



SPECIFICATION

MICRO SPEAKER

CUSTOMER:

LCN P/N: SR151125LI02

CUSTOMER P/N:

DATE: 2017-9-25

陈国基	刘琳	吴超超
APPROVER	CHECKER	DESIGNER

CUSTOMER APPROVER	
SIGNATURE	DATE

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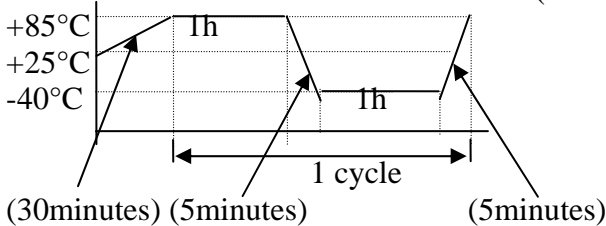
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SHENZHEN LINKCONN ELECTRONICS CO. , LTD			SPECIFICATIONS (1/12)			
TEL: 86-0755-82943323 Fax: 86-0755-82966567 E-mail: Services@linkconn.com			TYPE NO.		SR151125LI02	Issue:A/0
Environmental Requirement	HF	✓	ROHS	✓	REACH	✓

Revision				
No	Date	Page	Description	Sign
0	2017.9.25		First release	A0

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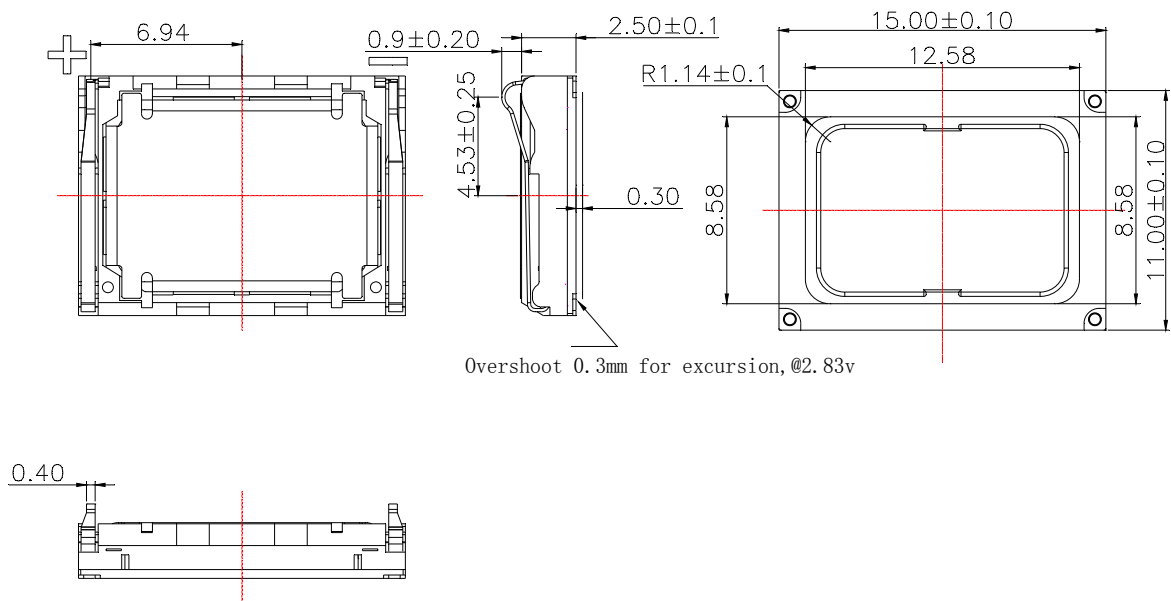
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		TYPE NO.	SR151125LI02	Issue:A/0
1. Product Outline				
1-1. Scope		This specification is a typical speaker unit for telephone handset		
1-2. Dimensions		As shown in figure 1		
1-3. Net Weight		Approx 1.6grams		
1-4. Operating Temperature Range		-30°C to +70°C without loss of function		
1-5. Storage Temperature Range		-40°C to +85°C (Note: Return to ambient room temperature before using)		
2. Electroacoustic Characteristics				
2-1. Test Setup		Measuring instrument as shown in Figure 4		
2-2. Impedance		AC:8±15% ohm at 2KHz 2.83V Input DC:7.2±15% ohm		
2-3.Sound Pressure Level		93±3dB SPL /2.83Vrms/10cm at 2kHz in 1.0cc box Speaker shall be mounted in a baffle with minimum dimensions of 1350cm x 1650cm. See Figure 5.		
2-4.Frequency Response		See Figure 7 Test at 2.83Vrms/10 cm with the speaker mounted in 1.0cc measure box in a baffle.		
2-5. Resonance Frequency		Fs: 500±15% Hz in Free Air Fb: 850±15% Hz in 1.0cc Box		
2-6. Input Power(Rated./Max.)		Rated Power: 1.0W (in 1.0cc box) Maximum Power: 1.2W (in 1.0cc box)		
2-7.Rub and Buzz		The input power shall be set at 1W. Using an audio oscillator, sweep from 300 to 5000 Hz with the speaker mounted in 1.0cc measure box and in a baffle.There shall be no buzzes, rattles, nor spurious noises.		
2-8.THd		See Figure 8 , Table 1 Test at 2.83Vrms/10 cm with the speaker mounted in 1.0cc measure box in a baffle.		
2-9.Polarity		When a DC source’s “+” polarity is attached to speaker’s “+” polarity,“-“ polarity is attached speaker’s “-“ polarity ,the membrane will move forward .		

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3. General Reliability				
3-1.General		After any following tests the response at 2KHz shall not deviate more than $\pm 3\text{dB}$ from the initial value		
3-1.Temperature Shock Test		<div>Temperature: $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ \longleftrightarrow $+85^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Cycle: 10 cycles</div> <div>Duration: 1 hour 1 hour (recovery 2 hours)</div> <div></div> <div>(30minutes) (5minutes) (5minutes)</div>		
3-2.Static Humidity Test		Precondition at $+25^{\circ}\text{C}$ for 1 hour. Next expose samples to $+55^{\circ}\text{C}$ with 95% relative humidity for 96 hours with no bias. Finally allow test samples to dry at room ambient temperature for 3 ± 1 hour before taking final measurements.		
3-3.Vibration Test		Secure device using a fixture appropriate for this test. Fixture shall be capable of mounting on vibration table. Vibrate from 10Hz to 2000Hz, 1 octave per minute, 2mm displacement $\pm x$, $\pm y$, $\pm z$ directions with 15 g's force for 2 hours per each plane.		
3-4.Drop Test		Drop samples 1.5 meters three times in each direction along each of the three mutually perpendicular axes for a total of 18 shocks.(Samples shall be mounted in a 100g fixture)		
3-5.Operating Life Test		1.0cc box; 25°C ;Pink noise;20Hz-20kHz;1.0W;Crest factor 3-4;96 H		
3-6.Rated Sweep Power Test		1.0cc box; 25°C ;Sine Wave;720-1020Hz; 1.0W; 1 sec;12 H		
3-7.Max Power Test		1.0cc box; 25°C ;Pink noise;20Hz-20kHz;1.2W; 1 sec on/60 sec off;60 cycles		
3-8.High Temperature Test		$85 \pm 2^{\circ}\text{C}$;96H;2H Recovery time		
3-9.Low Temperature Test		$-40 \pm 2^{\circ}\text{C}$;96H;2H Recovery time		

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4. Mechanical Layout and Dimensions

4.1 Mechanical Layout



Notes:

1、 General unless otherwise noted ±0.1mm.

(Figure 1)

6	Voice Coil	Copper	1	
5	Diaphragm	Composite membrane	1	
4	Pole Piece	SPCC	1	
3	Magnet	NdFeB	5	
2	Yoke	SPCC	1	
1	Frame	Plastic	1	
No.	Part Name	Material	Q'TY	Remark

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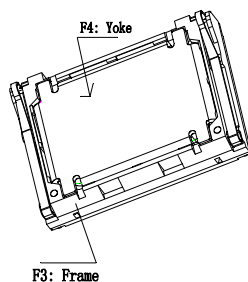
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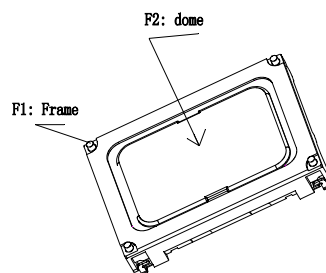
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4.2 Permitted Force to Speake

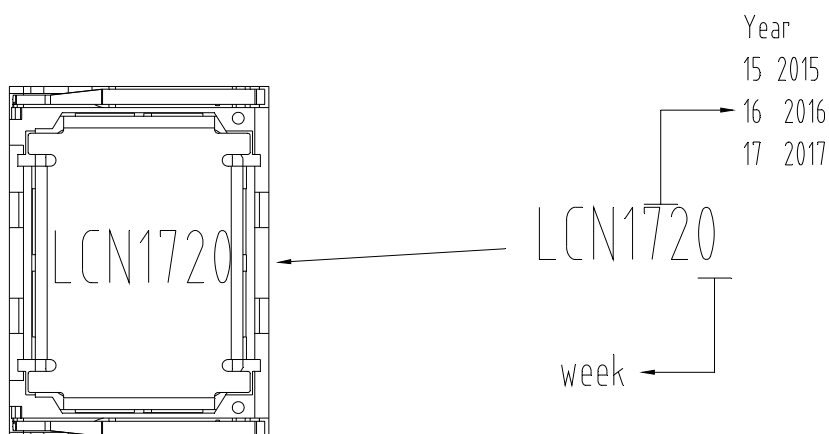


Max permitted compression Force			
NO	From	To	Maximum Force
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2	F3	F1	10 N
3	F4	F1	10 N



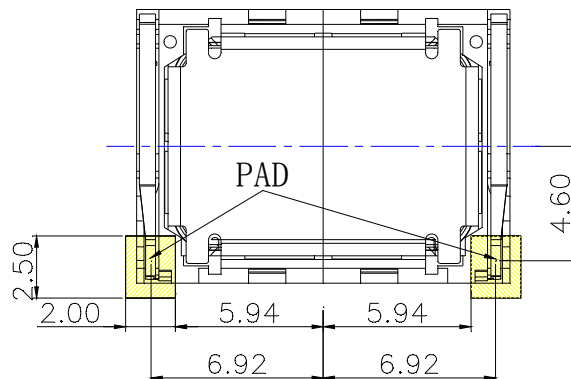
(Figure 2)

4.3 Date Code



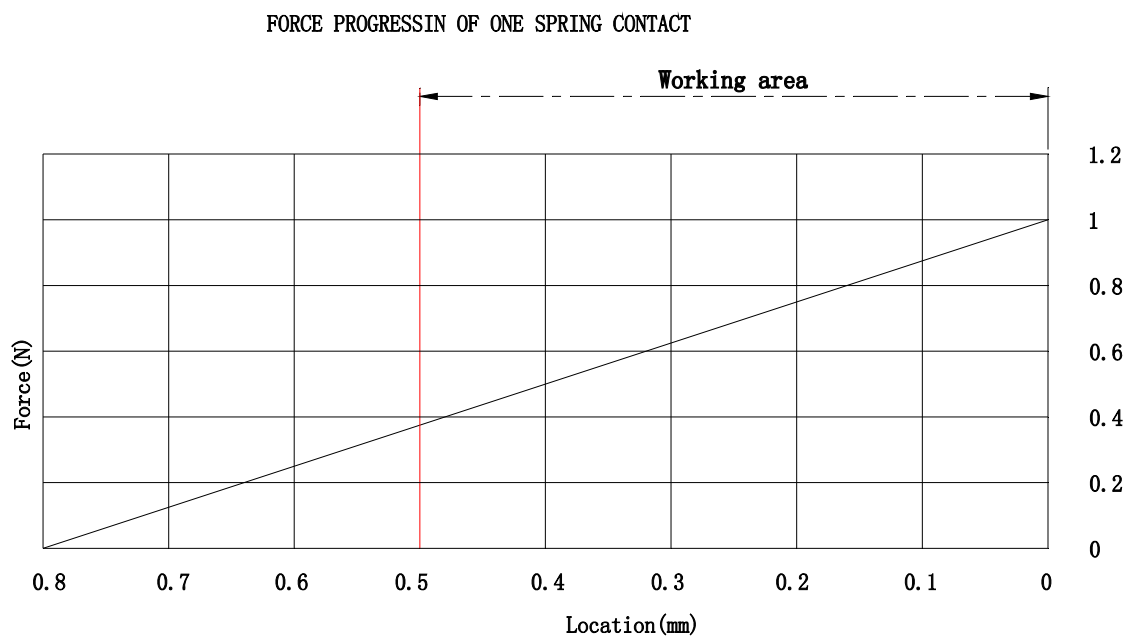
(Figure 3)

4.3 Pad Layout of Spring contact



(Figure 3)

4.4 Force Diagram



(Figure 4)

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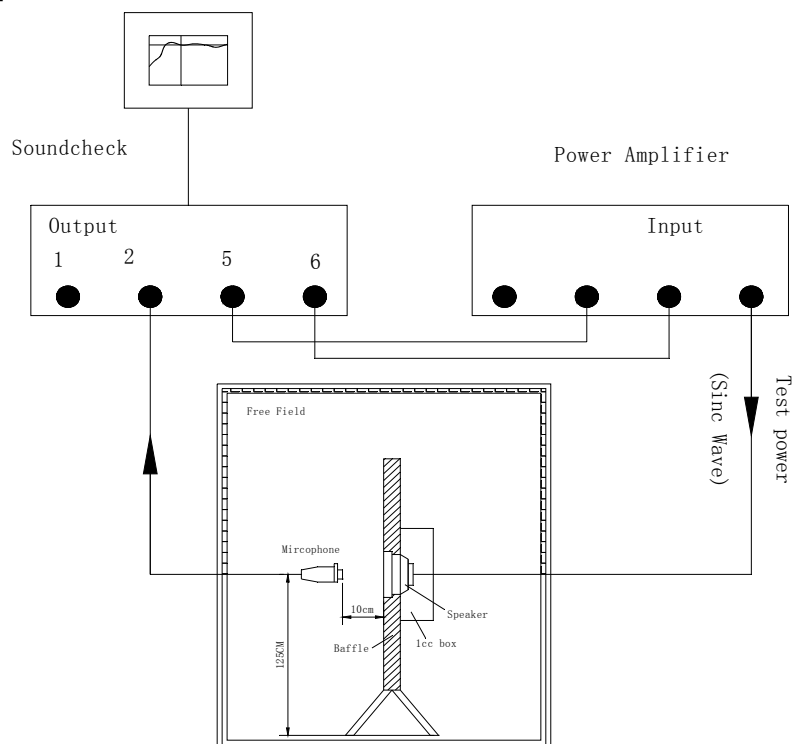
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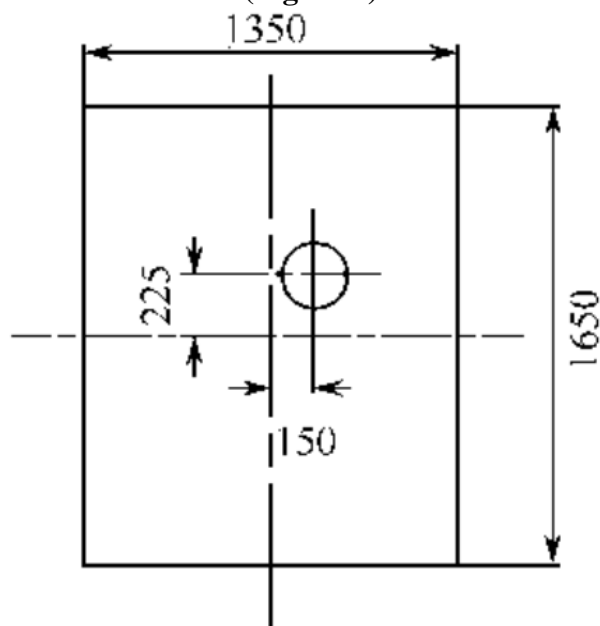
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5. Measuring Setup



(Figure 4)

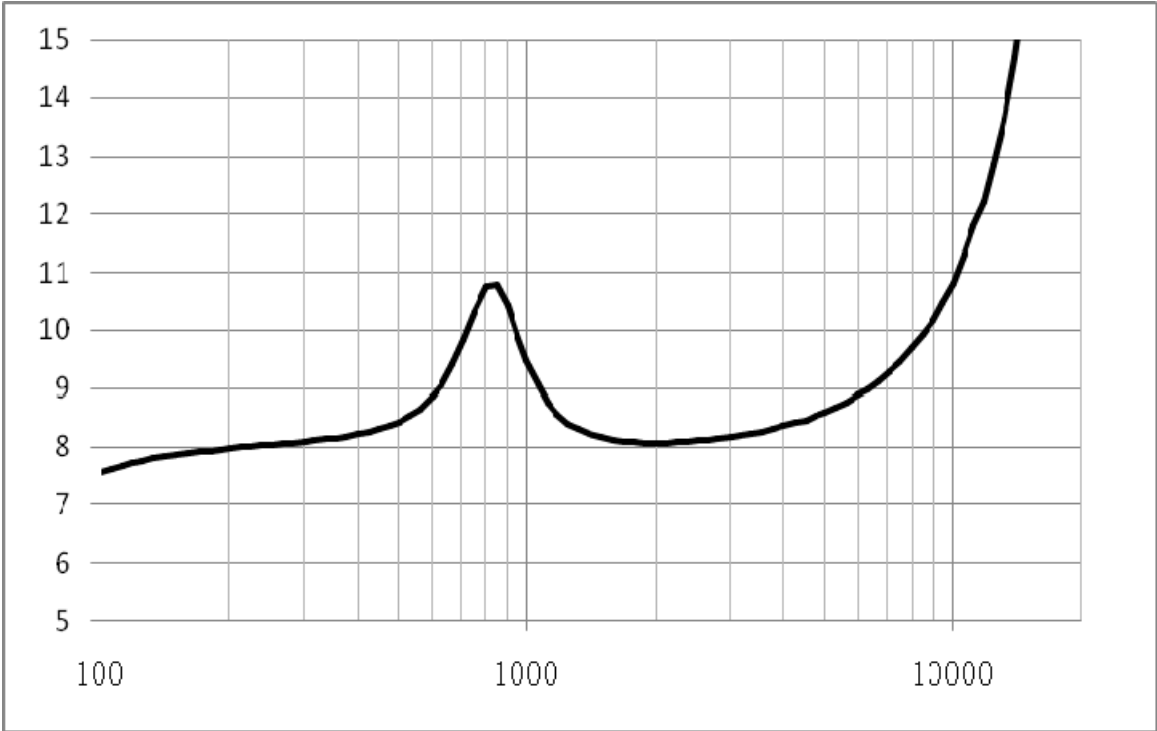


(Figure 5)

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6. Resonance Frequency

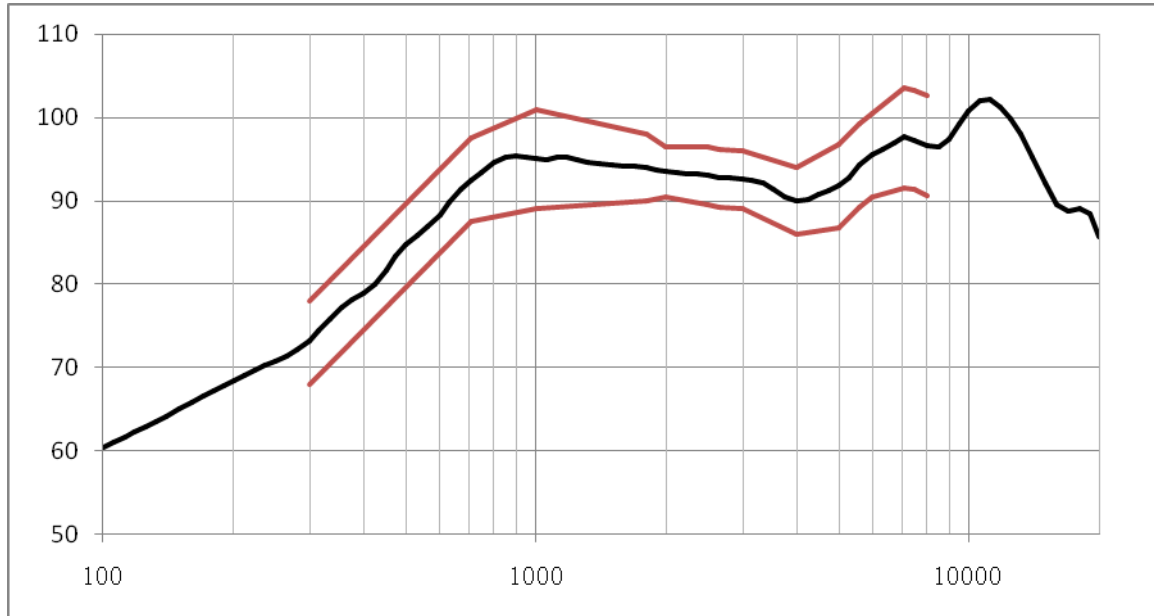
Frequency Resonance (2.83Vrms/10cm in 1.0cc)



(Figure 6)

7. Frequency Response

Frequency Resonance(2.83Vrms/10cm in 1.0cc)



(Figure 7)

Table 1:Tolerance Limits Data for FR

Frequency(Hz)	Upper Limits(dB)	Frequency(Hz)	Lower Limits(dB)
300	78	300	68
710	97.5	710	87.5
1000	101	1000	89
1800	98	1800	90
2000	96.5	2000	90.5
2500	96.5	2500	89.5
2650	96.2	2650	89.2
3000	96	3000	89
4000	94	4000	86
5000	96.8	5000	86.8
5600	99.2	5600	89.2
6000	100.5	6000	90.5
7100	103.6	7100	91.6
7500	103.3	7500	91.3
8000	102.6	8000	90.6

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8. Total Harmonic Distortion

THD (2.83Vrms/10cm in 1.0cc)



(Figure 8)

Table 3: Limits Data for THD

Frequency(Hz)	Limits
300	35
400	35
1000	9
2000	5
8000	5

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9. T/S parameters

Thiele-Small Parameters: The following Thiele-Small Parameters are guidelines from a speaker exhibiting good audio performance.

Fs	500.9	Hz
Re	5.5	ohms
Sd	1.16	cm^2
Bl	0.7	N.A
Vas	2.24	cc
Cms	1.2	mm/N
Mms	85	mg
Qms	1.67	
Qes	3.8	
Qts	1.18	

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10. Package

- 1、100pcs of speaker in each tray
- 2、20 trays in one carton
- 3、Total:2000 pcs / 1 carton
- 4、Gross Weight:4.5KGS
- 5、Net Weight: 3.2KGS

The ESD of packing material must not exceed 500V

