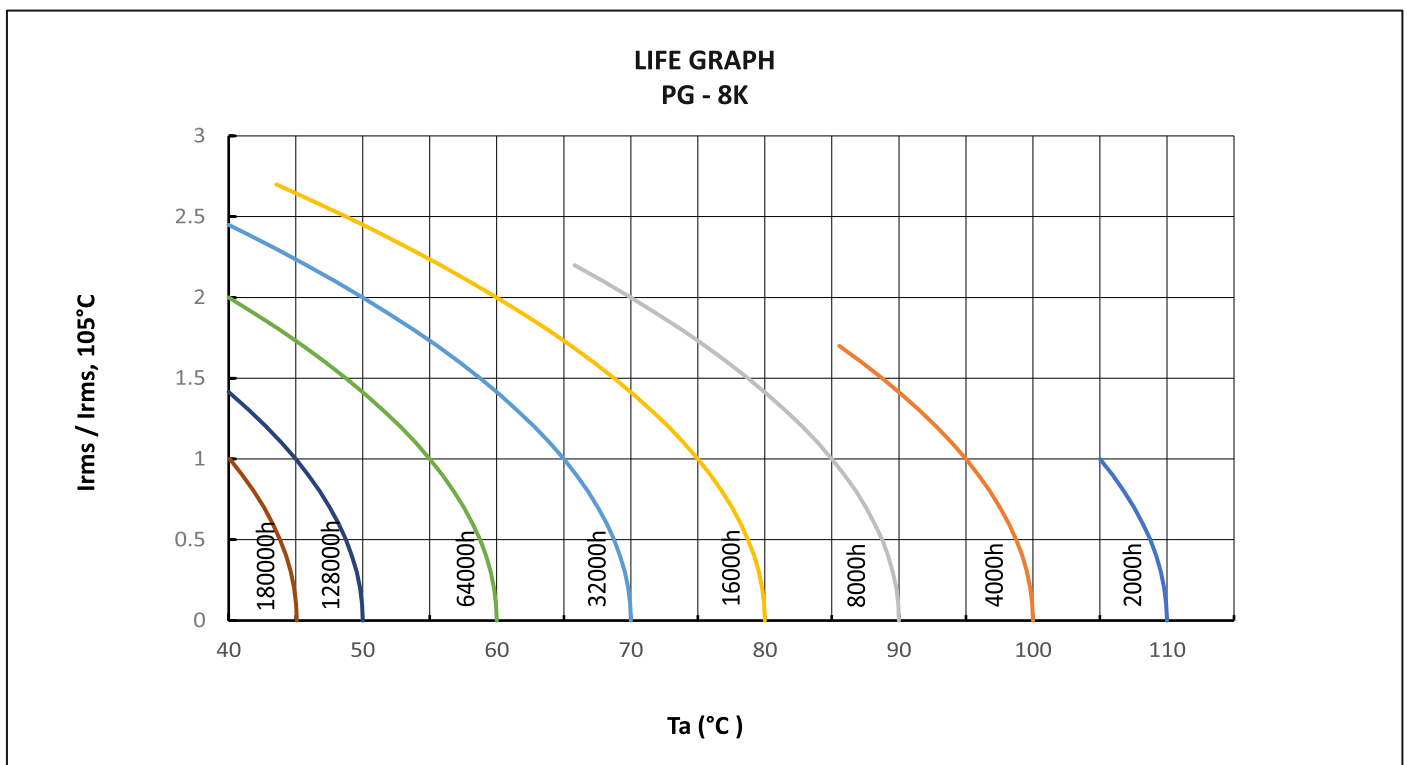
### Manufacturing Date Code Chart

The manufacturing code shall consists of four digits (alphanumeric). The first two shall denote the date (numeric). The third stands for the month (alpha-numeric). The fourth stands for the year (alphabet)

	Third space MONTH	Fourth space YEAR
01	1 = JANUARY	A = 2012
02	2 = FEBRUARY	B = 2013
03	3 = MARCH	C = 2014
.	4 = APRIL	D = 2015
.	5 = MAY	E = 2016
.	6 = JUNE	F = 2017
10	7 = JULY	G = 2018
11	8 = AUGUST	H = 2019
.	9 = SEPTEMBER	J = 2020
.	X = OCTOBER	K = 2021
.	Y = NOVEMBER	L = 2022
31	Z = DECEMBER	M = 2023

For example :

1. Manufacturing code 023A will mean 2<sup>nd</sup> March, 2012
2. Manufacturing code 10XA will mean 10<sup>th</sup> October, 2012



PG - 8K

-40°C +105°C

## Standard Capacitor Values

Rated Voltage (VDC)	Surge Voltage (VDC)	Capacitance Nominal (MFD)	MAX ESR at 100 Hz, 25°C (miliOhm)	Ripple Current at 100 Hz, 85°C (Amps)	Ripple Current (Irms) at 100 Hz, 105°C (Amps)	Can size Nominal D x L mm	Case Code	Ordering code		
50	60	4700	30.1	10.4	6	35x62	025	SA047000050AB025____M01		
		6800	25.7	11.2	6.5	35x62	025	SA068000050AB025____M01		
		10000	26.6	14.0	8.1	35x105	013	SA100000050AB013____M01		
		10000	24.5	15.7	9.1	50x80	020	SA100000050AB020____M01		
		15000	24.1	14.7	8.5	35x105	013	SA150000050AB013____M01		
		22000	16.5	19.2	11.1	50x80	020	SA220000050AB020____M01		
		33000	14.1	23.4	13.5	50x105	022	SA330000050AB022____M01		
		47000	12.2	28.5	16.5	63x105	026	SA470000050AB026____M01		
		68000	11.4	32.9	19	76x105	028	SA680000050AB028____M01		
		100000	9.1	38.9	22.5	76x120	041	SA1000H0050AB041____M01		
		150000	7.5	46.7	27	76x146	081	SA1500H0050AB081____M01		
		220000	7.8	55.4	32	76x220	092	SA2200H0050AB092____M01		
63	75	4700	26.5	11.1	6.4	35x62	025	SA047000063AB025____M01		
		6800	22.2	12.1	7	35x62	025	SA068000063AB025____M01		
		10000	19.7	16.3	9.4	35x105	013	SA100000063AB013____M01		
		10000	19.7	17.6	10.15	50x80	020	SA100000063AB020____M01		
		15000	17.4	18.7	10.8	50x80	020	SA150000063AB020____M01		
		22000	15.2	22.5	13	50x105	022	SA220000063AB022____M01		
		33000	13.0	27.7	16	63x105	026	SA330000063AB026____M01		
		47000	11.4	32.9	19	76x105	028	SA470000063AB028____M01		
		68000	10.3	39.8	23	76x146	081	SA680000063AB081____M01		
		100000	6.1	57.1	33	90x145	095	SA1000H0063AB095____M01		
		100000	6.2	62.3	36	76x220	092	SA1000H0063AB092____M01		
		150000	4.8	76.8	44.4	90x220	094	SA1500H0063AB094____M01		
75	90	4700	31.2	11.4	6.6	35x80	012	SA047000075AB012____M01		
		6800	31.9	12.8	7.4	35x105	013	SA068000075AB013____M01		
		10000	29.1	16.3	9.4	50x105	022	SA100000075AB022____M01		
		15000	23.3	18.2	10.5	50x105	022	SA150000075AB022____M01		
		22000	19.1	22.8	13.2	63x105	026	SA220000075AB026____M01		
		33000	14.3	29.4	17	76x105	028	SA330000075AB028____M01		
		47000	12.4	33.4	19.3	76x120	041	SA470000075AB041____M01		
		68000	11.2	38.2	22.1	76x146	081	SA680000075AB081____M01		
		100000	9.8	49.3	28.5	76x220	092	SA1000H0075AB092____M01		
		100	115	2200	56.1	7.6	4.4	35x62	025	SA022000100AB025____M01
				3300	52.3	8.8	5.1	35x80	012	SA033000100AB012____M01
				4700	43.9	10.9	6.3	35x105	013	SA047000100AB013____M01
6800	34.2			13.3	7.7	50x80	020	SA068000100AB020____M01		
10000	21.7			18.9	10.9	50x105	022	SA100000100AB022____M01		
15000	18.3			23.4	13.5	63x105	026	SA150000100AB026____M01		
22000	17.2			26.8	15.5	76x105	028	SA220000100AB028____M01		
33000	13.6			34.6	20	76x146	081	SA330000100AB081____M01		
47000	11.5			41.5	24	90x145	095	SA470000100AB095____M01		
47000	12.8			43.3	25	76x220	092	SA470000100AB092____M01		
68000	10.0			48.8	28.2	76x220	092	SA680000100AB092____M01		
100000	6.9			64.4	37.2	90x220	094	SA1000H0100AB094____M01		

Custom designed capacitors available

PG - 8K

-40°C +105°C

## Standard Capacitor Values

Rated Voltage (VDC)	Surge Voltage (VDC)	Capacitance Nominal (MFD)	MAX ESR at 100 Hz, 25°C (miliOhm)	Ripple Current at 100 Hz, 85°C (Amps)	Ripple Current (Irms) at 100 Hz, 105°C (Amps)	Can size Nominal D x L mm	Case Code	Ordering code		
150	172	1000	151.2	5.2	3	35x80	012	SA010000150AB012___M01		
		1500	114.7	6.7	3.9	35x105	013	SA015000150AB013___M01		
		2200	98.9	7.3	4.2	35x105	013	SA022000150AB013___M01		
		3300	85.1	9.5	5.5	50x105	022	SA033000150AB022___M01		
		4700	59.1	11.4	6.6	50x105	022	SA047000150AB022___M01		
		6800	49.6	14.2	8.2	63x105	026	SA068000150AB026___M01		
		10000	34.1	19.7	11.4	63x145	035	SA100000150AB035___M01		
		12000	31.3	22.8	13.2	76x146	081	SA120000150AB081___M01		
		15000	23.9	26.1	15.1	76x146	081	SA150000150AB081___M01		
		22000	17.3	37.2	21.5	76x220	092	SA220000150AB092___M01		
		33000	11.0	51.0	29.5	90x220	094	SA330000150AB094___M01		
200	230	1000	141.6	5.4	3.1	35x80	012	SA010000200AB012___M01		
		1500	94.3	7.4	4.3	35x105	013	SA015000200AB013___M01		
		2200	72.2	9.2	5.3	50x80	020	SA022000200AB020___M01		
		3300	69.1	10.6	6.1	50x105	022	SA033000200AB022___M01		
		4700	64.3	12.5	7.2	63x105	026	SA047000200AB026___M01		
		6800	47.8	16.1	9.3	76x105	028	SA068000200AB028___M01		
		10000	25.9	25.1	14.5	76x146	081	SA100000200AB081___M01		
		12000	19.3	29.1	16.8	76x146	081	SA120000200AB081___M01		
		15000	18.3	32.9	19	90x145	095	SA150000200AB095___M01		
		22000	14.4	40.7	23.5	76x220	092	SA220000200AB092___M01		
		27000	12.7	47.5	27.44	90x220	094	SA270000200AB094___M01		
250	288	1000	114.7	6.7	3.9	35x105	013	SA010000250AB020___M01		
		1500	88.0	8.3	4.8	50x80	020	SA015000250AB020___M01		
		2200	71.5	10.4	6	50x105	022	SA022000250AB022___M01		
		3300	53.4	13.7	7.9	63x105	026	SA033000250AB026___M01		
		4700	41.3	17.3	10	76x105	028	SA047000250AB028___M01		
		6800	32.3	22.5	13	76x146	081	SA068000250AB081___M01		
		10000	20.8	28.0	16.2	76x175	090	SA100000250AB090___M01		
		12000	18.1	36.3	21	76x220	092	SA120000250AB092___M01		
		15000	15.7	35.5	20.5	90x175	096	SA150000250AB096___M01		
				15000	15.8	38.9	22.5	76x220	092	SA150000250AB092___M01
		22000	9.9	53.8	31.1	90x220	094	SA220000250AB094___M01		
315	362	1000	126.7	6.9	4	50x80	020	SA010000315AB020___M01		
		1500	107.2	8.5	4.9	50x105	022	SA015000315AB022___M01		
		2200	66.1	12.3	7.1	63x105	026	SA022000315AB026___M01		
		3300	58.6	14.5	8.4	76x105	028	SA033000315AB028___M01		
		4700	37.5	18.2	10.5	76x105	028	SA047000315AB028___M01		
		6800	27.8	24.2	14	76x146	081	SA068000315AB081___M01		
		10000	22.1	32.9	19	76x220	092	SA100000315AB092___M01		
		15000	16.4	41.7	24.1	90x220	094	SA150000315AB094___M01		
				22000	11.0	51.0	29.5	90x220	094	SA220000315AB094___M01

Custom designed capacitors available

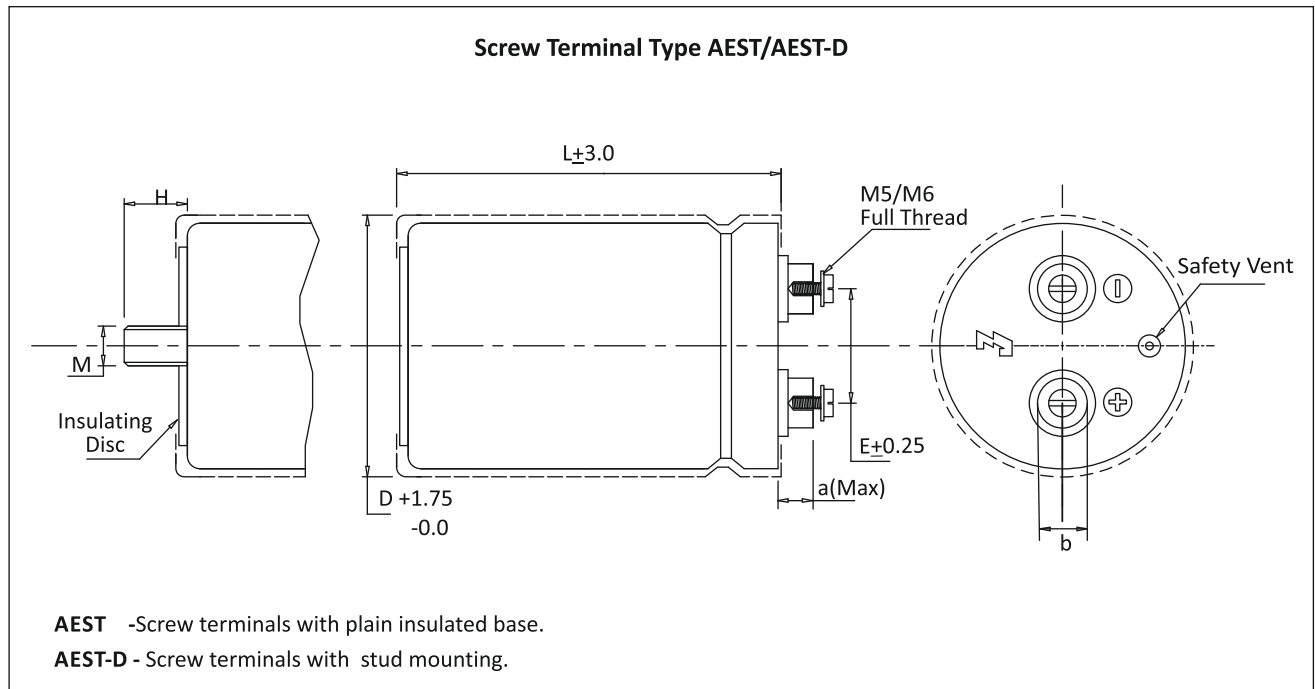


### Standard Capacitor Values

Rated Voltage (VDC)	Surge Voltage (VDC)	Capacitance Nominal (MFD)	MAX ESR at 100 Hz, 25°C (miliOhm)	Ripple Current at 100 Hz, 85°C (Amps)	Ripple Current (Irms) at 100 Hz, 105°C (Amps)	Can size Nominal D x L mm	Case Code	Ordering code
350	385	1000	114.9	7.3	4.2	50x80	020	SA010000350AB020____M01
		1500	79.2	9.9	5.7	50x105	022	SA015000350AB022____M01
		2200	64.3	12.5	7.2	63x105	026	SA022000350AB026____M01
		3300	41.6	16.4	9.5	63x120	039	SA033000350AB039____M01
		3300	41.3	17.3	10	76x105	028	SA033000350AB028____M01
		4700	37.9	20.8	12	76x146	081	SA047000350AB081____M01
		6800	21.6	30.3	17.5	90x145	095	SA068000350AB095____M01
		6800	23.3	32.0	18.5	76x220	092	SA068000350AB092____M01
		10000	17.3	37.2	21.5	76x220	092	SA100000350AB092____M01
15000	15.3	43.3	25	90x220	094	SA150000350AB094____M01		
400	440	1000	109.6	7.4	4.3	50x80	020	SA010000400AB020____M01
		1500	76.5	10.0	5.8	50x105	022	SA015000400AB022____M01
		2200	60.9	12.8	7.4	63x105	026	SA022000400AB026____M01
		3300	46.2	17.0	9.8	63x145	035	SA033000400AB035____M01
		4700	36.6	21.1	12.2	76x146	081	SA047000400AB081____M01
		6800	33.2	26.8	15.5	76x220	092	SA068000400AB092____M01
		10000	19.7	38.1	22	90x220	094	SA100000400AB094____M01
		12000	16.6	41.5	24	90x220	094	SA120000400AB094____M01
		415	456	1000	100.1	7.8	4.5	50x80
450	495	1500	73.9	10.2	5.9	50x105	022	SA015000415AB022____M01
		2200	60.0	14.4	8.3	76x105	028	SA022000415AB028____M01
		3300	43.5	19.4	11.2	76x146	081	SA033000415AB081____M01
		4700	32.8	24.6	14.2	90x145	095	SA047000415AB095____M01
		6800	24.9	31.0	17.9	76x220	092	SA068000415AB092____M01
		10000	17.0	41.0	23.7	90x220	094	SA100000415AB094____M01
		12000	14.7	44.1	25.5	90x220	094	SA120000415AB094____M01
		1000	98.9	8.8	5.1	50x105	022	SA010000450AB022____M01
		1500	81.4	11.1	6.4	63x105	026	SA015000450AB026____M01
2200	57.2	14.7	8.5	76x105	028	SA022000450AB028____M01		
3300	36.6	21.1	12.2	76x146	081	SA033000450AB081____M01		
4700	31.8	22.7	13.1	76x146	081	SA047000450AB081____M01		
6800	21.9	33.0	19.1	76x220	092	SA068000450AB092____M01		
10000	14.0	45.2	26.1	90x220	094	SA100000450AB094____M01		
500	550	1000	127.1	7.8	4.5	50x105	022	SA010000500AB022____M01
		1500	86.7	10.7	6.2	63x105	026	SA015000500AB026____M01
		2200	63.0	14.0	8.1	76x105	028	SA022000500AB028____M01
		3300	42.0	19.7	11.4	76x146	081	SA033000500AB081____M01
		3300	38.7	19.7	11.4	90x105	093	SA033000500AB093____M01
		4700	31.0	25.3	14.6	90x146	095	SA047000500AB095____M01
		4700	36.9	25.4	14.7	76x220	092	SA047000500AB092____M01
		5600	24.6	28.4	16.4	90x175	096	SA056000500AB096____M01
		6800	21.0	33.7	19.5	76x220	092	SA068000500AB092____M01

Custom designed capacitors available

### Terminal Style And Dimension With Round Insert

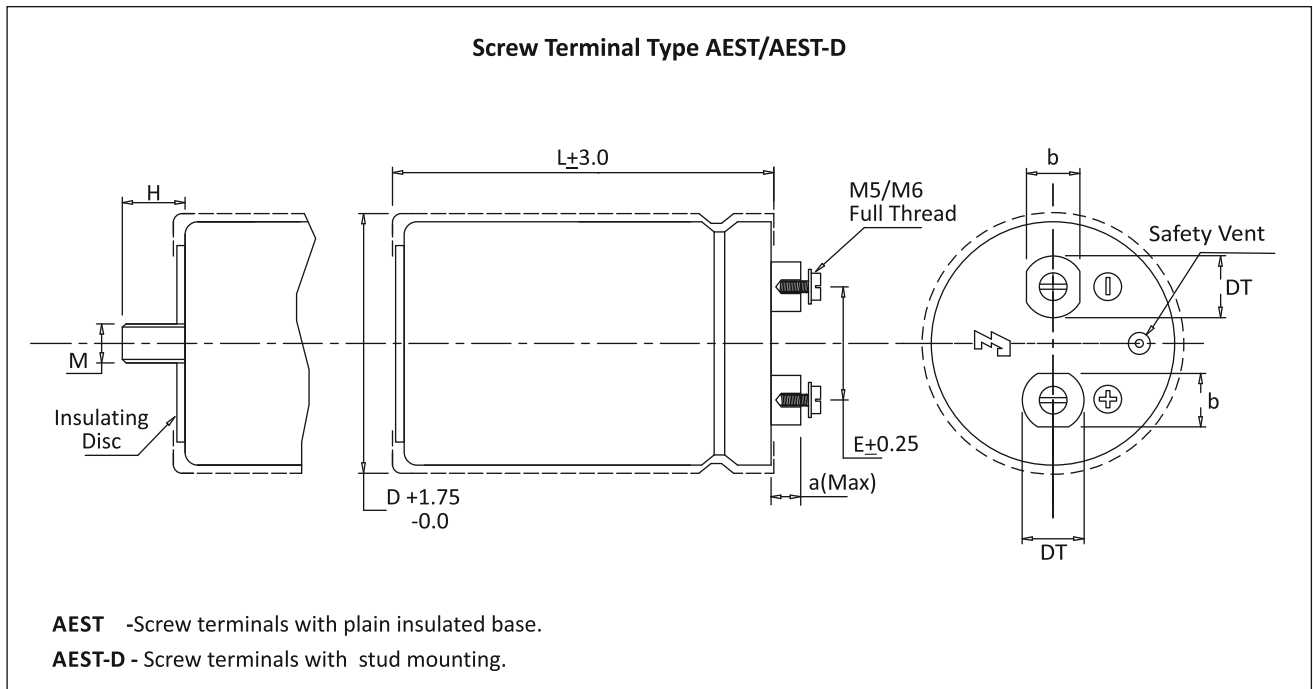


#### Dimension in mm.

Terminal	D	E	L	a (Max)	b±0.1	M	H±1.0
M5	35	12.6	62	7.8	9.5	---	---
M5	35	12.6	80	7.8	9.5	---	---
M5	35	12.6	105	7.8	9.5	---	---
M5	50	22.1	80	7.8	9.5	M 12	17.0
M5	50	22.1	105	7.8	9.5	M 12	17.0
M5	50	22.1	120	7.8	9.5	M 12	17.0
M5	63	28.5	105	7.8	12.0	M 12	17.0
M5	63	28.5	120	7.8	12.0	M 12	17.0
M5	63	28.5	146	7.8	12.0	M 12	17.0
M5	76	31.6	105	7.8	12.0	M 12	17.0
M5	76	31.6	120	7.8	12.0	M 12	17.0
M5	76	31.6	146	7.8	12.0	M 12	17.0
M5	76	31.6	175	7.8	12.0	M 12	17.0
M5	76	31.6	220	7.8	12.0	M 12	17.0
M5	76	31.6	240	7.8	12.0	M 12	17.0
M6	76	31.6	105	5.3*	16.0	M 12	17.0
M6	76	31.6	120	5.3*	16.0	M 12	17.0
M6	76	31.6	146	5.3*	16.0	M 12	17.0
M6	76	31.6	175	5.3*	16.0	M 12	17.0
M6	76	31.6	220	5.3*	16.0	M 12	17.0
M6	76	31.6	240	5.3*	16.0	M 12	17.0
M6	90	32	105	5.3*	16.0	M 12	17.0
M6	90	32	146	5.3*	16.0	M 12	17.0
M6	90	32	175	5.3*	16.0	M 12	17.0
M6	90	32	220	5.3*	16.0	M 12	17.0
M6	90	32	240	5.3*	16.0	M 12	17.0

\* Low Post Design

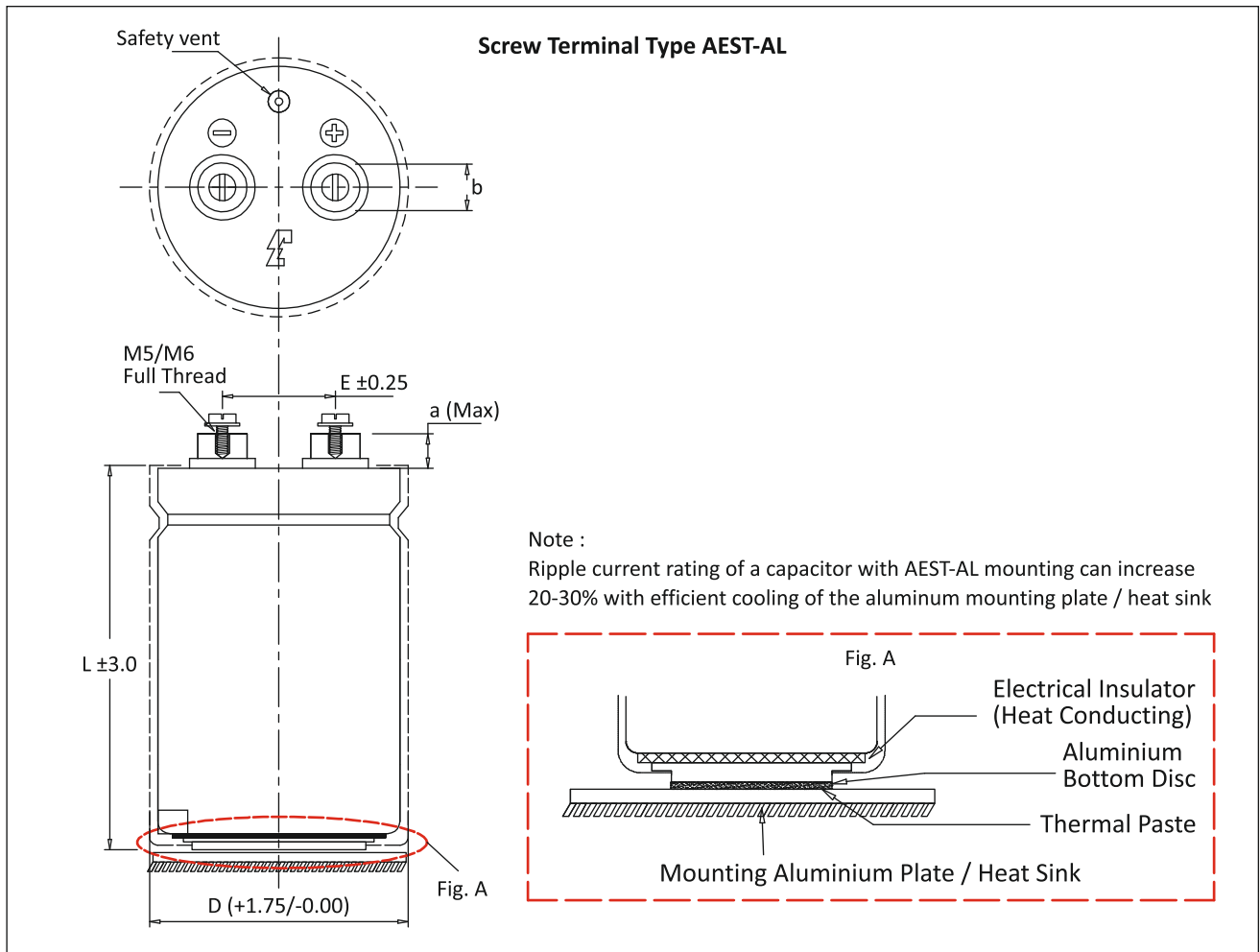
## Terminal Style And Dimension With Across Flat Insert



**Dimension in mm.**

Terminal	D	E	L	a (Max)	b	DT	M	H±1.0
M5	50	22.1	80	5.5	10	13	12	17
M5	50	22.1	105	5.5	10	13	12	17
M5	50	22.1	120	5.5	10	13	12	17
M6	63	28.5	105	6.5	13	15	12	17
M6	63	28.5	120	6.5	13	15	12	17
M6	63	28.5	146	6.5	13	15	12	17
M6	76	31.6	105	6.5	13	15	12	17
M6	76	31.6	120	6.5	13	15	12	17
M6	76	31.6	146	6.5	13	15	12	17
M6	76	31.6	175	6.5	13	15	12	17
M6	76	31.6	220	6.5	13	15	12	17
M6	76	31.6	240	6.5	13	15	12	17
M6	90	32	105	6.5	13	15	12	17
M6	90	32	120	6.5	13	15	12	17
M6	90	32	146	6.5	13	15	12	17
M6	90	32	175	6.5	13	15	12	17
M6	90	32	220	6.5	13	15	12	17
M6	90	32	240	6.5	13	15	12	17
M6	100	32	105	6.5	13	15	12	17
M6	100	32	120	6.5	13	15	12	17
M6	100	32	146	6.5	13	15	12	17
M6	100	32	175	6.5	13	15	12	17
M6	100	32	220	6.5	13	15	12	17
M6	100	32	240	6.5	13	15	12	17
M6	120	41.50	105	6.5	13	15	12	17
M6	120	41.50	120	6.5	13	15	12	17
M6	120	41.50	146	6.5	13	15	12	17
M6	120	41.50	175	6.5	13	15	12	17
M6	120	41.50	220	6.5	13	15	12	17
M6	120	41.50	240	6.5	13	15	12	17

## Terminal Style And Dimension



Dimension in mm.

Terminal	D	E	L	a (Max)	b±0.1
M5	63	28.5	105	7.8	12
M5	63	28.5	120	7.8	12
M5	63	28.5	146	7.8	12
M5	76	31.6	105	7.8	12
M5	76	31.6	120	7.8	12
M5	76	31.6	146	7.8	12
M5	76	31.6	175	7.8	12
M5	76	31.6	220	7.8	12
M5	76	31.6	240	7.8	12
M6	76	31.6	105	5.3 *	16
M6	76	31.6	120	5.3 *	16
M6	76	31.6	146	5.3 *	16
M6	76	31.6	175	5.3 *	16
M6	76	31.6	220	5.3 *	16
M6	76	31.6	240	5.3 *	16
M6	90	32	105	5.3 *	16
M6	90	32	146	5.3 *	16
M6	90	32	175	5.3 *	16
M6	90	32	220	5.3 *	16
M6	90	32	240	5.3 *	16

\* Low Post Design

### Mounting Accessories

#### Insulating Nylon Nut and Washers for Cans with Bottom Stud

**Type : AL-01**

**Type : AL-02**

**Type : AL-03**

**Type : AL-04**

**Type : AL-05**

#### Vertical Mounting Clamps

CAN	A	B	C	D	E
35	63	15	54	20	10

CAN DIA	A	B	C	D
50	76	33	30	40
63	89	39.5	30	46.5
76	102	46	30	53
90	116	53	30	60

Dimension in mm.

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The specification shown herein ( page 1 to 9 ) pertain to the current manufacturing range of the Company. The Company reserves the right to change and /or modify any part of or whole of the specifications as a result of research and development and as may be necessary, without prior notice.