

PG - 5KL

-40°C +105°C



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

## Specifications

- **Voltage range :** 350 VDC to 500 VDC
- **Can size :** 50φ x 80mm to 90φ x 220mm
- **Operating Temperature range :** -40°C to + 105°C
- **Capacitance :** 680 MFD to 18000 MFD  
Tolerance ± 20%
- **Leakage current:** The max. leakage current (Ir) is given by the formula:  

$$I_r = 0.003 CV \text{ (microamps)}$$
 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 :

+45°C	+55°C	+65°C	+75°C
2.6	2.4	2.2	2.0

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 to 10k	>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 mylar end-disc.
  2. Maximum ripple current for each capacitor diameter .

## Application

High Ripple Current Applications like, PWM Inverters, High KVA On-Line UPS, Frequency Converters, AC Drives, Railway Traction drives, High Reliability Power Supplies, Wind generators drives, solar inverters

## Capacitor mounting

Capacitors are available in screw terminals in three mounting styles

- **AEST** - Screw terminals with plain insulated base. *see page 5,6*
- **AEST-D** - Screw terminals with stud mounting. *see page 5,6*
- **AEST-AL** - Capacitor with aluminium bottom disc. *see page 7*

## 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)	50	63	76	90
Terminal Style - Round	○	○	○	○
Terminal Style - Across Flat	○	○	○	○

*For details see pages 5, 6, 7*

## Marking on capacitors

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

- The Company's symbol  followed by the words ALCON ELECTROLYTIC
- The capacitor grade viz. PG-5K
- 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-5KL capacitors the useful life is estimated as 5000 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 (  $T_a$  ) °C is determined on the basis of the “ Life graph” shown below.

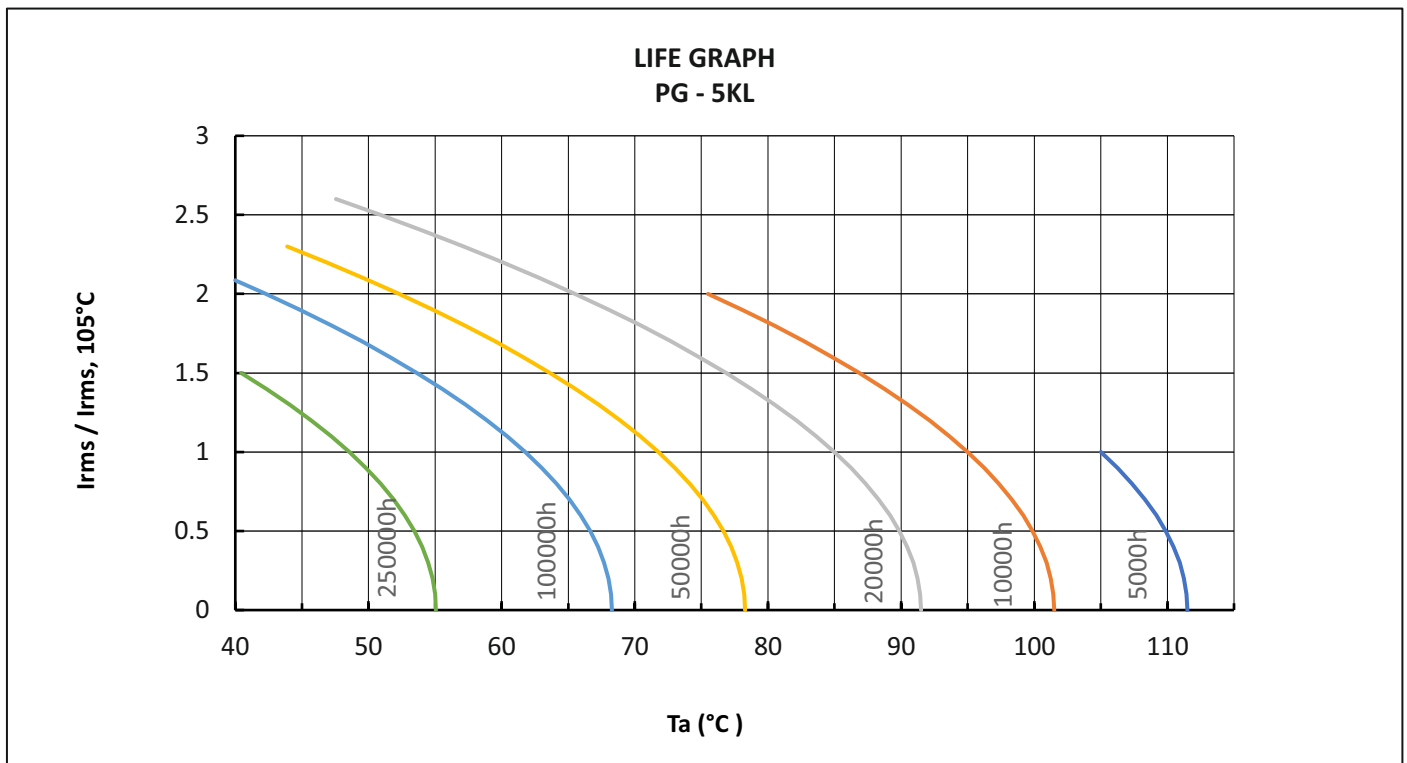
### Manufacturing Date Code Chart

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



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## Standard Capacitor Values

Rated Voltage (VDC)	Surge Voltage (VDC)	Capacitance Nominal (MFD)	MAX ESR at 100 Hz, 25°C (Ohms)	Ripple Current at 100 Hz, 85°C (Amps)	Ripple Current (Irms, 105°C) at 100 Hz, 105°C (Amps)	Can size Nominal D x L mm	Case Code	Ordering code
350	385	1800	77.1	8.3	4.9	50x105	022	SA018000350AE022___M01
		2200	69.1	9.9	5.8	63x105	026	SA022000350AE026___M01
		2700	51.5	11.5	6.7	63x105	026	SA027000350AE026___M01
		3300	44.2	14.1	8.2	63x105	026	SA033000350AE026___M01
		3900	41.3	14.6	8.5	76x105	028	SA039000350AE028___M01
		4700	33.1	18.1	10.6	76x105	028	SA047000350AE028___M01
		5600	25.7	21.8	12.7	76x120	041	SA056000350AE041___M01
		6800	20.6	26.8	15.7	90x120	097	SA068000350AE097___M01
		8200	18.0	28.2	16.5	76x175	090	SA082000350AE090___M01
		8200	18.0	28.6	16.7	90x120	097	SA082000350AE097___M01
		10000	14.2	34.6	20.3	76x220	092	SA100000350AE092___M01
		10000	14.2	35.0	20.5	90x146	095	SA100000350AE095___M01
		12000	12.3	37.7	22.0	90x175	096	SA120000350AE096___M01
		15000	9.9	46.0	26.9	90x220	094	SA150000350AE094___M01
		15000	9.8	45.7	26.7	90x175	096	SA150000350AE096___M01
18000	8.2	55.2	32.3	90x220	094	SA180000350AE094___M01		
400	440	1800	76.0	9.4	5.5	50x105	022	SA018000400AE022___M01
		2200	52.6	11.3	6.6	63x105	026	SA022000400AE026___M01
		2700	49.7	13.3	7.8	63x105	026	SA027000400AE026___M01
		3300	38.7	16.0	9.3	63x120	039	SA033000400AE039___M01
		3900	33.5	18.0	10.5	76x105	028	SA039000400AE028___M01
		4700	28.4	20.3	11.9	63x146	035	SA047000400AE035___M01
		4700	28.3	20.7	12.1	76x120	041	SA047000400AE041___M01
		5600	23.2	25.2	14.8	90x120	097	SA056000400AE097___M01
		6800	19.3	27.3	16.0	76x146	081	SA068000400AE081___M01
		6800	19.3	27.7	16.2	90x120	097	SA068000400AE097___M01
		8200	16.8	31.9	18.6	76x220	092	SA082000400AE092___M01
		8200	15.5	33.5	19.6	90x146	095	SA082000400AE095___M01
		10000	12.9	39.9	23.3	76x220	092	SA100000400AE092___M01
		12000	11.2	43.2	25.3	90x175	096	SA120000400AE096___M01
		15000	8.9	53.2	31.1	90x220	094	SA150000400AE094___M01

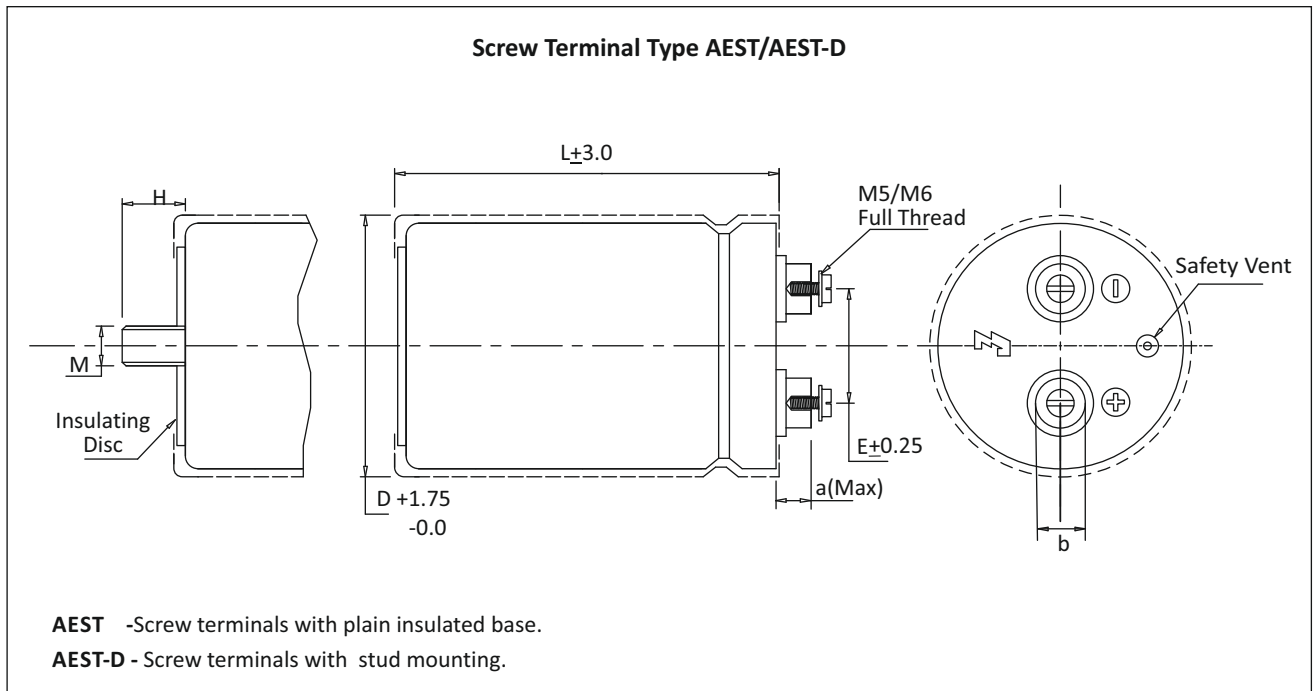
Custom designed capacitors available

### Standard Capacitor Values

Rated Voltage (VDC)	Surge Voltage (VDC)	Capacitance Nominal (MFD)	MAX ESR at 100 Hz, 25°C (Ohms)	Ripple Current at 100 Hz, 85°C (Amps)	Ripple Current (I <sub>rms</sub> , 105°C) at 100 Hz, 105°C (Amps)	Can size Nominal D x L mm	Case Code	Ordering code
450	495	1000	102.8	7.2	4.2	50x80	020	SA010000450AE020____M01
		1200	89.8	8.7	5.1	50x105	022	SA012000450AE022____M01
		1500	70.8	9.8	5.7	63x105	026	SA012000450AE026____M01
		1800	62.2	11.9	6.9	63x105	026	SA018000450AE026____M01
		2200	49.1	13.4	7.8	63x105	026	SA022000450AE026____M01
		2700	38.7	16.0	9.3	63x120	039	SA027000450AE039____M01
		3300	31.0	19.4	11.4	63x146	035	SA033000450AE035____M01
		3300	30.9	19.9	11.6	76x120	041	SA033000450AE041____M01
		3900	25.8	24.0	14.0	90x120	097	SA039000450AE097____M01
		4700	23.1	24.9	14.6	76x146	081	SA047000450AE081____M01
		4700	23.2	25.2	14.8	90x120	097	SA047000450AE097____M01
		5600	19.3	29.7	17.3	76x175	090	SA056000450AE090____M01
		5600	19.4	30.0	17.5	90x146	095	SA056000450AE095____M01
		8200	12.9	40.3	23.6	76x220	092	SA082000450AE092____M01
		8200	12.9	39.9	23.3	90x175	096	SA082000450AE096____M01
500	550	680	141.4	6.1	3.6	50x80	020	SA006800500AE020____M01
		1000	96.5	8.4	4.9	50x105	022	SA010000500AE022____M01
		1800	58.1	12.3	7.2	63x105	026	SA018000500AE026____M01
		2700	38.7	17.4	10.2	63x146	035	SA027000500AE035____M01
		2700	38.6	17.8	10.4	76x120	041	SA027000500AE041____M01
		3300	30.9	21.9	12.8	90x120	097	SA033000500AE097____M01
		3900	25.8	25.7	15.0	76x175	090	SA039000500AE090____M01
		3900	25.8	24.0	14.0	90x120	097	SA039000500AE097____M01
		4700	21.9	27.9	16.3	76x175	090	SA047000500AE090____M01
		4700	21.9	28.2	16.5	90x146	095	SA047000500AE095____M01
		5600	18.1	34.1	19.9	76x220	092	SA056000500AE092____M01
		5600	18.0	33.7	19.7	90x175	096	SA056000500AE096____M01
		8200	12.6	44.6	26.1	90x220	094	SA082000500AE094____M01

Custom designed capacitors available

## Terminal Style And Dimension With Round Insert

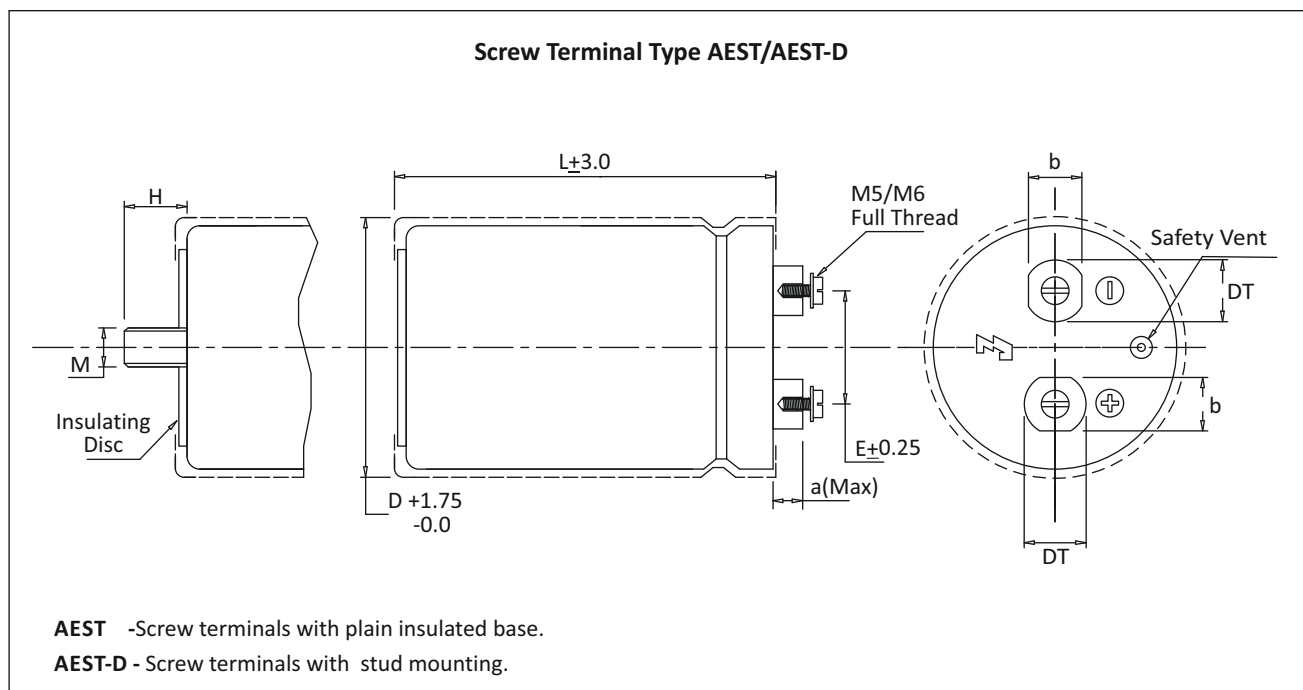


**Dimension in mm.**

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

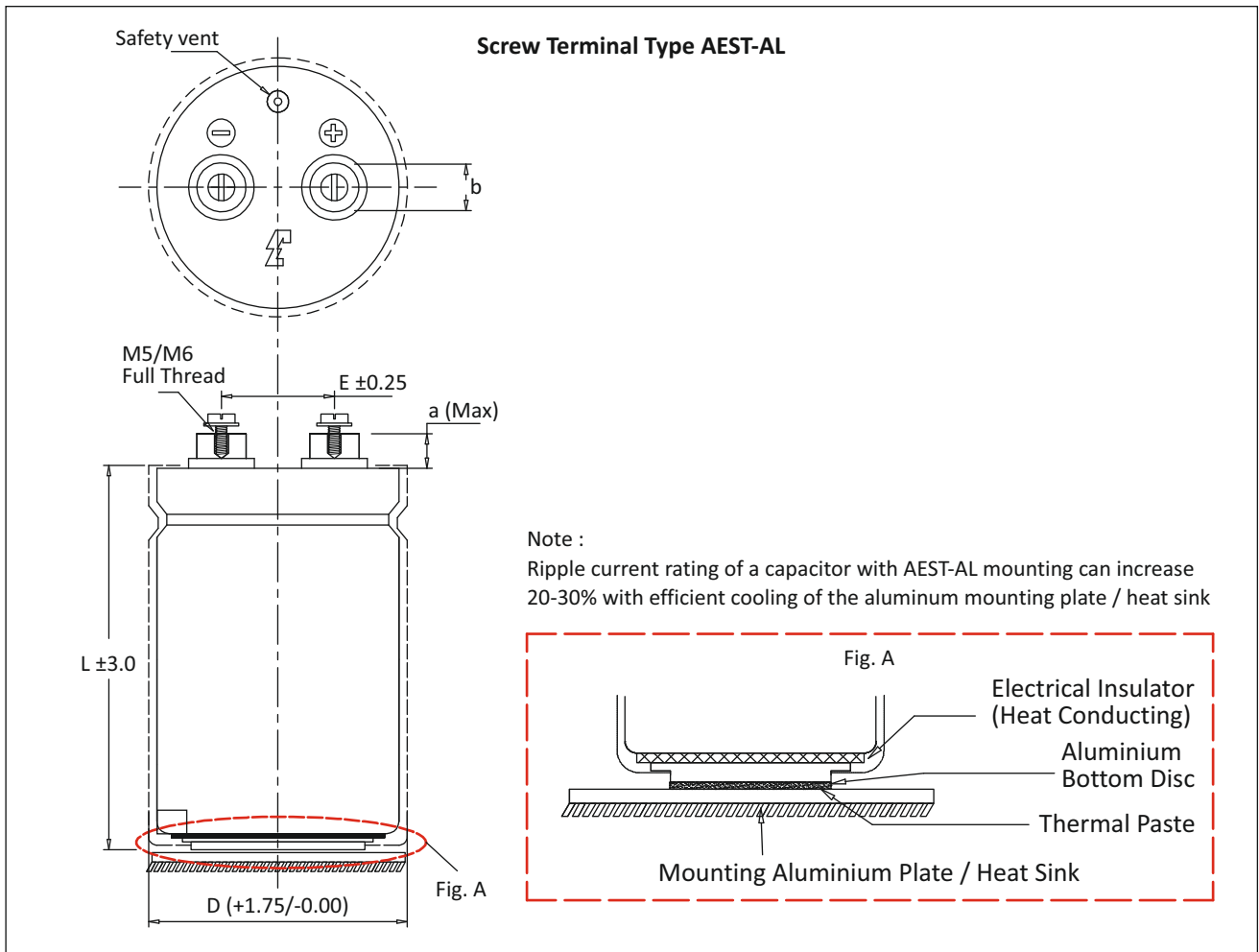
### Terminal Style And Dimension With A/F Insert



**Dimension in mm.**

Terminal	D	E	L	a (Max)	b(-0.2/+0.1)	DT (±0.1)	M	H±1.0
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	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

## Terminal Style And Dimension



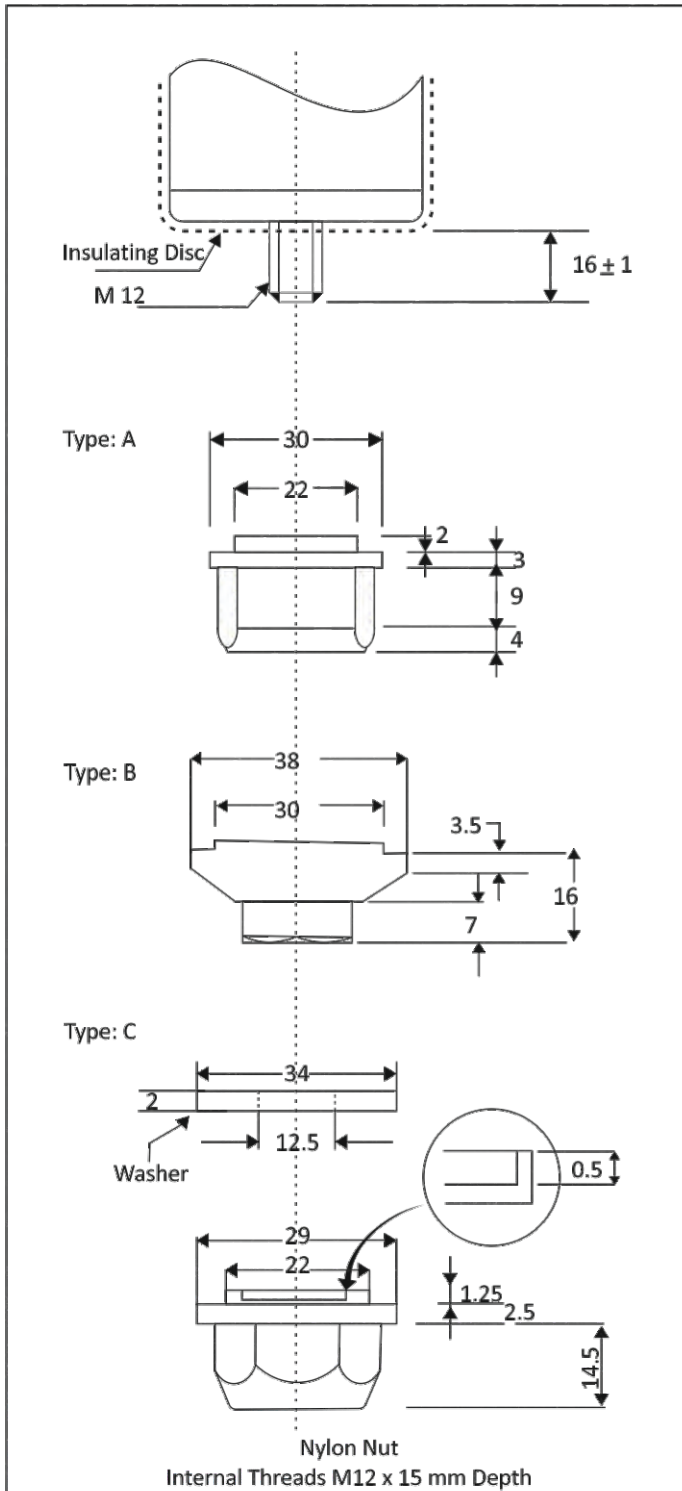
Dimension in mm.

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

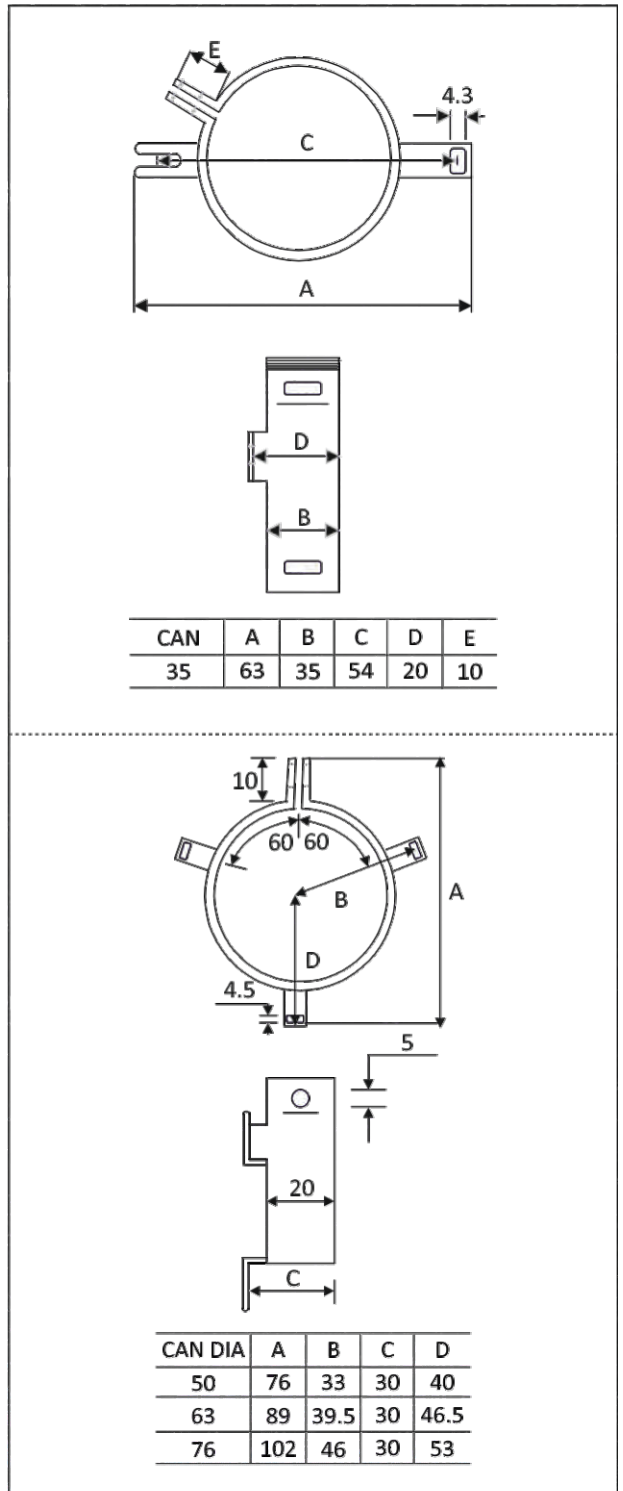
\* Low Post Design

## Mounting Accessories

### ▪ Mounting Nut and Washers for Cans with Bottom Stud



### ▪ Vertical Mounting Clamps



Dimension in mm.