ZEASSET	SHENZHEN ZEASSET ELECTRONIC TECHNOLOGY CO. LTD. TEL：+86-755-8352-6100 FAX：+86-755-8352-6199
Engineering	

NO.:ZS220627646

Customer: PLATAN

1. Description

Item \ Part Number	HBE680M22030FVA	HBE151M30030FVA
Series	HB	HB
Operating Temperature	-25~105℃	-25~105℃
Working Volts U_R	450V_{DC}	450V_{DC}
Surge Volts	500V_{DC}	500V_{DC}
Capacitance	68 μF	150 μF
Tolerance	±20 %	±20 %
Leakage Current@25℃,5min. bei U_R	306 μA	675 μA
tan δ @120Hz@25℃	20%max	20%max
$ESR_{typ.}$ @120Hz@25℃	1990mΩ	900mΩ
Rated Ripple Current $I_{\sim R}$ @120Hz,105℃	0.50Arms	0.88Arms
Load life @ 105 ℃ U_R; $I_{\sim R}$: 3000h	After test: △C/C≤±20% of initial value tanδ≤2 × initial spec. limit I_{leak}≤initial spec. limit	

Insulation: PVC-Black

Multiplier for ripple current

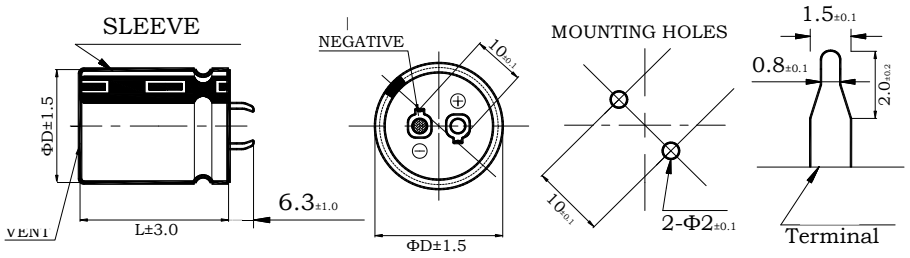
Frequency Coefficient

Frequency(Hz)	50/60	100/120	300	1K	≥10K
Coefficient	0.80	1.00	1.16	1.30	1.41

Temperature Coefficient

Temperature (℃)	+40	+55	+70	+85	+105
Coefficient	2.7	2.5	2.1	1.7	1.0

2. Case size table



Unit: mm

Part Number	D±1.5	L±3.0
HBE680M22030FVA	22	30
HBE151M30030FVA	30	30

3.Special instructions

Special Requirements: No

Revision	Changes	Date
0	Original	27/06/2022

Drafter by: Yanlin Lei

Approved by: Cuihua Lin

Date: 27/06/2022

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Guide to Application

1、Make sure of the capacitor's polarity .If the capacitor is installed in the circuit reverse polarized and voltage is applied, not only will the capacitor short-out and vent, but the high current generated by this condition will severely damage its associated circuits. For use in circuit where occasional reversals occur or polarity is unknown, a bi-polar type capacitor should be used.

2、Do not apply voltage greater than rated voltage

If a voltage exceeding the capacitor's rated voltage is applied, the leakage current will Increase dramatically, which will cause excessive heat which degrade the capacitor's Parameters .The applied voltage is the sum of DC voltage and the peak of AC voltage.

3、Use only within the specified temperature range

The parameters of capacitors vary with the operating temperature. The capacitance and leakage current increase at higher temperature and decrease at lower temperature. If used in excess of the specified temperature range, then the resultant heat may damage the capacitor permanently.

4、Do not allow excessive ripple current through capacitors.

Do not operate the capacitor with ripple currents greater then the specified limit, because permanent damage will occur and capacitor's useful life will be considerably shortened when excessive ripple current applied.

5、Storage

The characteristic of aluminum electrolytic capacitors degrade when stored in a static condition for long periods of time. Thus capacitor that have been stored for long periods should be subjected to a "voltage aging" treatment before use as this will reform and repair the oxide dielectric. Capacitors should be stored at temperature less than 35℃, relative humidity less than 80％ and out of direct sunlight.

6、Use special designed capacitors for the circuits where charge and discharge are frequently repeated.

In the circuit subjected to rapid charge and discharge cycles, Standard aluminum electrolytic capacitor may be damaged due to capacitance decrease、internal heat rise.

Use special designed capacitor in this application.

7、Be cautious of the temperature and duration when soldering.

Soldering iron should be kept away from the vinyl insulated sleeves of capacitor, and the soldering duration should be less than 10 second. When the capacitor dipped in solder bath, recommend or operate within 270℃ and 10 second to avoid damage of capacitor unit.

8、DO not apply excessive force to the terminals and leads.

The excessive strong force applied to the leads wires and terminals may cause leads to Break or terminals to bend, in turn, the internal contact to fail.

9、Aluminum electrolytic capacitor life.

The useful life of an aluminum electrolytic capacitor is determined by the deterioration of its characteristics. Most critical to electrolytic capacitor life is temperature. The relation-ship between life and temperature is widely accepted by "the doubling 10℃ rule" as follows.

$$L_{t2} = L_{t1} * 2^{\frac{(t1-t2)}{10}}$$

t1 ： Rated used temperature　　t2 ： Actual used temperature

L_{12} ： Life at rated temperature　　L_{11} ： Life at actual used temperature

10、When designing a circuit board, please pay attention to the following .

(1). Make the pad spacing match the lead space o f the capacitor

(2). There should not be any circuit pattern or circuit wire above the capacitor safety went.

(3). Do not design a circuit board with heat generating components near an aluminum electrolytic capacitor.

11、Pay attention to the following product installation

（1）Aluminum Electrolytic Capacitors cannot be recycled after mounting and applying electricity in unit.

(2)Aluminum electrolytic capacitors may accumulate charge naturally during storage. In this case, discharge through a 1kΩresistor before use.

(3)Leakage current of Aluminum Electrolytic Capacitors may be increased during long storage time. In this case the capacitors should be subject to voltage treatment through a 1kΩ resistor before use.

(4)Ensure rated voltage and capacitance of the capacitors before mounting.

(5)Ensure the capacitor's polarity before mounting.

(6)Do not use a capacitor which has been dropped onto a hard surface.

(7)Do not use capacitors with damaged or dented cases or seals.

(8)Capacitors should be mounted after confirmation that hole spacing on PW board matches the lead pitch of the capacitors.

(9)The snap-in type of capacitors should be mounted firmly on the PW board without a gap between the capacitor body and the surface of PW board.

(10)Avoid excessive shock to capacitors by automatic insertion machine, during mounting, parts inspection or centering operations.

(11)For fear of assembly such as vibration, shock, height of more than 20 mm product when installing a capacitor to printed circuit boards, please use the tools, adhesives and so on to enhance its robustness.

(12)Potting compound or glue must be free of halogens and other corrosive substances.

(13)Potting compounds or glue may heat up capacitors while curing. If possible the upper category temperature should not be exceeded. Temperatures above 150℃ may damage the insulation.

12、Cleaning Do not clean capacitors with hologenated cleaning agent.

***Please select proper product according to its rated voltage rated temperature and allowable ripple current, if you have any question, Don't hesitate to ask for help form zste technical department. ***