

# SPECIFICATION FOR APPROVAL

## 規格書

Customer ( 客戶名稱 ):

\_\_\_\_\_

Customer P/N(客戶番號):

\_\_\_\_\_

Our P/N (本廠番號):

FS-1540

Approval Date(日期) :

2019.12.26

Environment Request(環境標準):

Non-RoHS (非 RoHS 標準)

RoHS (RoHS 標準)

REACH(REACH 標準)

Others (其他)

CUSTOMER'S APPROVED SIGNATURE

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	DESINGER	CHECKED	APPROVED
SIGNATURE			
DATE			

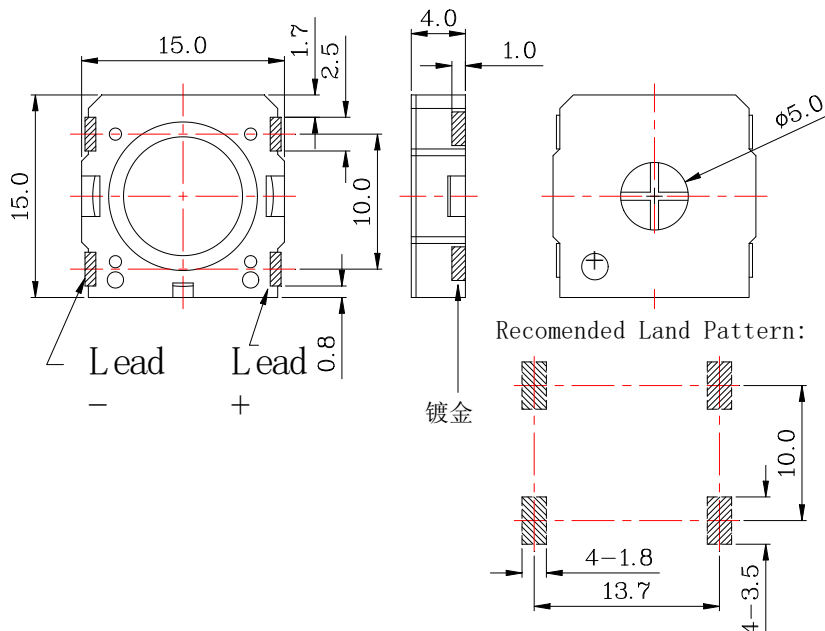
## A. SCOPE

This specification applies speaker, FS-1540

## B. SPECIFICATION

No.	Item	Unit	Specification	Condition
1	Dimension	mm	15 x 15 x H4.0	See appearance drawing
2	Sound Pressure Level	dB	87±3dB	at 1.0,1.6, 2.0, 3.2KHz Average 0dB=20μPa Measurement is as shown in fig (2),Input: 2.0V=0.5W at 0.1m
3	Power Rating	W	0.5 MAX.0.8	
4	Impedance	ohm	8±15%Ω	At 1.0KHz 1.0V
5	Resonance Frequency	Hz	850±20%	At 1.0V
6	Frequency Rang	Hz	Fo~20K	Output S.P.L. ±10dB
7	Buzze & Rattle			Must be free audible noise, From Fo~20K Hz frequency range, Input: 2.0V 0.5W
8	Distortion	%	5% Max.	At 1kHz, 0.5W
9	Housing Material		LCP(Black) PIN(Plating Au)	
10	Leading Pin		SMD Type	
11	Weight (MAX)	gram	2.1	
12	Operating Temperature	°C	-40~ +85	
13	Storage Temperature	°C	-40 ~ +85	
14	Environmental Protection Regulation		RoHS	

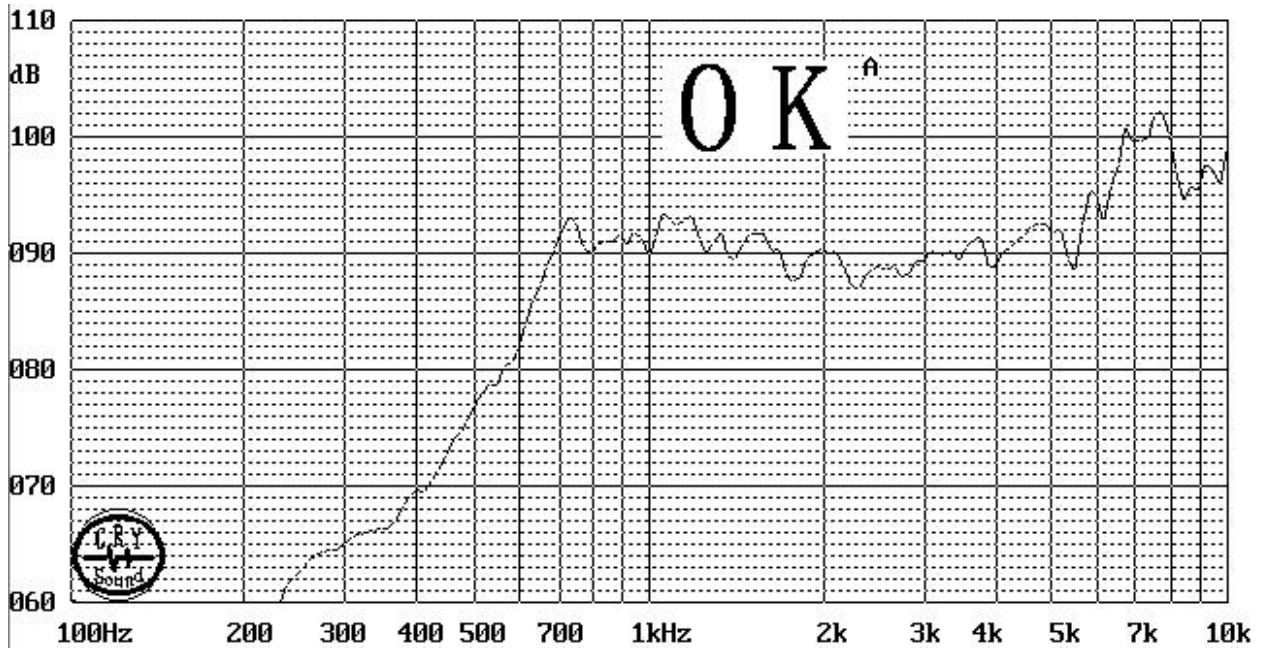
## C. APPEARANCE DRAWING



Tol : ± 0.5

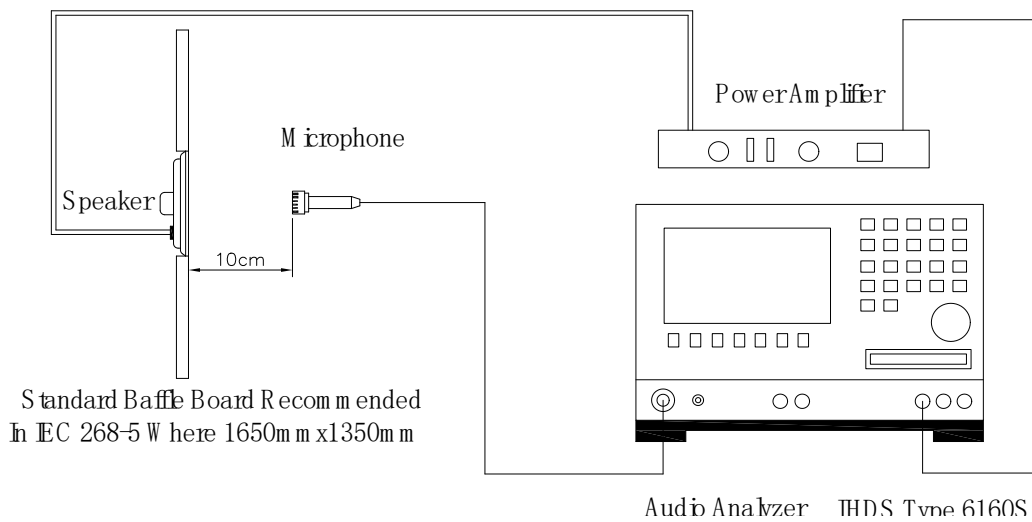
Unit: mm

## D. Frequency Response



## E. Electrical And Acoustical Measuring Condition

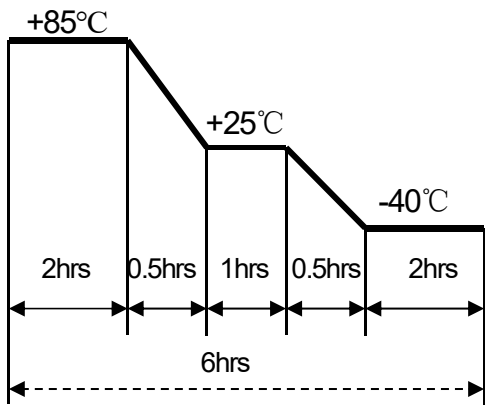
Standard test condition of speaker



## F. RELIABILITY TEST

No.	Item	Test condition	Evaluation standard
1	Solderability (Spring Contact excepted)	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $+270\pm 5^{\circ}\text{C}$ for $3\pm 1$ seconds.	90% min. lead terminals shall be wet with solder. (Except the edge of terminal)
2	Soldering Heat Resistance (Spring Contact excepted)	Lead terminal are immersed up to 1.5mm from sounder's body in solder bath of $+260\pm 5^{\circ}\text{C}$ for $3\pm 1$ seconds.	No interference in operation
3	Terminal Pull Strength	(1) Spring Contact: Applied 3N (0.306kg) load to the Spring Contact for 30 sec. (2) Terminal : Applied 9.8N (1.0kg) load to the Terminal for 30 sec.	No damage and cutting off
4	Vibration Test	Speaker shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 55Hz band of vibration frequency to each of 3 per-pendicular directions for 2 hours.	
5	Drop Test	Drop the speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm	

## G. ENVIRONMENTAL TEST

No.	Item	Test conditions	Evaluation standard
1	High temp. Test	After being placed in a chamber at $+85^{\circ}\text{C}$ for 240 hours	Being placed for 6 hours at $+25^{\circ}\text{C}$ , speaker shall be measured. No obstacle to be harmful to normal operation; damages, cracks, rusts, etc. Should not be audible at 2.0V sine wave between $F_o \sim 20\text{KHz}$ . $F_o$ should meet initial one. S.P.L. deviation of unit should be within $\pm 3\text{dB}$
2	Low temp. Test	After being placed in a chamber at $-40^{\circ}\text{C}$ for 240 hours.	
3	Humidity test	After being placed in a chamber at $+40^{\circ}\text{C}$ and $95\pm 5\% \text{RH}$ relative humidity for 240 hours.	
4	Temp. cycle test	The part shall be subjected to 5 cycles. One cycle shall be consist of: 	

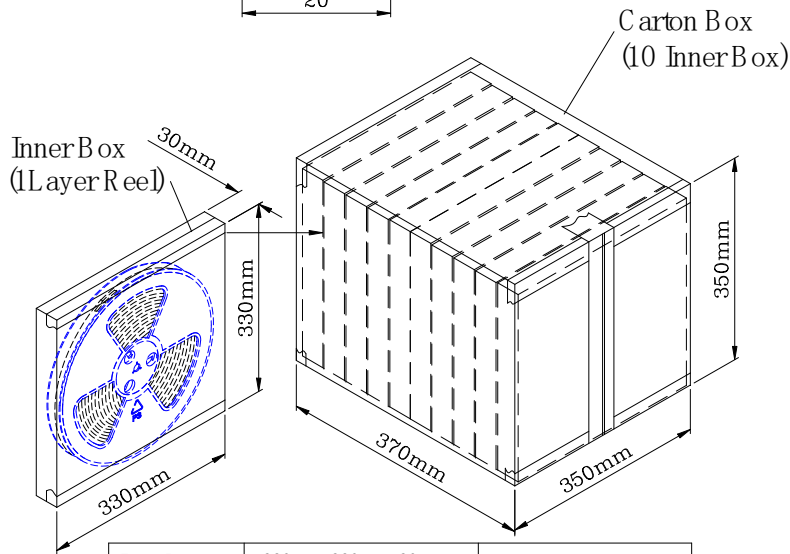
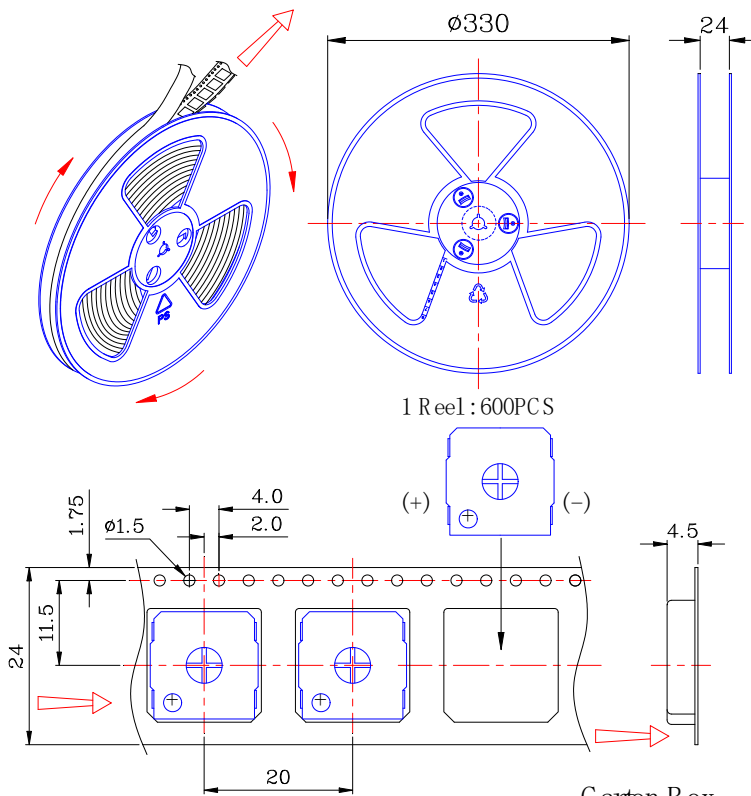
## H. RELIABILITY TEST

No.	Item	Test conditions	Evaluation standard
1	Load test	0.5W white noise is applied for 24 hours, at room temp.	Being placed for 1 hours at +25°C, receiver shall be measured. No obstacle to be harmful to normal operation; damages, cracks, rusts, etc. Should not be audible at 2.0V sine wave between Fo~20KHz. S.P.L. deviation of unit should be within ±3dB

### TEST CONDITION.

Standard Test Condition	:	a) Temperature : +5 ~ +35°C	b) Humidity : 45-85%	c) Pressure : 860-1060mbar
一般测试条件	:	a) 温度 : +5 ~ +35°C	b) 湿度 : 45-85%	c) 气压 : 860-1060mbar
Judgment Test Condition	:	a) Temperature : +25 ± 2°C	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
争议时测试条件	:	a) 温度 : +25 ± 2°C	b) 湿度 : 60-70%	c) 气压 : 860-1060mbar

# I. PACKING STANDARD



Inner Box	330m m x330m m x30m m	1x600PCS=600PCS
Carton Box	350m m x350m m x370m m	10x600PCS=6,000PCS