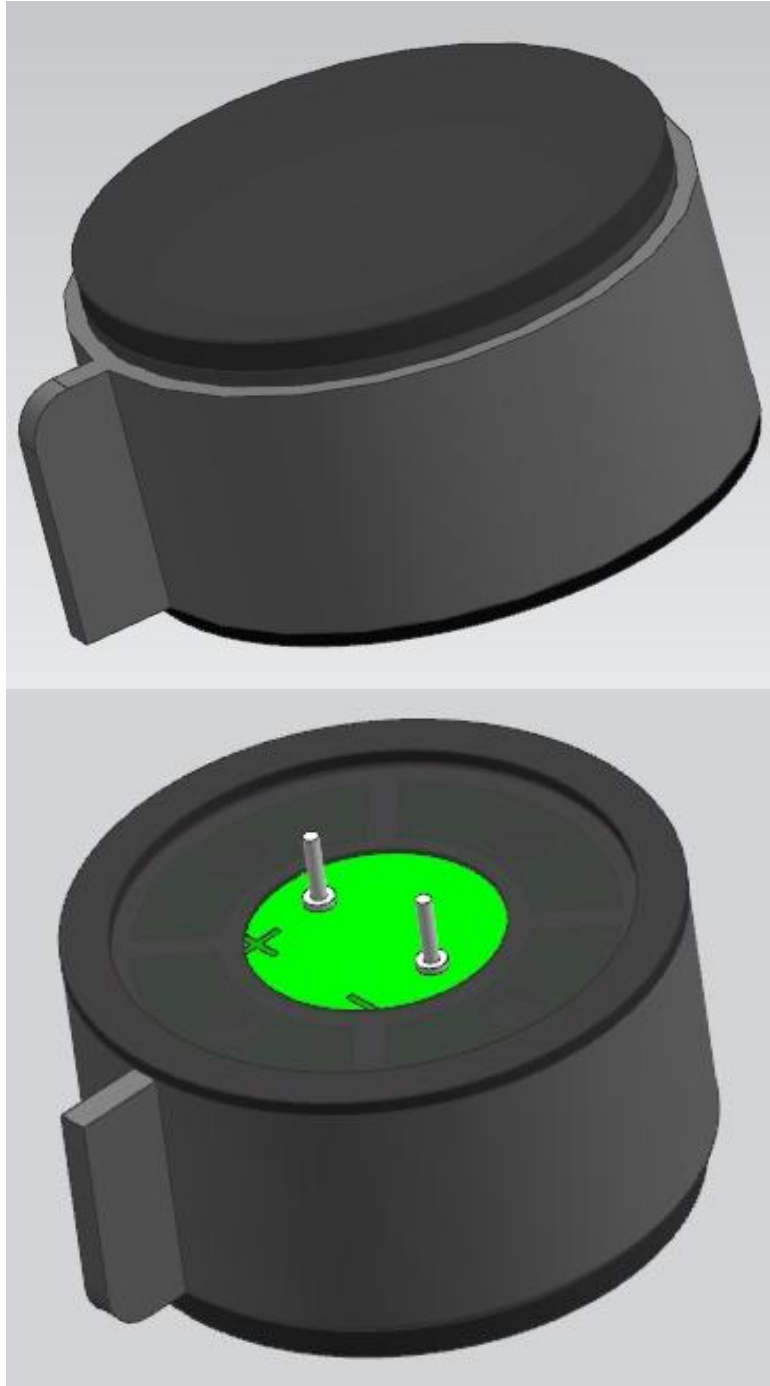


# SPECIFICATION

BDT38.5-11B-08H20-BOX





# SPECIFICATION FOR AUTOMOTIVE SPEAKER

TOTAL PAGE

10

[www.be-star.com](http://www.be-star.com)

RoHS

Customer		Model Name	BDT38.5-11B-08H20-BOX
Customer P/N		Product No.	130126
Date	14 Jun 2019	Issue No.	BS/TES01.1667C
Page	01 of 10	Issue Date	2019.06.14

## Approval:

- 1.Characteristics
- 2.Bill of Material
- 3.Drawing
- 4.Reliability Test
- 5.Packing
- 6.History Change Record

Drawn by	Checked by	Approved by	Customer approved
高一凡	毛钰麒	徐波	

BESTAR Holdings Co., Ltd.

No.199, West Huanghe Road, Changzhou, Jiangsu, P.R. China

Tel: +86 5196 789 6200

Fax: +86 5196 789 6220

E-Mail: [Info@be-star.com](mailto:Info@be-star.com)

Web: [www.be-star.com](http://www.be-star.com)

文件号: BS/QDTE045B

# BDT38.5-11B-08H20-BOX

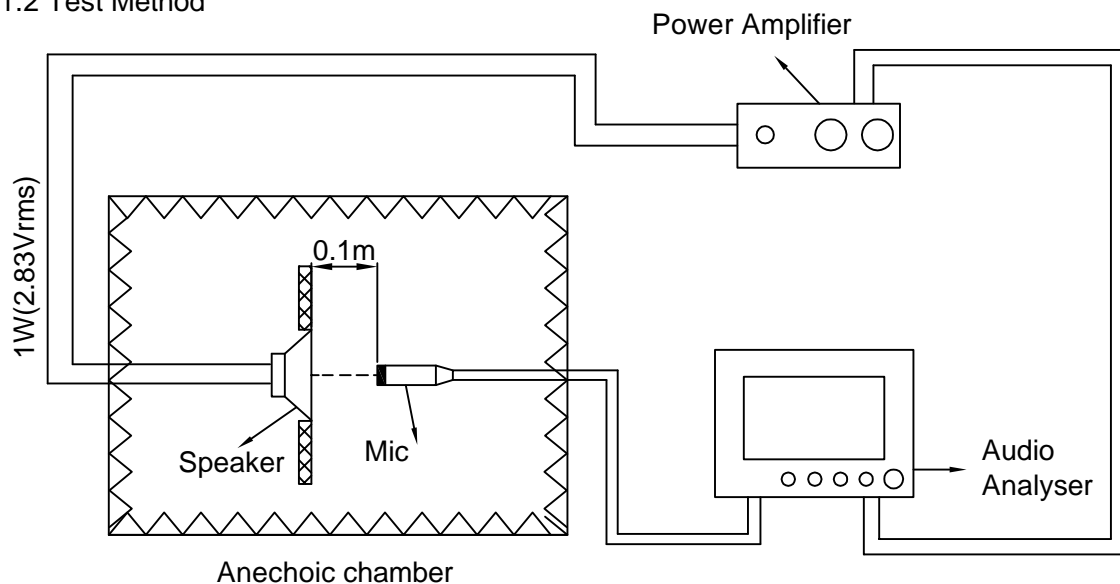
## 1.Characteristics

### 1.1 Electrical and Mechanical Characteristics

No.	Item	Specifications
1.	Size	φ38.5*20mm
2.	Impedance at 1.0KHz	8±15% Ω
3.	Lowest Resonance frequency	400±20%Hz
4.	Effective frequency range	fo...20K Hz
5.	Rated input power	1.5w
6.	Maximum input power	2w
7.	Buzz & Rattle(at sine wave 3.4V)	must be normal between F0~20KHz
8.	SPL(1W,0.1m)	95±3dB (average at 0.8K 1.0K 1.2K 1.5K Hz )
9.	THD	≤10% (at 1KHz/1W/0.1m)
10.	Weight	≈13.6g
11.	Operating temperature	-40...+ 105°C
12.	Storage temperature	-40...+ 105°C

Notice:The product is used in vehicle, household appliance and so on.

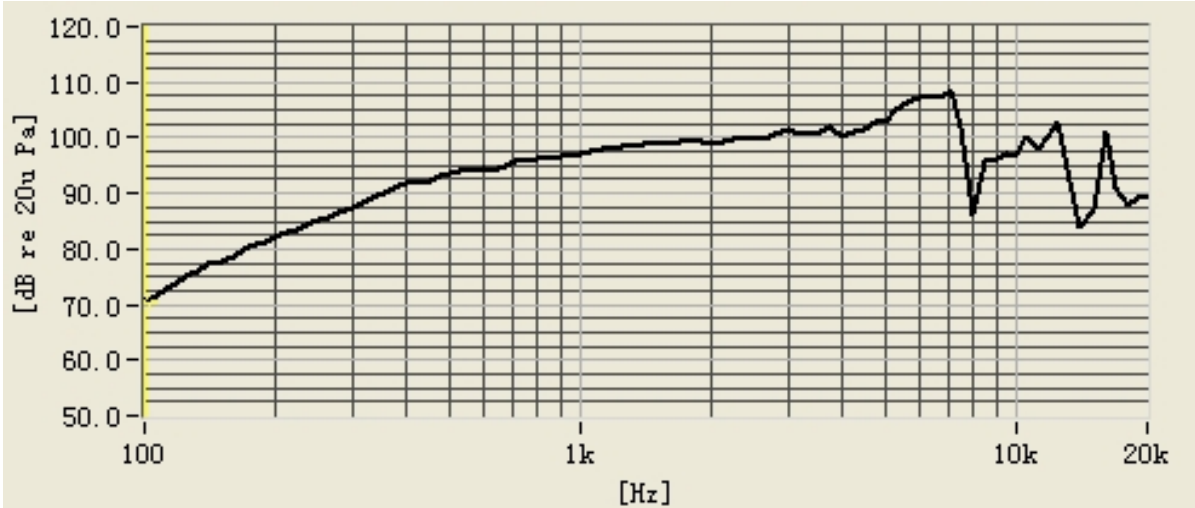
### 1.2 Test Method



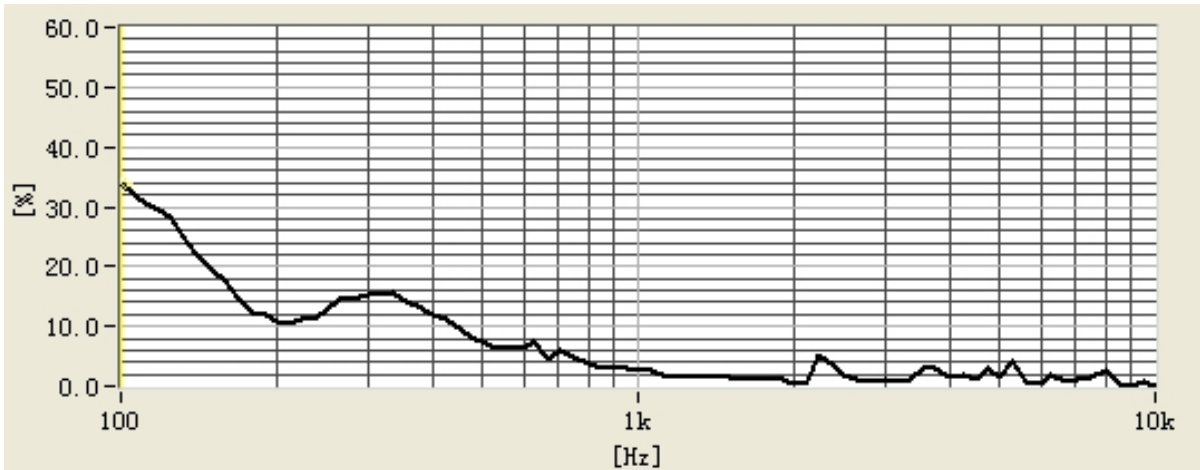
				Date:	2019.06.14	BDT38.5-11B-08H20-BOX	
				Drawn by:	高一凡		
C	2019.06.14	高一凡		Checked by:	毛钰麒	Speaker	
Rev.	Date	Drawn	Note	Approved by:	徐波		
BESTAR Holdings Co., Ltd						DRG NO: BS/TES01.1667C	Page:02 of 10
<a href="http://www.be-star.com">http://www.be-star.com</a> <a href="mailto:info@be-star.com">info@be-star.com</a>							

# BDT38.5-11B-08H20-BOX

## 1.3 Fundamental (1W/0.1m SOUNDCHECK testing )



## 1.4 THD (1W/0.1m SOUNDCHECK testing )

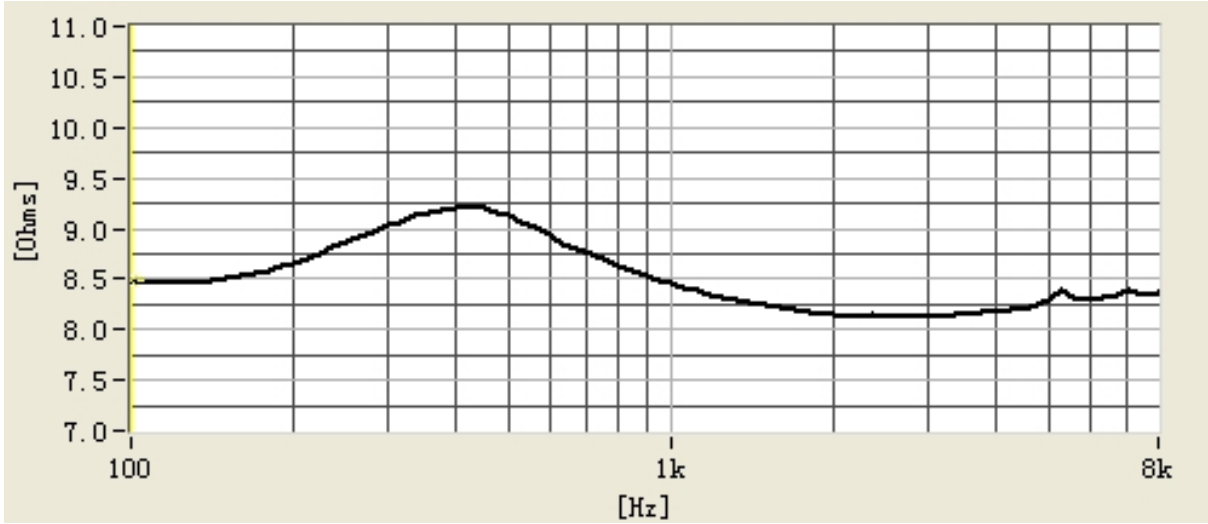


This print and information there in are proprietary to BeStar Holding Co., Ltd. and shall not be used in whole or in part without its written content

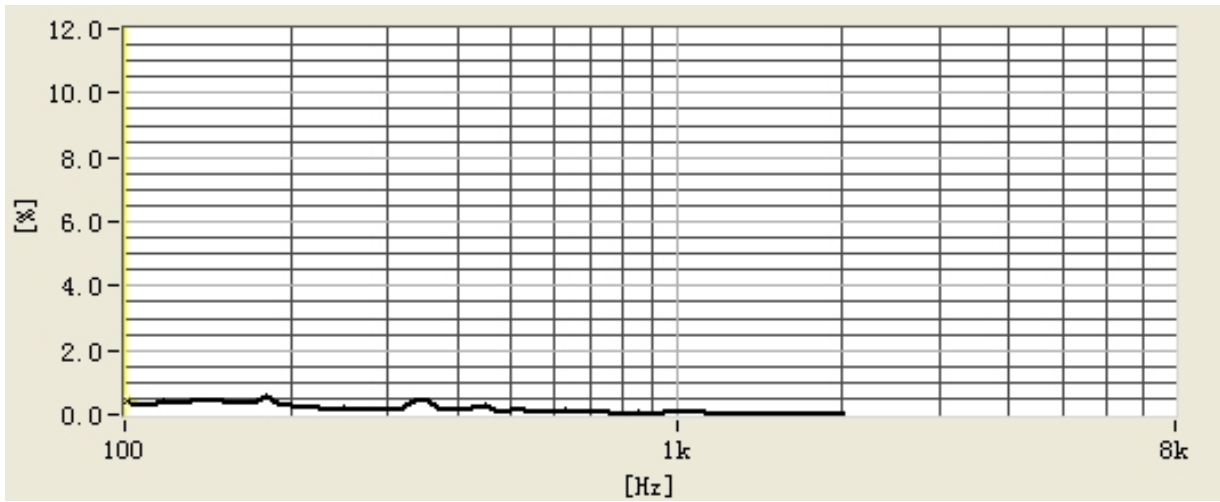
				Date:	2019.06.14	BDT38.5-11B-08H20-BOX	
				Drawn by:	高一凡		
C	2019.06.14	高一凡		Checked by:	毛钰麒	Speaker	
Rev.	Date	Drawn	Note	Approved by:	徐波		
BESTAR Holdings Co., Ltd						DRG NO: BS/TES01.1667C	Page:03 of 10
<a href="http://www.be-star.com">http://www.be-star.com</a> <a href="mailto:info@be-star.com">info@be-star.com</a>							

# BDT38.5-11B-08H20-BOX

1.5 Impedance (1W/0.1m SOUNDCHECK testing )



1.6 Rub&buzz (1W/0.1m SOUNDCHECK testing )

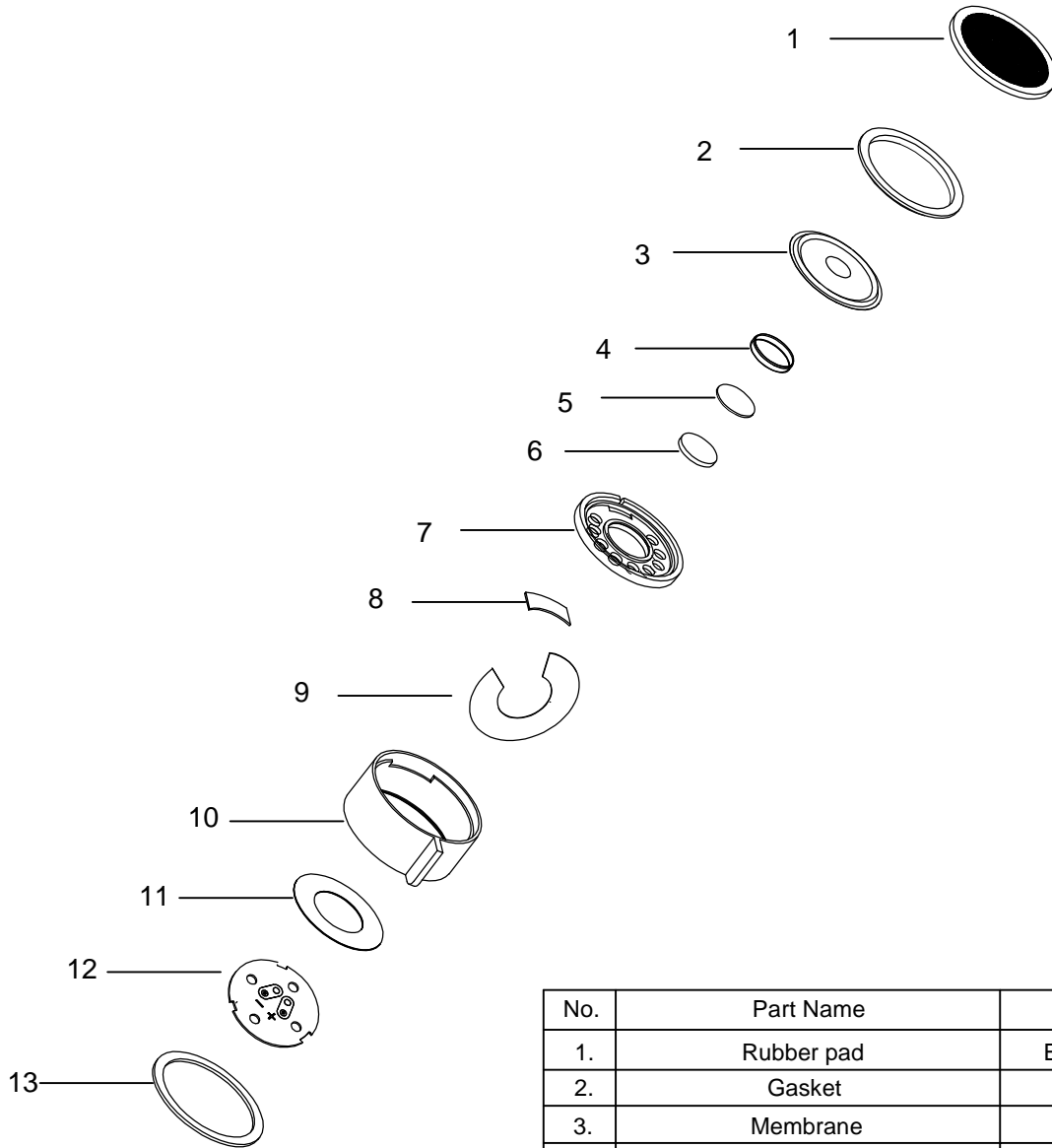


This print and information there in are proprietary to BeStar Holding Co., Ltd. and shall not be used in whole or in part without its written content

				Date:	2019.06.14	BDT38.5-11B-08H20-BOX	
				Drawn by:	高一凡		
C	2019.06.14	高一凡		Checked by:	毛钰麒	Speaker	
Rev.	Date	Drawn	Note	Approved by:	徐波		
BESTAR Holdings Co., Ltd						DRG NO: BS/TES01.1667C	Page:04 of 10
<a href="http://www.be-star.com">http://www.be-star.com</a> <a href="mailto:info@be-star.com">info@be-star.com</a>							

## BDT38.5-11B-08H20-BOX

### 2. Bill of Material



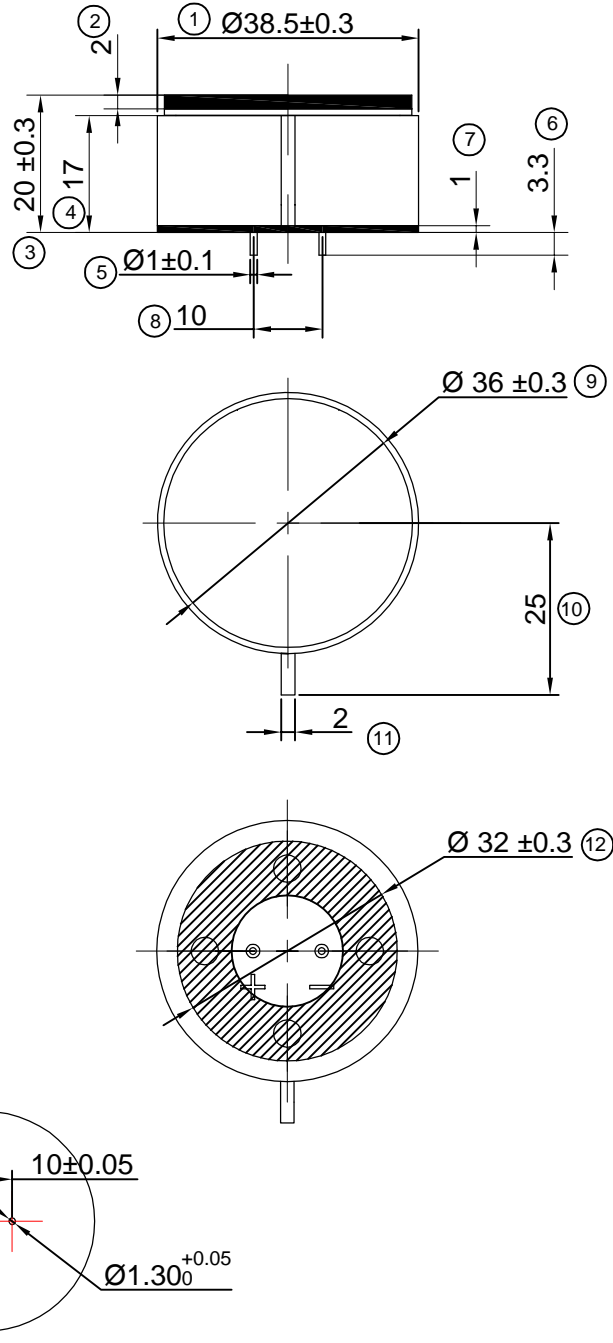
No.	Part Name	Material
1.	Rubber pad	EPDM+non-woven
2.	Gasket	PBT+30%GF
3.	Membrane	PEI
4.	Voice coil	Cu
5.	Up Plate	SPCC
6.	Magnet	Nd-Fe-B
7.	Frame	Black MPPO+15%GF
8.	PCB	Ethoxyline+Cu
9.	Dustproof Sheet	Black non-woven
10.	BOX	PBT+30%GF
11.	Dustproof Sheet	Black non-woven
12.	Pcb and Pin	Ethoxyline+Cu
13.	Foam	EPDM

This print and information there in are proprietary to BeStar Holding Co., Ltd. and shall not be used in whole or in part without its written content

				Date:	2019.06.14	BDT38.5-11B-08H20-BOX	
				Drawn by:	高一凡		
C	2019.06.14	高一凡		Checked by:	毛钰麒	Speaker	
Rev.	Date	Drawn	Note	Approved by:	徐波		
BESTAR Holdings Co., Ltd						DRG NO: BS/TES01.1667C	Page:05 of 10
<a href="http://www.be-star.com">http://www.be-star.com</a> <a href="mailto:info@be-star.com">info@be-star.com</a>							

# BDT38.5-11B-08H20-BOX

## 3.Drawing



Tol: ±0.25

Unit: mm

Customer PCB layout

This print and information there in are proprietary to BeStar Holding Co., Ltd. and shall not be used in whole or in part without its written content

				Date:	2019.06.14	BDT38.5-11B-08H20-BOX	
				Drawn by:	高一凡		
C	2019.06.14	高一凡		Checked by:	毛钰麒	Speaker	
Rev.	Date	Drawn	Note	Approved by:	徐波		
BESTAR Holdings Co., Ltd						DRG NO: BS/TES01.1667C	Page:06 of 10
<a href="http://www.be-star.com">http://www.be-star.com</a> <a href="mailto:info@be-star.com">info@be-star.com</a>							

## BDT38.5-11B-08H20-BOX

### 4. Reliability Test

#### 4.1 Load Test

Power  
Duration

1.5W (sine wave)  
96hrs

#### 4.2 High temp. preservation

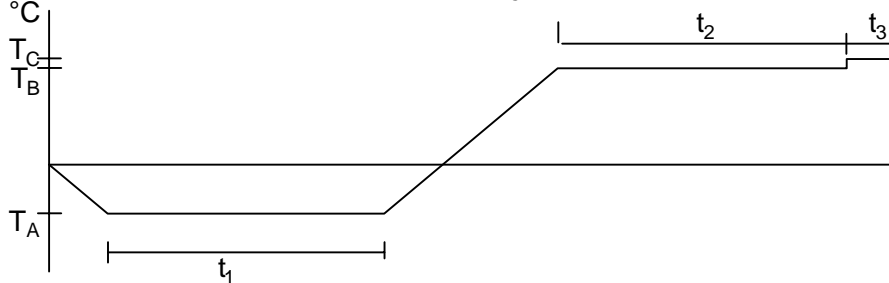
Exposure to 105°C for 96 hours.

#### 4.3 Low temp. preservation

Exposure to -40°C for 96 hours.

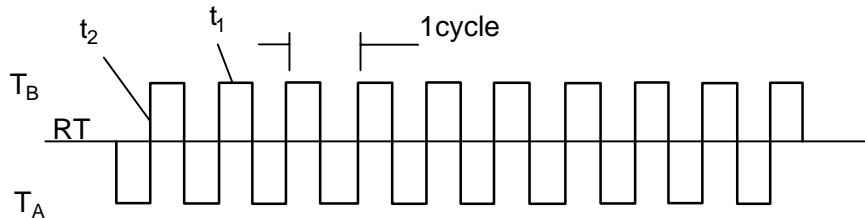
#### 4.4 High/low temperature storage Test

$t_1=48h$     $t_2=48h$     $t_3=1h$   
 $T_A=-40^\circ C$     $T_B=+85^\circ C$     $T_C=+90^\circ C$    1°C/min, 1 cycle



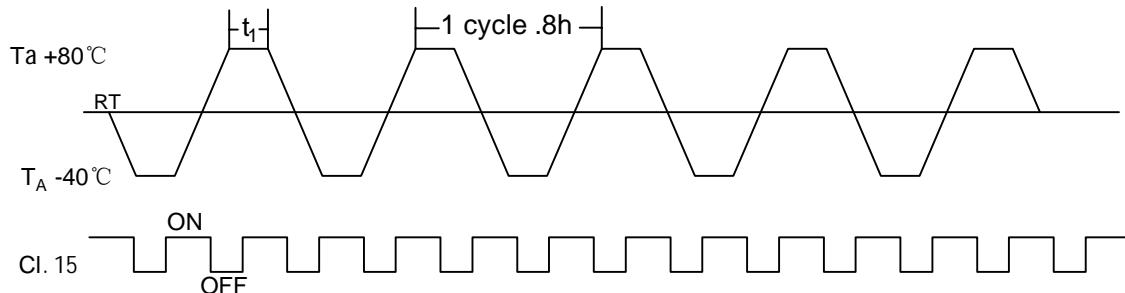
#### 4.5 Temperature shock Test

$t_1=2h$ ,  $t_2<10s$ ,  $T_A=-40^\circ C$ ,  $T_B=+105^\circ C$ ,  
 Cycle 100



#### 4.6 Temperature cycle Test

$t_1=2.5h$ , 1.5°C/min,  
 $T_A=-40^\circ C$ ,  $T_B=+80^\circ C$ , test 20 cycles  
 Cl.15 ON=2.5h, Cl.15 Off=0.5h



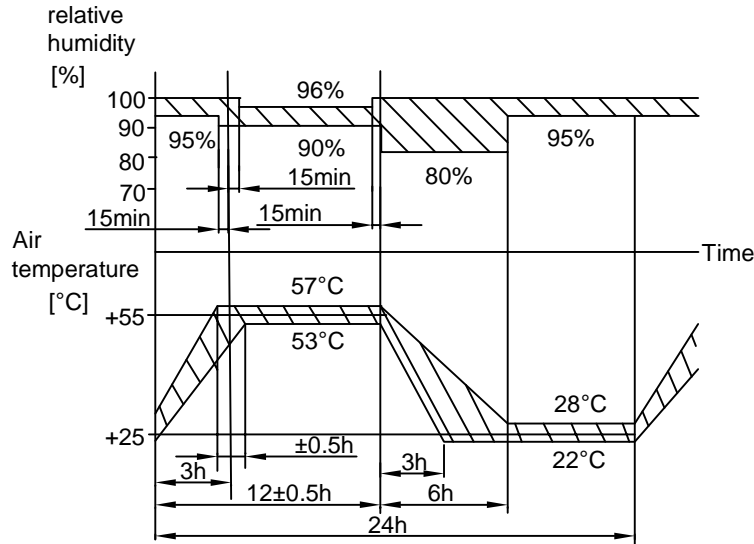
This print and information there in are proprietary to BeStar Holding Co., Ltd. and shall not be used in whole or in part without its written consent.

			Date:	2019.06.14	BDT38.5-11B-08H20-BOX	
			Drawn by:	高一凡		
C	2019.06.14	高一凡	Checked by:	毛钰麒	Speaker	
Rev.	Date	Drawn	Note	Approved by:		徐波
BESTAR Holdings Co., Ltd					DRG NO: BS/TES01.1667C	Page:07 of 10
<a href="http://www.be-star.com">http://www.be-star.com</a> <a href="mailto:info@be-star.com">info@be-star.com</a>						



# BDT38.5-11B-08H20-BOX

4.7 Temperature humidity Test  
1Cycle=24h Test 6 Cycle



## 4.8 Vibration Test

10-50Hz Sinewave , Sweep 15min , X、 Y、 Z  
3Direction 2 hours each,Total 6hours .

## 4.9 Solder Heat Resistance

Solder temperature: 350±10 °C  
Soaking time: 3.5±0.5sec

## 4.10 Free drop Test

Free drop on concrete 100cm height.X.Y.Z every surface x 1  
times,Total 3times.

## 4.11 Solderability

Pretreatment: 40 °C ,90~95%RH x 240hours  
Soldering into solderbath:Solder Temp. 265±5 °C  
Soaking Time 2±0.5sec

## 4.12 Terminal strength

Pulled in the direction along the pin axis.(22.2N)

### Notice:

1. Being placed for 24 hours at +25 °C , speaker shall be measured. No obstacle to be harmful to normal operation; damages, cracks, rusts, etc. Should not be audible at 3.4V sine wave between Fo ~ 20KHz. Fo should meet initial one. S.P.L. deviation of unit should be within 3dB.
2. After Solderability Test, 95% surface of lead pins must be covered with fresh solder and no soldering holes should be found.
3. After Terminal strength Test, no damage and cutting off.

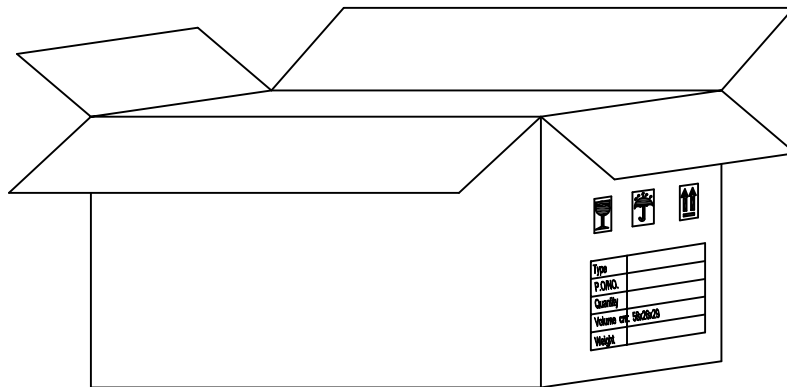
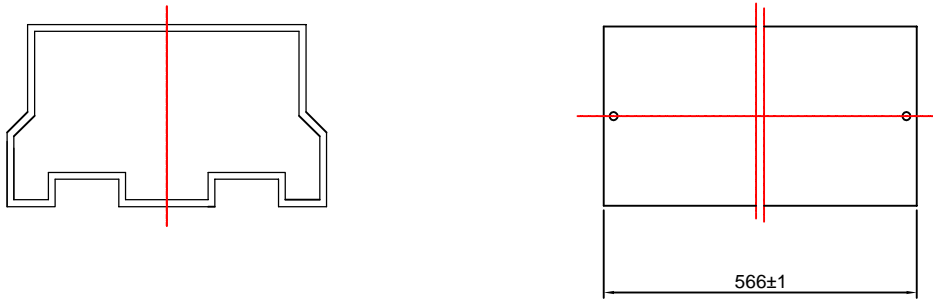
				Date:	2019.06.14	BDT38.5-11B-08H20-BOX	
				Drawn by:	高一凡		
C	2019.06.14	高一凡		Checked by:	毛钰麒	Speaker	
Rev.	Date	Drawn	Note	Approved by:	徐波		
BESTAR Holdings Co., Ltd						DRG NO: BS/TES01.1667C	Page:08 of 10
<a href="http://www.be-star.com">http://www.be-star.com</a> <a href="mailto:info@be-star.com">info@be-star.com</a>							

This print and information there in are proprietary to BeStar Holding Co., Ltd. and shall not be used in whole or in part without its written consent

## BDT38.5-11B-08H20-BOX

### 5. Packing

#### 5.1 Packing Drawing



#### 5.2 packing quantity

- 1) 14pcs per magazine
- 2) 50pcs magazine per carton
- 3) 700pcs per carton,
- 4) carton size: 58X26X29cm

This print and information therein are proprietary to BeStar Holding Co., Ltd. and shall not be used in whole or in part without its written content.

				Date:	2019.06.14	BDT38.5-11B-08H20-BOX	
				Drawn by:	高一凡		
C	2019.06.14	高一凡		Checked by:	毛钰麒	Speaker	
Rev.	Date	Drawn	Note	Approved by:	徐波		
BESTAR Holdings Co., Ltd						DRG NO: BS/TES01.1667C	Page:09 of 10
<a href="http://www.be-star.com">http://www.be-star.com</a> <a href="mailto:info@be-star.com">info@be-star.com</a>							

