



佛山鎡利電子有限公司  
Vanson Electronics (NanHai) Co., Ltd.  
HTTP:// www.veco.com.cn  
Luocun Industrial zone Nanhai District Foshan city  
Guangdong Province China    Eail: fsveco@veco.com.cn  
廣東省佛山市南海區羅村工業區    郵編:528226  
TEL:+86-757-8126 6388    FAX:+86-757-8126 6389

# Specification

## 規 格 書

品名 ( Product Name)	揚聲器 (Speaker)
料號 ( Model No.)	P2712KFG04K3-030-2L

Revision History			
Version	Date	Description	Author
00	2017/09/19	Preliminary	LHN
01	2017/11/23	更新規格	LHN

核準 (Approval)	高紅華	2017/11/23
審查 (Check)	曾憲財	2017/11/23
設計 (Designer)	曾憲財	2017/11/23
制作 (Author)	劉紅妮	2017/11/23

# **VECO** Vanson Electronics(Nanhai) Co., Ltd.

Luocun Industrial zone Nanhai District Foshan city Guangdong Province China

TEL : + 86-757-8126 6388 FAX: + 86-757-8126 6389 E-mail: fsveco@veco.com.cn

1	<b>MODEL:</b>	<b>P2712KFG04K3-030-2L</b>	
2	Dimension & Weight	Outer Diameter	<b>27*12 mm</b>
		Baffle Opening	<b>25.8*10.8 mm</b>
		Height	<b>Refer to drawing</b>
		Weight	Grams
3	Magnet	Materials	<b>Rare Earth</b> Size <b>21.5*6.5*1.1mm</b>
4	Impedance Rating	<b>4.2 <math>\Omega</math> <math>\pm</math> 15 %</b> , at 2000 Hz	
	DC Resistance	<b>4 <math>\Omega</math> <math>\pm</math> 15 %</b> , On Ohm Meter	
5	Power Rating	Normal	<b>1.5 Watts</b> Maximum <b>2.0 Watts</b> Sine Wave. in 1.5cc box
6	Resonant Frequency	<b>500 <math>\pm</math> 20 % Hz</b> in free air	
		<b>800 <math>\pm</math> 20 % Hz</b> in 1.5cc box	
7	Output Sound Pressure	<b>95 <math>\pm</math> 3 db @ 1.5Watt/0.1 Meter / at 2KHz / in 1.5cc box ( With baffle)</b>	
8	Frequency Range	<b>FO ~ 20000 Hz.</b> Average SPL – 10 db.	
9	Distortion	<b>5 % Maximum At 1000 Hz.</b> 1.5 Watt in 1.5cc box	
10	Abnormal Sound test	Must be Normal Tested By <b>2.45 Volts.</b> Sine Wave. in 1.5cc box	
11	Load Test	Pink noise with HPF(High Pass Filter 235HZ-3db/Oct)2.45 Volts (RMS.) <b>96</b> hours	
12	Polarity	Diaphragm shall move Forward while Apply a Positive DC Signal to the “+” or “Marked” Terminal.	

Above Measuring condition under temperature : 15~35°C R.H. 25 ~75%. According to standard GB/T12060.5-2011

## **Mechanical and vibration test**

13	High Temperature	<b>+ 60 <math>\pm</math> 2 °C</b> Humidity Random for 96 Hours.
14	Low Temperature	<b>- 25 <math>\pm</math> 2 °C</b> Humidity Random for 96 Hours.
15	Humidity	<b>+ 40 <math>\pm</math> 2 °C</b> Relative Humidity (RH) 90 ~ 95 % 96 Hours.
16	Vibration	Frequency <b>30 <math>\pm</math> 15 Hz</b> , Amplitude 1.5 mm for 3 Hours.
17	Drop test	<b>75 CM</b> free falling on Concrete floor, 10 times.

After test leave speakers at room temperature for 1 hour, SPL shall not deviate by  $\pm$  3 db from pre-test Measurement, and meet above spec. item 6. 7. 8. 9. 10.

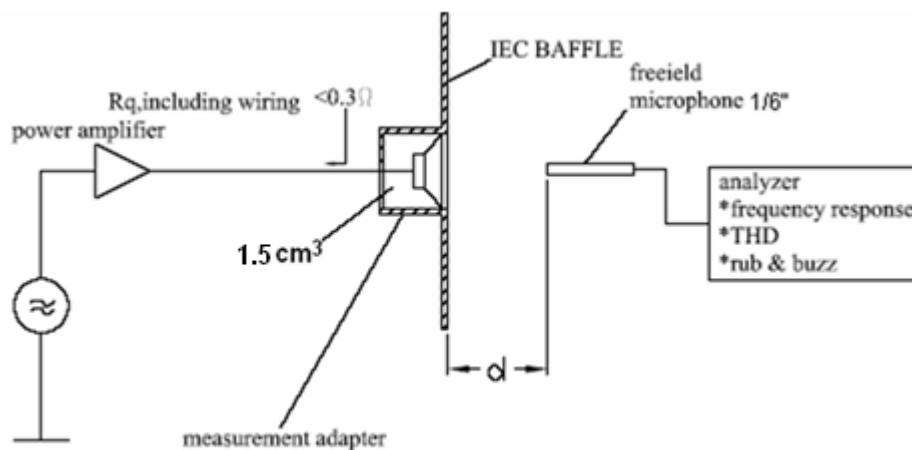
18	Temperature Cycle test	<b>- 25 ~ + 60 °C</b> 4 Cycles Temperature tests.
----	------------------------	---

After test leave speakers at room temperature for 1 hour, SPL shall not deviate by  $\pm$  3 db from pre-test Measurement, and meet above spec. item 6. 7. 8. 9. 10.

Please refer to next pages for more detailed testing method.

## Test method and User precaution.

1. Characteristics measured according to standard GB/T12060.5-2011
  - 1.1 Except other specified, measuring are under Temperature 15~35°C R.H. 25 ~75%
  - 1.2 Judgement condition Temperature  $20 \pm 2^\circ\text{C}$  R.H. 63~67%
  - 1.3 .Product shelf life is valid for 12 months only.
2. Output Sound Pressure Level (S.P.L.) and distortion testing setup



### 3. Environment & Mechanical test:

#### 3.1 High Temperature: GB2423.2-81

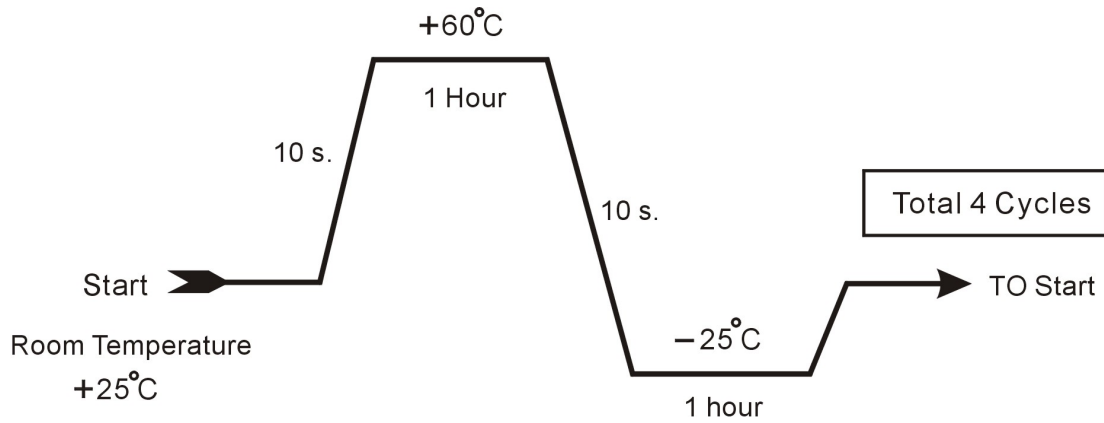
After exposure the speaker in the  $+ 60 \pm 2^\circ\text{C}$  chamber for 96 hours, then leave the speaker at room temperature for 1 hour, the SPL should not deviate by  $\pm 3 \text{ db}$ , and resonant frequency should not deviate by  $\pm 50 \text{ Hz}$ , compare with pre-test measurement.

#### 3.2 Low Temperature: GB2423.1-81

After exposure the speaker in the  $-25 \pm 2^\circ\text{C}$  chamber for 96 hours, then leave the speaker at room temperature for 1 hour, the SPL should not deviate by  $\pm 3 \text{ db}$ , and resonant frequency should not deviate by  $\pm 50 \text{ Hz}$ , compare with pre-test measurement.

#### 3.3 Temperature cycle: GB5170.18-87

After exposure the speaker in the chamber, temperature cycle setting as below shows, SPL should not deviate by  $\pm 3 \text{ db}$ , and resonant frequency should not deviate by  $\pm 80 \text{ Hz}$ , compare with pre-test measurement.



### 3.4 Humidity: GB5170.18-87

After exposure the speaker in the + 40±2 °C, relative humidity 90% ~ 95% chamber for 96 hours, then leave the speaker at room temperature for 6 hours, the SPL should not deviate by ±3 db, and resonant frequency should not deviate by ±50 Hz, compare with pre-test measurement.

### 3.5 Vibration: GB11606.8-89

Frequency 30±15 Hz, Amplitude 1.5 mm for 3 Hours. After test, SPL shall not deviate by ±3 db from pre-test measurement,

### 3.6 Load test: GB/T12060.5-2011

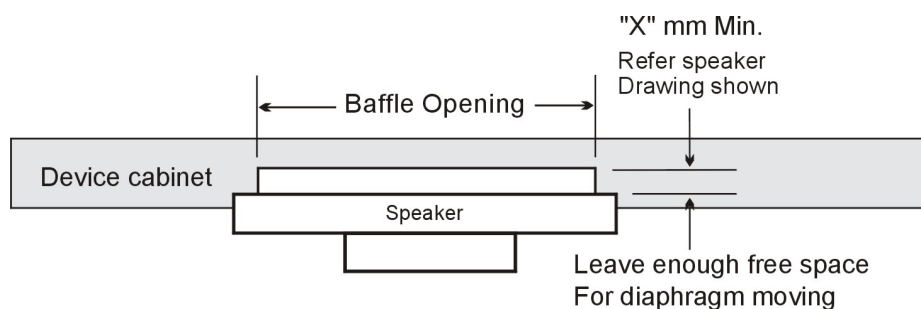
Speaker should not fail after apply 20 ~ 20K Hz Pink noise with HPF rated power input (RMS), 96 hours. After test, SPL shall not deviate by ±3 db from pre-test measurement,

### 3.7 Drop test: GB2423. 8-81

75 cm free falling on concrete floor, 10 times. After test, SPL shall not deviate by ±3 db from pre-test measurement,

## 4. Mounting **precaution**

In order to keep speaker work normally, there shall leave enough free space for diaphragm moving, minimum distance required is marked in speaker mechanical drawing.



## 5. Measuring & standard referenced

Abstract from GB/T12060.5-2011 and IEC 60268-5:2007 methods of measurement for main characteristics of loud speakers.

### 5.1 Rated sine voltage.

It is stipulated by manufacturer, sine signal voltage that make speaker work continuously in rated frequency range, but the speaker wouldn't be damaged heartily or mechanically.

The persist time of the voltage is 1 hour.

### 5.2 The rated sine power.

The rated sine power is corresponding with the rated sine voltage, its definition is  $U_s^2/R$ ,

$U_s$  indicates the rated sin voltage,  $R$  indicates the rated impedance.

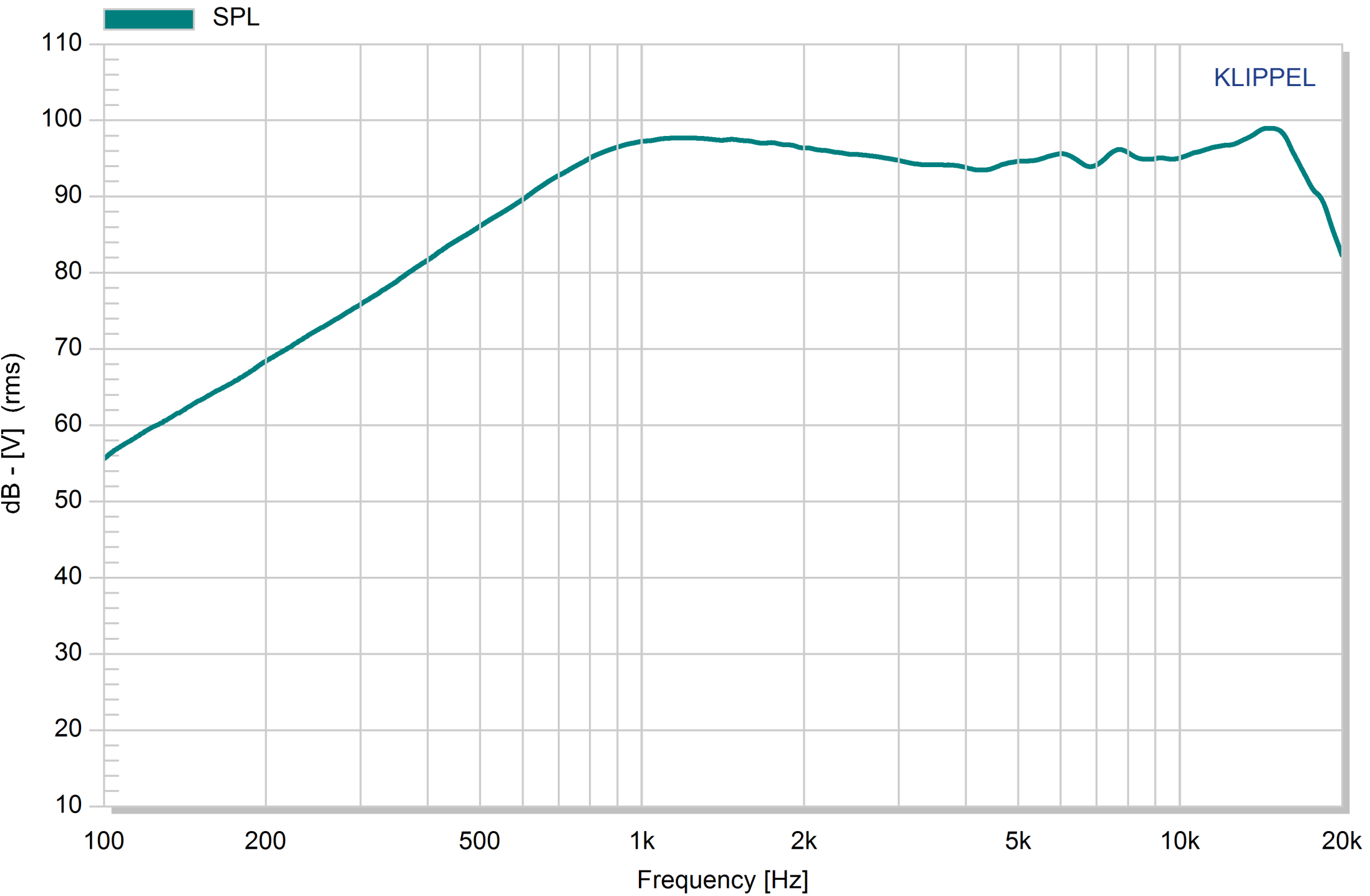
### 5.3 The rated noise power.

The rated noise power is corresponding with the rated noise voltage, its definition is  $U_n^2/R$ ,

$U_n$  indicates the rated noise voltage,  $R$  indicates the rated impedance.

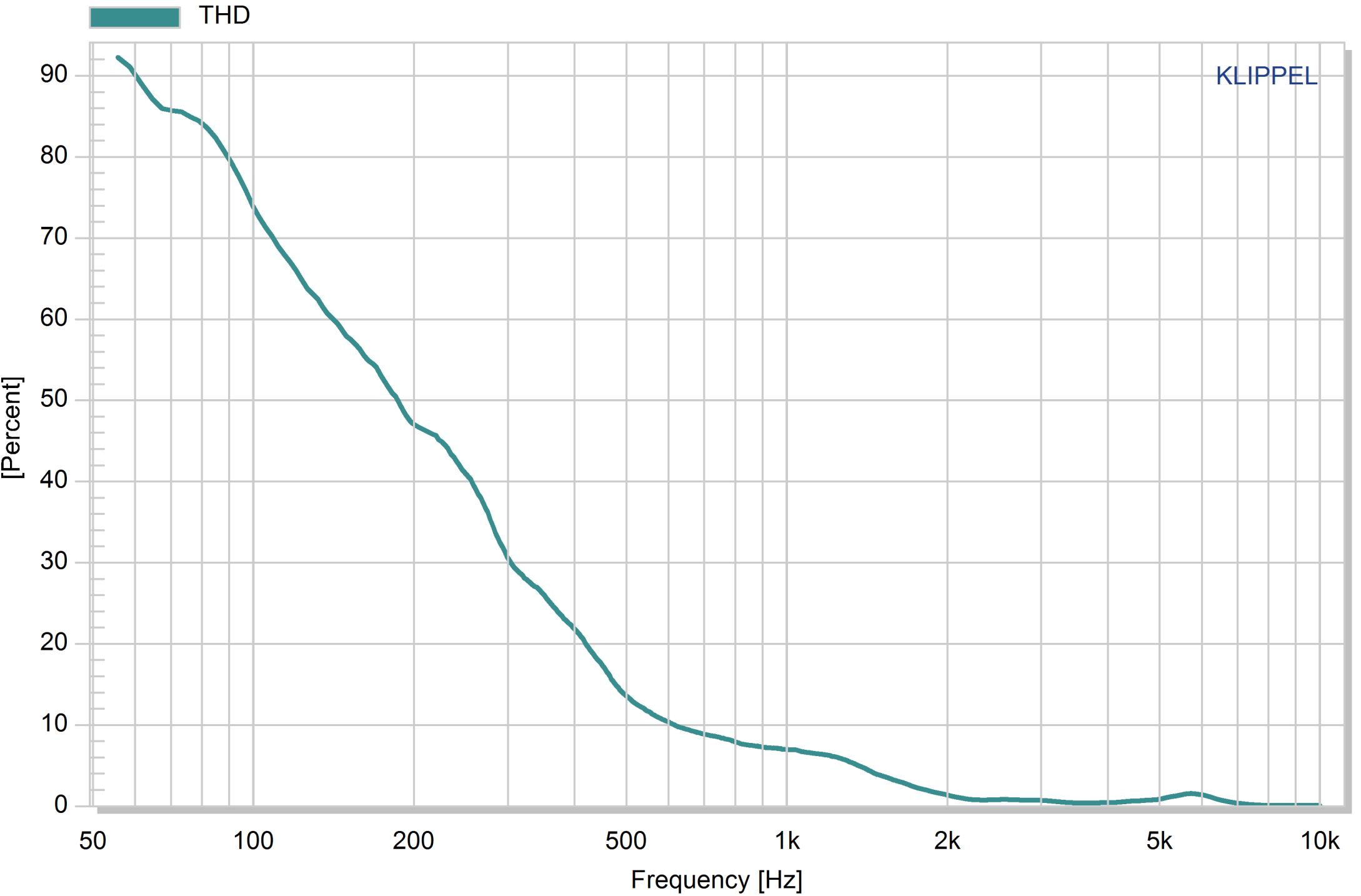
# P2712KFG04K3-030-2L

1.5W / 0.1M, with 1.5cc box, on the baffle



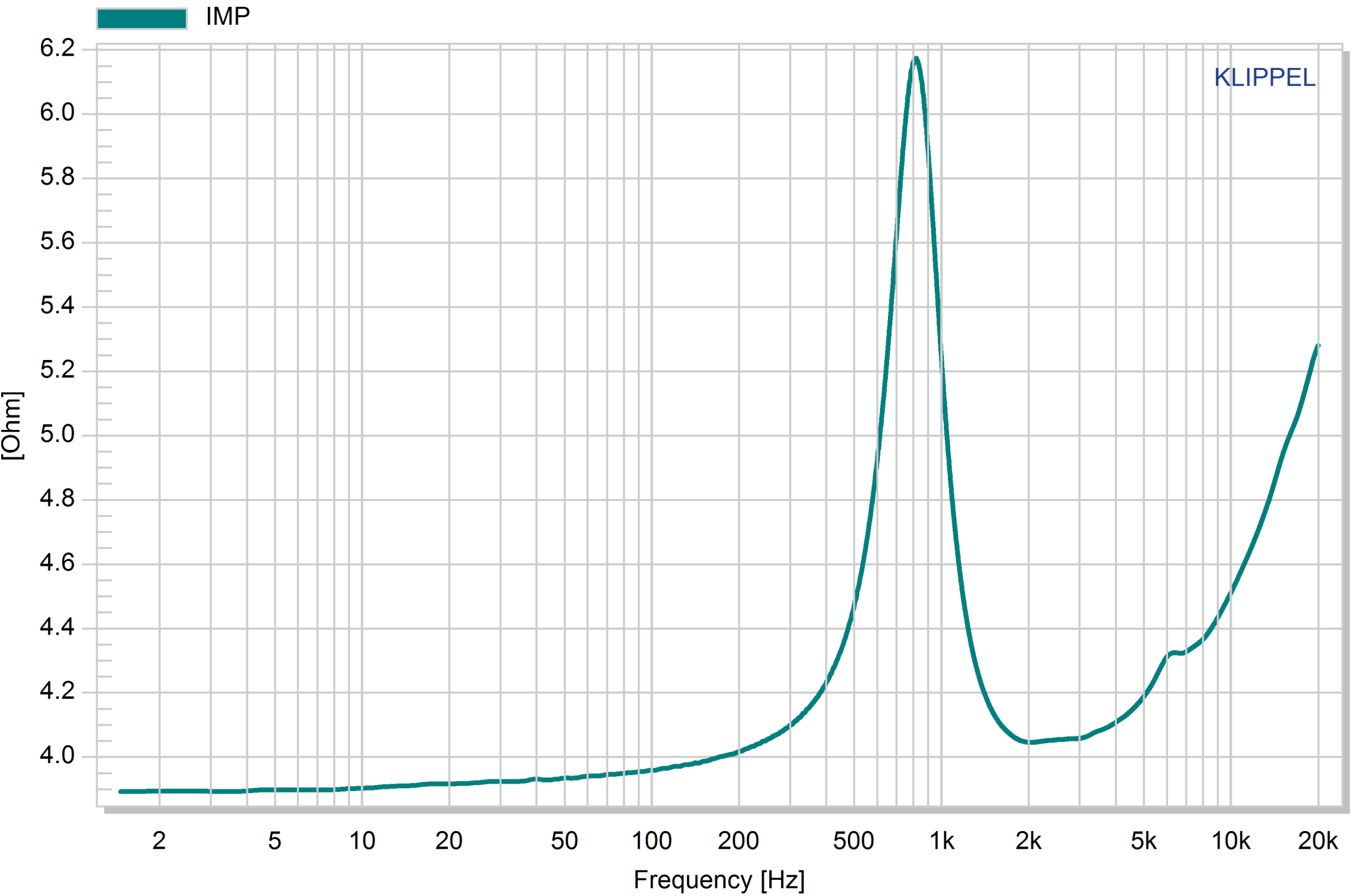
# P2712KFG04K3-030-2L

1.5W / 0.1M, with 1.5cc box, on the baffle



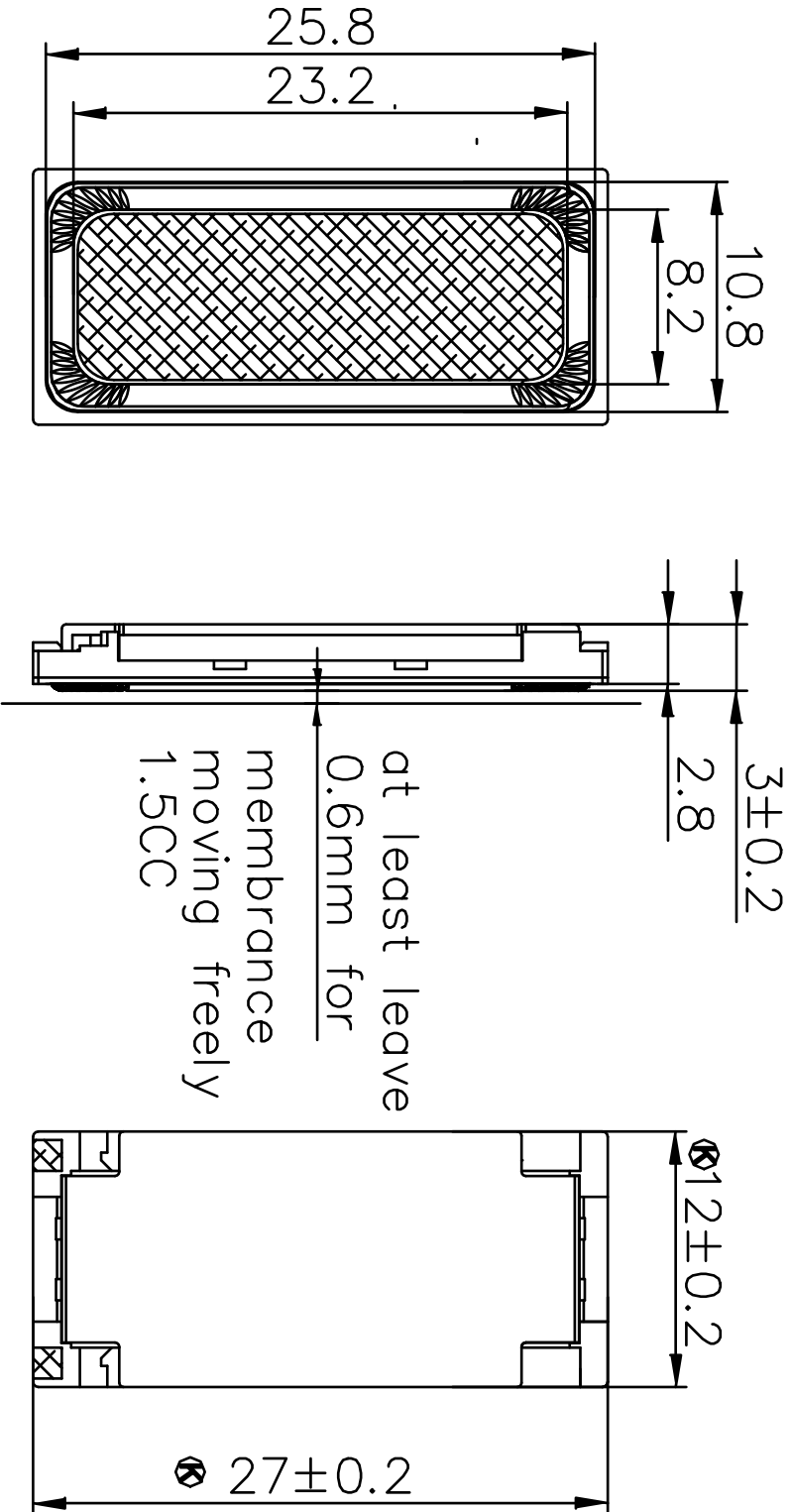
# P2712KFG04K3-030

in 1.5cc box





- NOTE:**
1. 加工要求:
  2. 表面處理:
  3. 制程重點:
  4. 檢驗重點:



RANGE	TOL				V	
0-8	±0.05	±0.1	±0.15	±0.2	±1	
8-16	±0.1	±0.15	±0.2	±0.2	±2	
16-24	±0.15	±0.2	±0.3	±0.3	±2	
24-50	±0.2	±0.25	±0.3	±0.4	±3	
50-100	±0.25	±0.3	±0.5	±0.5	±3	
>100	±0.3	±0.4	±0.4	±0.8	±5	

CRITICAL DIMENSIONS ENVIRONMENT REQUIREMENT:  
 CUSTOMER PN:  
 DATE: 16/07/2018 MATERIAL: VECO PN: COLOUR:

ITEM	Y/M/D	CONTENTS OF CHANGE	SPONSOR

**Vanson Electronics (Nanhai) Co., Ltd.**  
**敏利電子**  
 E-MAIL: [foshan@veco.com.cn](mailto:foshan@veco.com.cn)  
 TEL: +86-757-89539828 FAX: +86-757-89539828

**Title: P2712KF604K3-030-2L**

Unit: mm VER: 00 Appr.:  
 Scale: 1:1 CHK.:  
 Dwg.: 曾憲財

不准使用感測  
 電子禁止使用的  
 環境管理物質