

# SPECIFICATION

Customer :

受 控

Applied To :

Product Name : Piezo Transducer

Model Name : SPT-G1872A




Drawing No. : KP3.840.890.02R

Compliance with ROHS

Signature of Approval

--

Signature of KEPO

Approved by	Checked by	Issued by	Date
			

宁波凯普电子有限公司



Ningbo Kepo Electronics Co.,Ltd.

宁波东钱湖镇东钱湖工业区宝源路 25 号

TEL:+86-574-88370330 FAX:+86-574-88370329

No.25 Baoyuan road Dongqian Lake, Industry Area, Dongqian town,Ningbo City,  
China(Post Code:315121)

[Sales@chinaacoustic.com](mailto:Sales@chinaacoustic.com)

[www.chinaacoustic.com](http://www.chinaacoustic.com)

Specification for Transducer	Page	2/10
	Revision No.	1.0
	Drawing No.	KP3.840.890.02R
Model No. :	SPT-G1872A	

## CONTENTS

1. Scope  
范围
2. General  
概要
3. Electrical and Acoustic Characteristics.  
电声参数
4. Reliability Test  
可靠性试验
5. Measurement Block Diagram & Response curve  
测试图和曲线图
6. Structure  
结构
7. Dimensions  
尺寸
8. Packing  
包装
9. Revision  
履历表

Specification for Transducer		Page	3/10
		Revision No.	1.0
Model No. :	SPT-G1872A	Drawing No.	KP3.840.890.02R

## 1. Scope

This product specification is applied to the piezoelectric sounder in alarm systems. Please contact us when using this product for any other applications than described in the above.

本规格书适用于压电式声响器，通常它用在系统中做报警或提示的声响器用，如果将该产品用于其它领域，请与我们联系。

## 2. General

2.1 Out-Diameter: 18.4 mm

外径: 18.4 mm

2.2 Height : 7.2mm

高度: 7.2mm

2.3 Weight: 2.0g

重量: 2.0克

2.4 Operating Temperature range:

-20~+70°C without loss of function

工作温度: -20~+70°C

2.5 Store Temperature range:

-40~+85°C without loss of function

储藏温度: -40~+85°C

## 3. Electrical and Acoustic Characteristics.

Test condition : 15 ~ 35 °C , 25% ~ 85% RH, 860~1060 mbar

测试条件: 15~35 °C , 25%~85%RH , 860~1060mbar

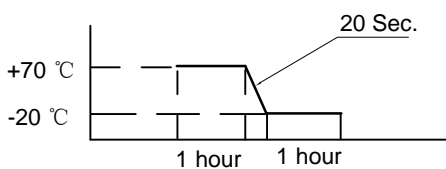
	Items 项目	Specification 规格
1	Rated Voltage 额定电压	3.6Vp-p Square Wave
2	Max.Allowable Voltage 最大输入电压	30Vp-p Square Wave
3	Rated Frequency 额定频率	/
4	Min.Sound Pressure Level 额定声压	Min 75dB at 2KHz/3.6Vp-p Square Wave/10cm
5	Capacitance at 100Hz 电容量(at 100Hz)	28000pF± 30%
6	Case Material/Color 壳体材质/颜色	PPS/BLACK

Specification for Transducer		Page	4/9
		Revision No.	1.1
Model No. :	SPT-G1872A	Drawing No.	KP3.840.890.02R

## 4. Reliability Test

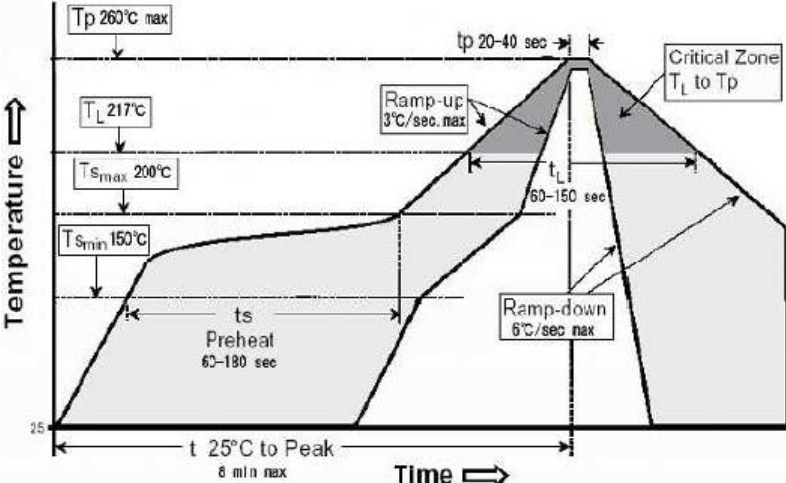
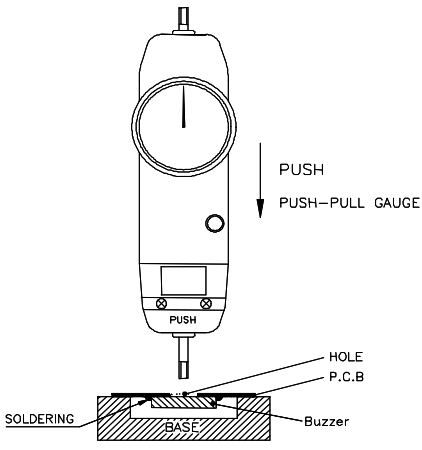
After test(1~9item), the transducer S.P.L. difference shall be within  $\pm 10\text{dB}$ , and the appearance not exist any change to be harmful to normal operation(e.g. cracks,rusts,damages and especially distortion).

在1-9项试验后，声响器的声压变化值在  $\pm 10\text{dB}$  之内，外观无变化（例如：无开裂、生锈、损伤、变形等现象）。

	Item	Specification
1	High Temperature Test 高温试验	<p>After being placed in a chamber with <math>+85\pm 2\text{ }^\circ\text{C}</math> for 96h and then being placed in natural condition for 2h, sounder shall be measured.</p> <p>将产品置于 <math>+85\pm 2\text{ }^\circ\text{C}</math> 试验箱内放置96小时，然后在正常大气压条件下恢复2小时后，进行测量</p>
2	Low Temperature Test 低温试验	<p>First being placed in a chamber with <math>-40\pm 2\text{ }^\circ\text{C}</math> for 96h, then being placed in natural condition for 2h, sounder shall be measured.</p> <p>将产品置于 <math>-40\pm 2\text{ }^\circ\text{C}</math> 试验箱96小时，然后在正常大气压条件下恢复2小时后，进行测量</p>
3	Humidity Test 潮湿试验	<p>After being placed in a chamber with 90 to 95%R.H. at <math>+40\pm 2\text{ }^\circ\text{C}</math> for 48 h and then being placed in natural condition for 2h, sounder shall be measured.</p> <p>将产品置于湿度为 90-95%R.H，温度为 <math>40\pm 2\text{ }^\circ\text{C}</math> 试验箱中 48 小时，然后在正常大气压条件下恢复 2 小时后，进行测量</p>
4	Thermal Shock Test 热冲击试验	<p>After being worked in a chamber at <math>+70\text{ }^\circ\text{C}</math> for 1 hour, then sounder shall be placed in a chamber at <math>-20\text{ }^\circ\text{C}</math> for 1 hour(1 cycle is the below diagram).</p> <p>After 6 above cycles, sounder shall be measured after being placed in natural condition for 1 hour.</p> <p>将产品置于 <math>+70\pm 2\text{ }^\circ\text{C}</math> 试验箱中，先工作1小时，然后将产品置于 <math>-20\pm 2\text{ }^\circ\text{C}</math> 试验箱中，再工作1小时，经过6个循环后，在正常大气压条件下恢复1小时，进行测量</p>  <p>The diagram illustrates a thermal shock cycle. It starts at a constant temperature of <math>+70\text{ }^\circ\text{C}</math> for 1 hour. A ramp with a slope of 20 Sec. leads to a constant temperature of <math>-20\text{ }^\circ\text{C}</math> for 1 hour. This cycle repeats.</p>
5	Vibration Resistance 振动试验	<p>Sounder shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 30Hz band of vibration frequency to each of 3 perpendicular directions for 2 hour.</p> <p>振幅为1.5mm，频率为10-30Hz，三个不同轴方向各振动2小时，试验后进行测量。</p>

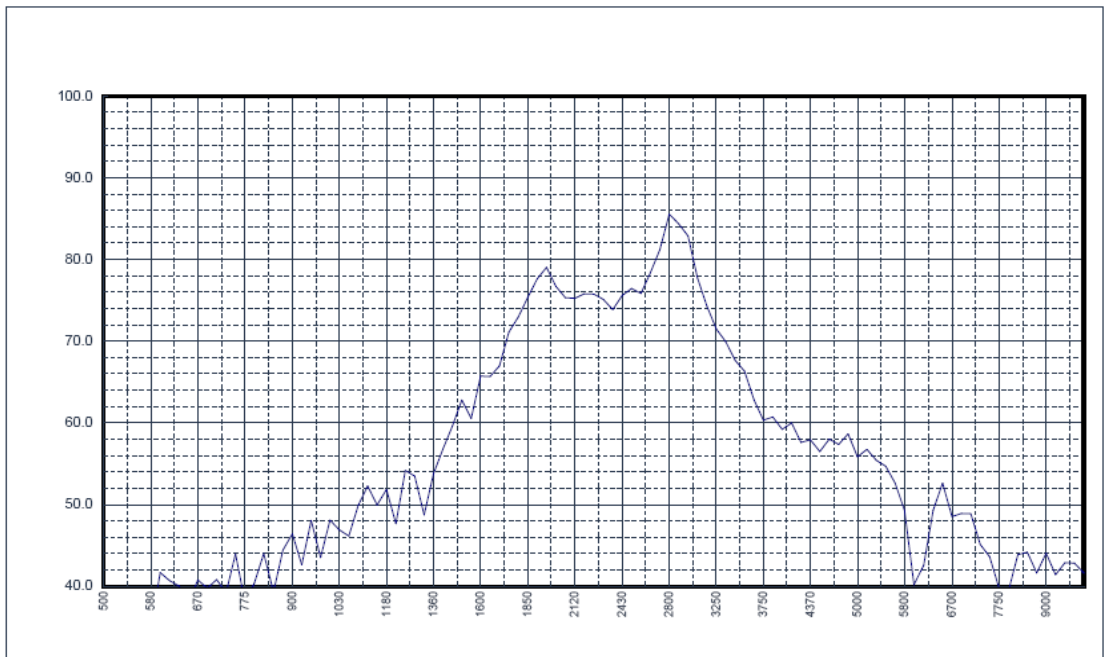
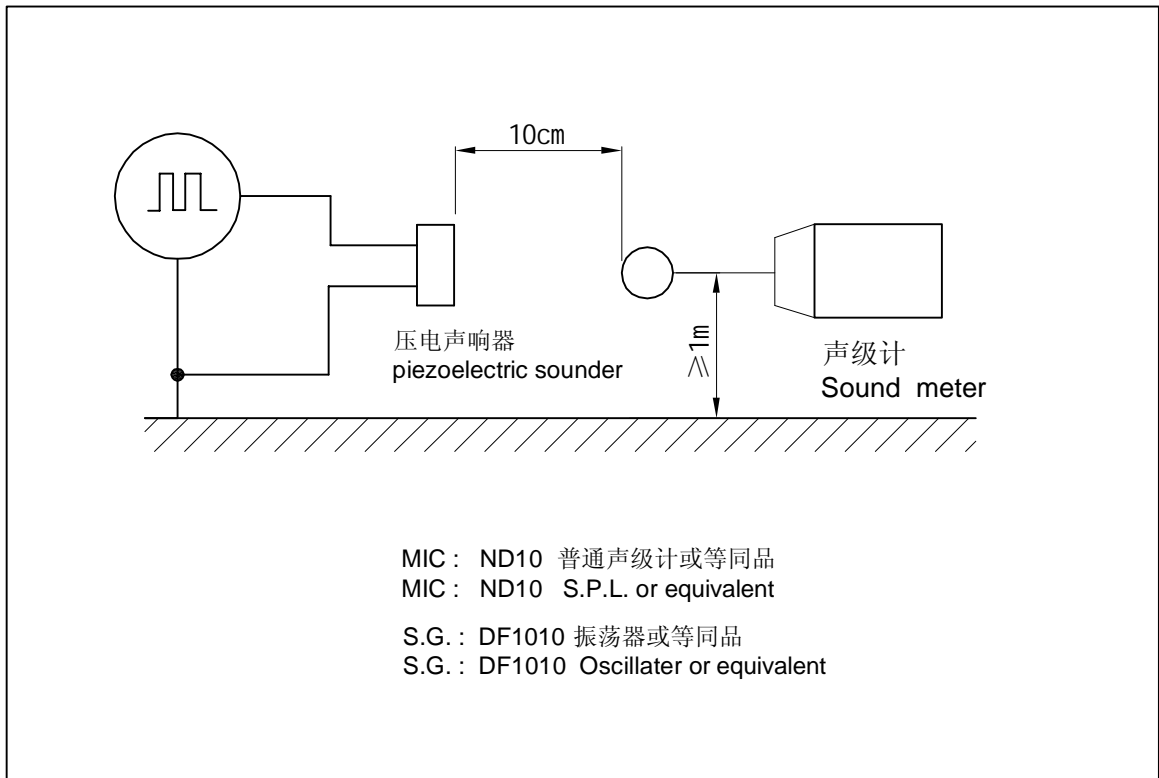
Specification for Transducer		Page	5/9
Model No. : SPT-G1872A		Revision No.	1.1
		Drawing No.	KP3.840.890.02R

#### 4. Reliability Test

	Item	Specification
6	Drop Test 跌落试验	<p>Sounder packed in the carton are dropped in six direction from the height of 80cm to the concrete floor.</p> <p>跌落高度80cm,6个不同方向整箱跌落到水泥地, 试验后进行测量.</p>
7	可焊性试验 Solderability	<p>Lead terminals are immersed in rosin for 5 seconds and the immersed in solder bath of <math>+235\pm 5^{\circ}\text{C}</math> for <math>3\pm 0.5</math> seconds.</p> <p>焊片浸入松香5秒, 然后再浸入 <math>+235\pm 5^{\circ}\text{C}</math> 的锡炉中 <math>3\pm 0.5</math> 秒, 插针表面应覆盖一层光滑明亮的焊料.</p>
8	Reflow Soldering 回流焊接	<p>Recommendable reflow soldering condition is as follows.</p> <p>Note 1; It is requested that reflow soldering should be executed after heat of product goes down to normal temperature.</p> <p>Note 2; Peak reflow temperature of <math>260^{\circ}\text{C}</math>, with a maximum duration of 60 sec. between <math>220^{\circ}\text{C}</math> and <math>260^{\circ}\text{C}</math></p>  <p>The graph shows a temperature profile starting at 25°C. It includes a preheat phase (ts) from 63 to 180 seconds, reaching a minimum temperature (T<sub>Smin</sub>) of 150°C. The temperature then ramps up at a maximum rate of 3°C/sec to a liquidus temperature (T<sub>L</sub>) of 217°C. It continues to rise to a peak temperature (T<sub>p</sub>) of 260°C, which is maintained for a duration (tp) of 20-40 seconds. This peak region is labeled as the 'Critical Zone' from T<sub>L</sub> to T<sub>p</sub>. The temperature then ramps down at a maximum rate of 6°C/sec, passing through a solidus temperature (T<sub>Smax</sub>) of 200°C. The total time from 25°C to the peak is limited to a maximum of 8 minutes. The cooling phase is labeled with a duration (t<sub>L</sub>) of 60-150 seconds.</p>
9	Pad Test 焊片强度测试	<p>Pad Tensile Strength Test Condition, In the pad direction, push the buzzer for 10 sec. with tensile strength of 1.0kg, Refer to the following.</p> <p>用1.0kg强度, 垂直压蜂鸣器10秒, 如下图所示.</p>  <p>The diagram illustrates the test setup. A buzzer is mounted on a base. The buzzer is soldered to a hole in a P.C.B. A push-pull gauge is used to apply a downward force (labeled 'PUSH') to the buzzer. The base is labeled 'BASE' and the soldering area is labeled 'SOLDERING'.</p>

Specification for Transducer	Page	6/10
	Revision No.	1.0
Model No. : SPT-G1872A	Drawing No.	KP3.840.890.02R

## 5. Measurement Block Diagram & Response curve



Specification for Transducer		Page	7/10
Model No. : SPT-G1872A		Revision No.	1.0
		Drawing No.	KP3.840.890.02R

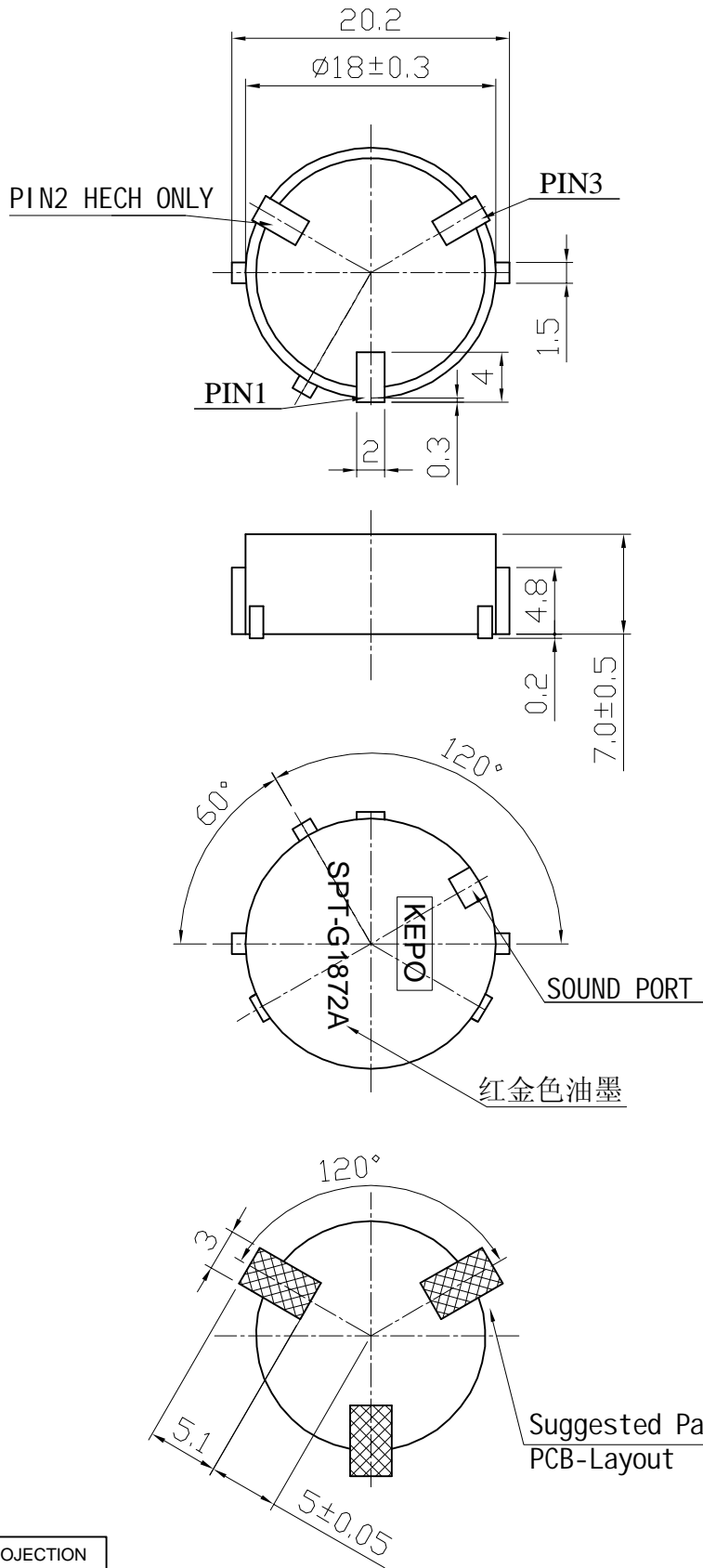
## 6. Structure



2	pin 焊片	3		
1	Case 壳体	1	PPS/BLACK	
No.	Part Name 型号	Q'TY 数量	Material 材质	Remarks 备注

Specification for Transducer	Page	8/10
	Revision No.	1.0
Model No. SPT-G1872A	Drawing No.	KP3.840.890.02R

## 7. Dimensions



FIRST ANGLE PROJECTION

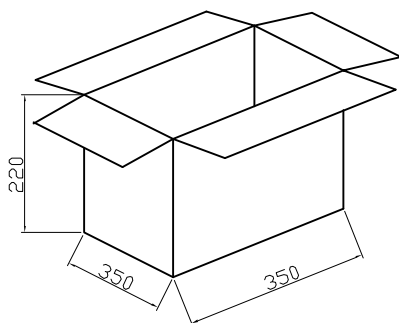
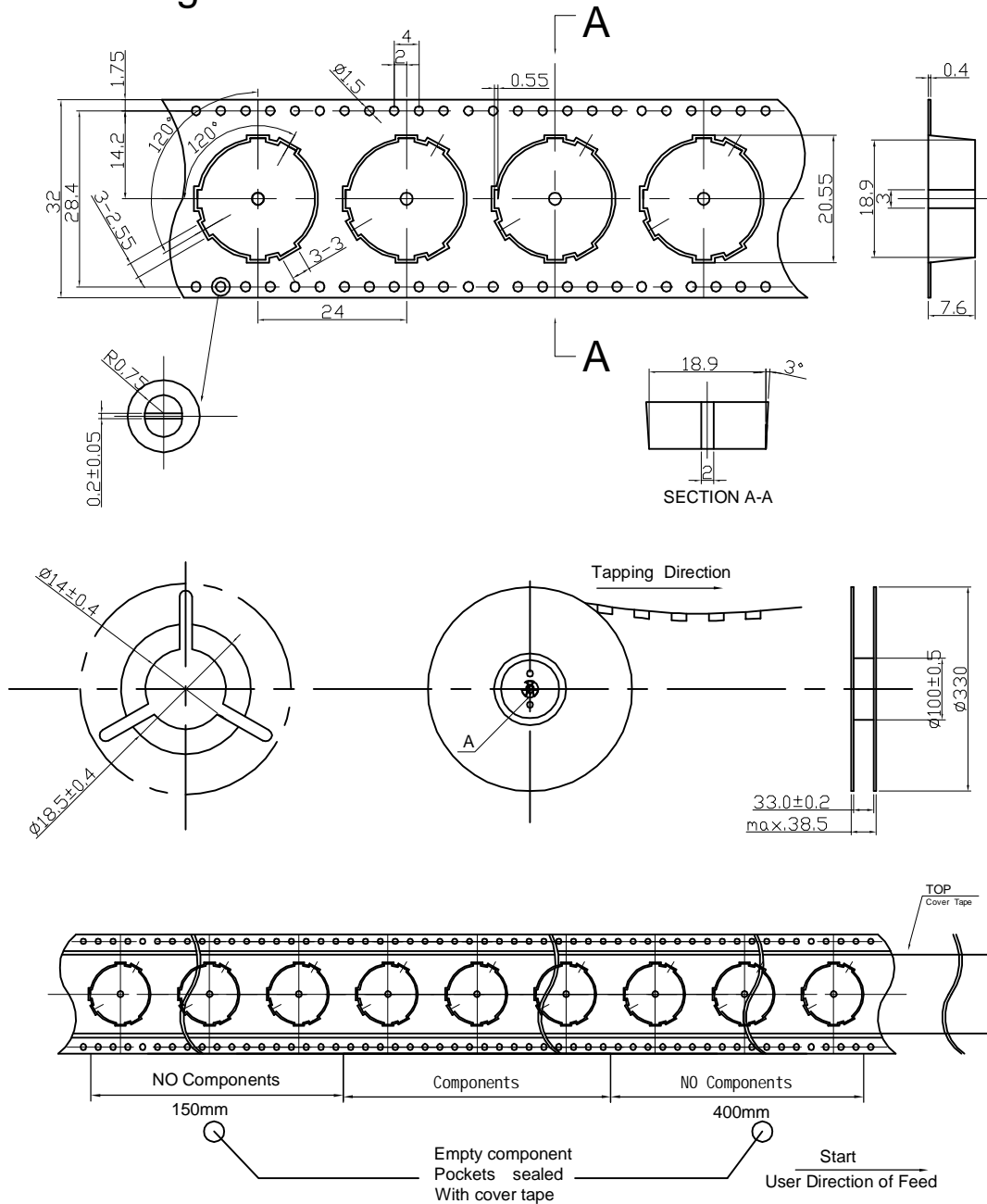


UNIT : mm  
Tolerance :  $\pm 0.5$



Specification for Transducer	Page	9/10
	Revision No.	1.0
	Drawing No.	KP3.840.890.02R
Model No. :	SPT-G1872A	

## 8. Packing



### NOTES:

- 1.400 PCS per coil
  - 2.Total 5 coil per carton
  - 3.Total 2000 PCS carton
  4. Volume: 35X35X22cm
- NET WEIGHT: 10KG  
GROSS WEIGHT: 12KG

Specification for Transducer	Page	10/10
Model No. :      SPT-G1872A	Revision No.	1.0
	Drawing No.	KP3.840.890.02R

## 9. Revision

Rev. No.	DATE	PAGE	DESCRIPTION	SIGN
1.0	2009.03.17	/	primary	