





| | | | | |
|---|---|------------|----------------------|---|
|  | DATE | 29-04-2020 | SPECIFICATION | Changzhou Cre-sound Electronics Co., Ltd |
| | PAGE | 1/8 | | www.cre-soundbuzzer.com |
| | Version | A/0 | | www.wj-lianhua.com |
| | <i>MODEL NAME: LET9032ES-03L-2.7-16-R</i> | | | |

SPECIFICATION FOR APPROVAL


SMD ELECTRO-MAGNETIC TRANSDUCER

| | |
|------------|---|
| Model Name | LET9032ES-03L-2.7-16-R |
| Note |  |

| Product Photo | Cre-sound |
|---|----------------------|
|  | DRAWN: 周文占 |
| | CHECKED: 许海 |
| | APPROVED: 宋雪琪 |
| Customer Confirmation: | |

| | | | | | |
|---|---|------------|----------------------|--|--|
|  | DATE | 29-04-2020 | SPECIFICATION | Changzhou Cre-sound Electronics Co., Ltd | |
| | PAGE | 2/8 | | www.cre-soundbuzzer.com | |
| | Version | A/0 | | www.wj-lianhua.com | |
| | <i>MODEL NAME: LET9032ES-03L-2.7-16-R</i> | | | | |

| Alteration History | | | | | |
|--------------------|------|-------------------|------------------|--------|----------|
| Change NO. | Note | Before of changes | After of changes | Reason | Revision |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | |
|---|---------|------------|----------------------|--|
|  | DATE | 29-04-2020 | SPECIFICATION | Changzhou Cre-sound Electronics Co., Ltd |
| | PAGE | 3/8 | | www.cre-soundbuzzer.com |
| | Version | A/0 | | www.wj-lianhua.com |
| MODEL NAME: LET9032ES-03L-2.7-16-R | | | | |

SMD ELECTRO-MAGNETIC TRANSDUCER

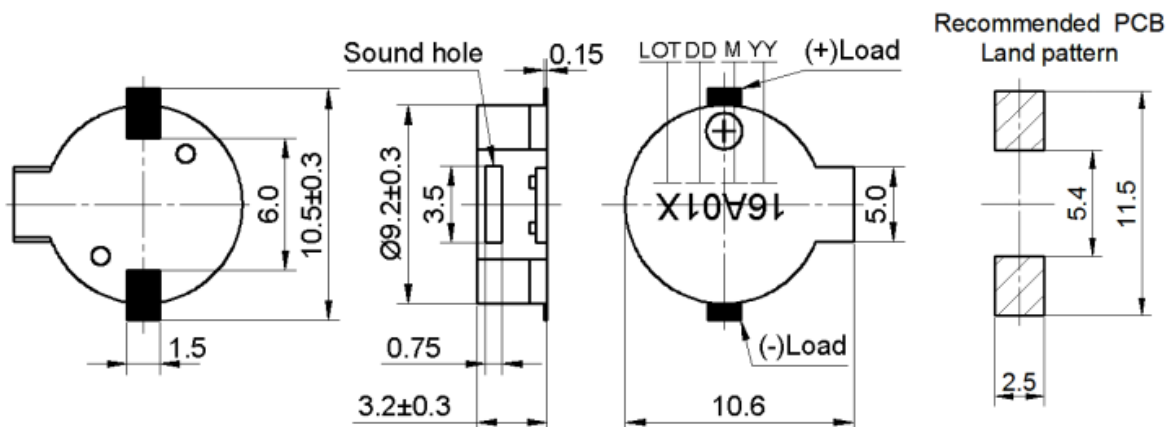
| No. | Technical terms | Value |
|-----|-----------------------------|----------|
| 1 | Rated Voltage (V) | 3 |
| 2 | Operating Voltage (V) | 2~5 |
| 3 | ☆*Current Consumption (mA) | ≤80 |
| 4 | ☆Coil Resistance (Ω) | 16±3 |
| 5 | ☆*Sound Output at 10cm (dB) | ≥92 |
| 6 | Resonant Frequency (Hz) | 2700 |
| 7 | Operating Temperature (°C) | -40~+105 |
| 8 | Storage Temperature (°C) | -40~+120 |
| 9 | Weight (g) | 0.4 |
| 10 | Housing Material | LCP |
| 11 | RoHS | Yes |

*Applying rated voltage (Resonant frequency, 1/2 duty, Square wave)

☆Test Basic State: Temp(20±2°C), Humidity(40~70%RH), Air pressure(860~1060hPa).

DIMENSIONS (UNIT: mm)


Tolerance: ±0.5mm Except Specified



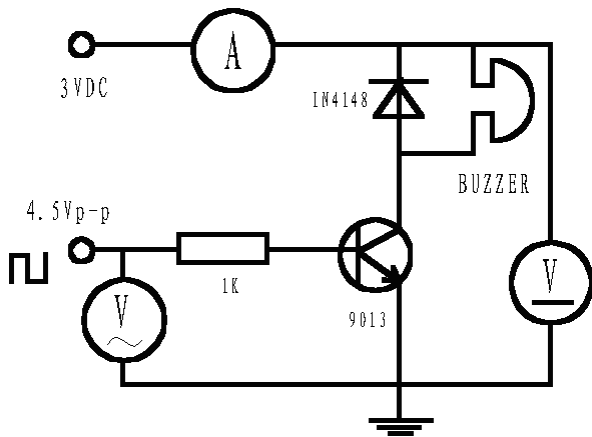
Changzhou Cre-sound Electronics Co., Ltd

Tel: +86-519-86321175; Fax: +86-519-86702455

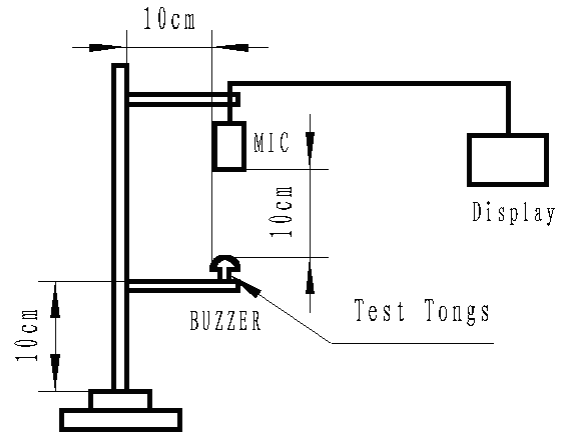
E-mail: martin@wj-lianhua.com

| | | | | |
|---|---|------------|----------------------|--|
|  | DATE | 29-04-2020 | SPECIFICATION | Changzhou Cre-sound Electronics Co., Ltd |
| | PAGE | 4/8 | | www.cre-soundbuzzer.com |
| | Version | A/0 | | www.wj-lianhua.com |
| | <i>MODEL NAME: LET9032ES-03L-2.7-16-R</i> | | | |

TEST METHOD:

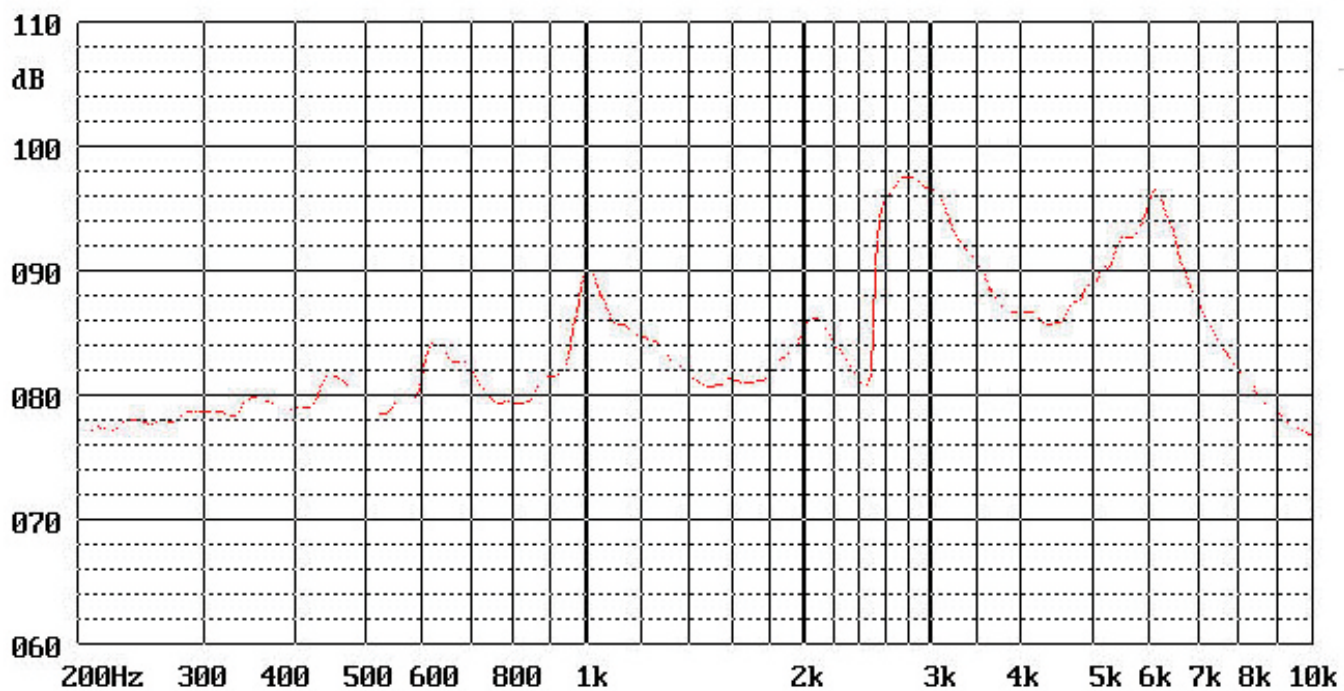


Test Circuit




Test Equipis

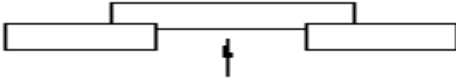
FREQUENCY RESPONSE:




Changzhou Cre-sound Electronics Co., Ltd
Tel: +86-519-86321175; Fax: +86-519-86702455
E-mail: martin@wj-lianhua.com

| | | | | |
|---|---|------------|----------------------|--|
|  | DATE | 29-04-2020 | SPECIFICATION | Changzhou Cre-sound Electronics Co., Ltd |
| | PAGE | 5/8 | | www.cre-soundbuzzer.com |
| | Version | A/0 | | www.wj-lianhua.com |
| | MODEL NAME: LET9032ES-03L-2.7-16-R | | | |

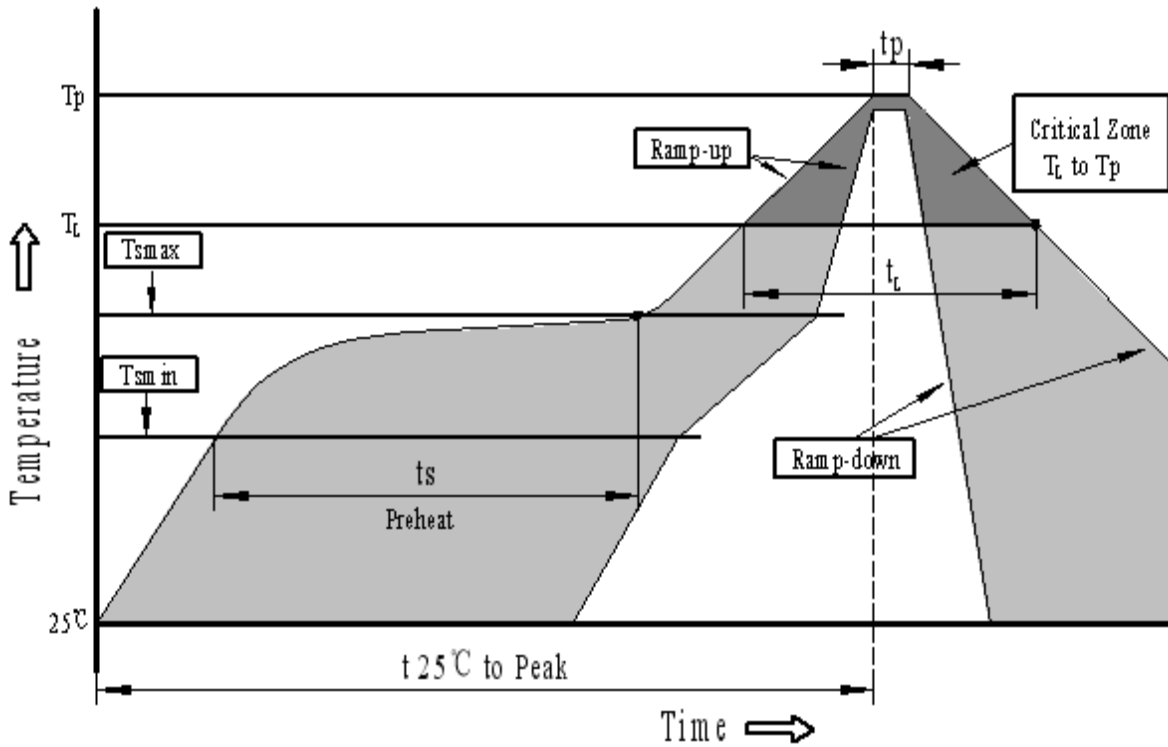
RELIABILITY TEST:

| NO. | ITEM | TESTING CONDITION | VARIANCE AFTER TEST |
|-----|---|--|---|
| 1 | High temp. storage life | The part shall be capable of withstanding a storage temperature is +120°C for 120 hours | After being placed for 2 to 4hrs at room temp, the product shall meet specifications,except the SPL should be in ±10dB compared with initial one. |
| 2 | Low temp. storage life | The part shall be capable of withstanding a storage temperature is -40°C for 120 hours | |
| 3 | Temp. Cycle | Total 5 cycles, 1 cycle consisting of -40±2°C, 30 minutes 20±5°C 15 minutes 120±2°C, 30 minutes 20±5°C 15 minutes | |
| 4 | Humidity Test | 40±2°C, 90~95% RH, 120 hours | |
| 5 | Vibration Test | To-and-fro. sweep time (from 10 to 55 Hz and then 55 to 10Hz) under single amplitude of 1.52mm is 1 minute. The vibration test shall consist of 2 hours per plane in each three mutually perpendicular planes for a total time of 6 hours. | The SPL shall meet specification. |
| 6 | Shock | Sounder shall be measured after being applied shock (980m/s ²) for each three mutually perpendicular directions to each of 3 times by half sine wave. | After the test, the product shall meet specifications,except the SPL should be in ±10dB compared with initial one. |
| 7 | Drop Test | The part only shall be dropped from the height of 70cm onto 10mm thick wooden board each 3 times in 3 axial directions(x,y&z) (a total of 9 times). | After the test part shall meet specifications without any degradation in appearance and performance. |
| 8 | Lead pull | The part shall be pushed with a force of 9.8N for 10±1 seconds behind the part.  | After the test part shall meet specifications without any degradation in appearance and performance. |
| 9 | Recommended temp. Profile for Reflow Oven | Shown in Fig.1 | The SPL shall meet specification. |

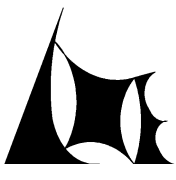
Warranty:For a period of one year from date of manufacture under normal operations.

| | | | | |
|---|---------|------------|----------------------|--|
|  | DATE | 29-04-2020 | SPECIFICATION | Changzhou Cre-sound Electronics Co., Ltd |
| | PAGE | 6/8 | | www.cre-soundbuzzer.com |
| | Version | A/0 | | www.wj-lianhua.com |
| <i>MODEL NAME: LET9032ES-03L-2.7-16-R</i> | | | | |

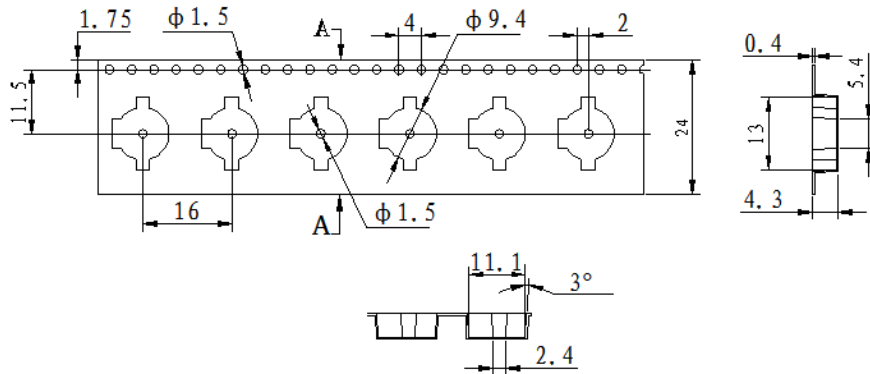
Recommended Temp. Profile for Reflow Oven (Fig.1)



| Profile Feature | Pb-Free Assembly |
|--|------------------|
| Average ramp-up rate(T_L to T_p) | 3°C/second max. |
| Preheat | |
| -Temperature Min.(T_{Smin}) | 150°C |
| -Temperature Min.(T_{Smax}) | 200°C |
| -Temperature Min.(t_s) | 60~180 seconds |
| T_{Smax} to T_L | |
| -Ramp-up Rate | 3°C/second max. |
| Time maintained above: | |
| - Temperature(T_L) | 217°C |
| -Time(t_L) | 60~150 seconds |
| Peak temperature(T_p) | 250°C+0/-5°C |
| Time within 5°C of actual Peak temperature (t_p) | 6 seconds max. |
| Ramp-down Rate | 6°C/second max. |
| Time 25°C to Peak Temperature | 8 minutes max. |

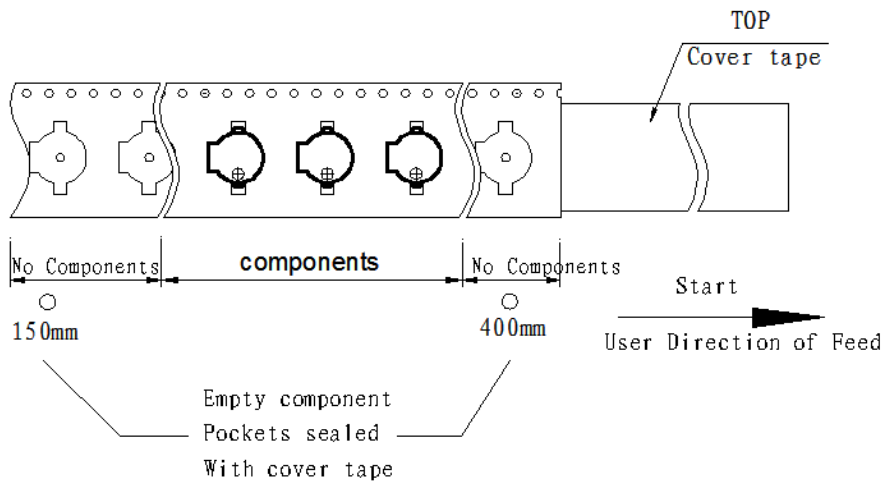
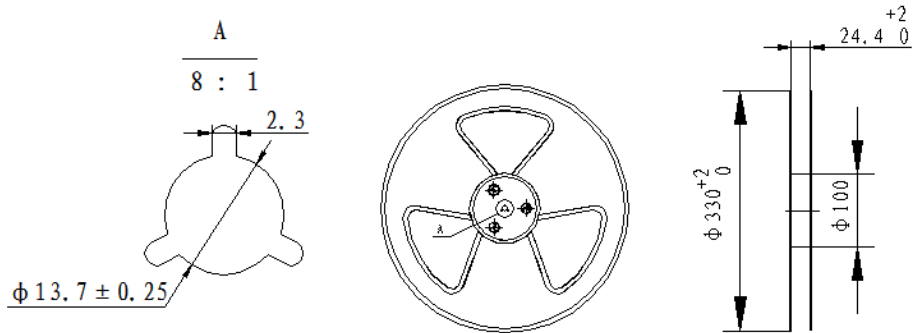
| | | | | |
|---|---------|------------|----------------------|---|
|  | DATE | 29-04-2020 | SPECIFICATION | Changzhou Cre-sound Electronics Co., Ltd |
| | PAGE | 7/8 | | www.cre-soundbuzzer.com |
| | Version | A/0 | | www.wj-lianhua.com |
| MODEL NAME: LET9032ES-03L-2.7-16-R | | | | |


PACKING:



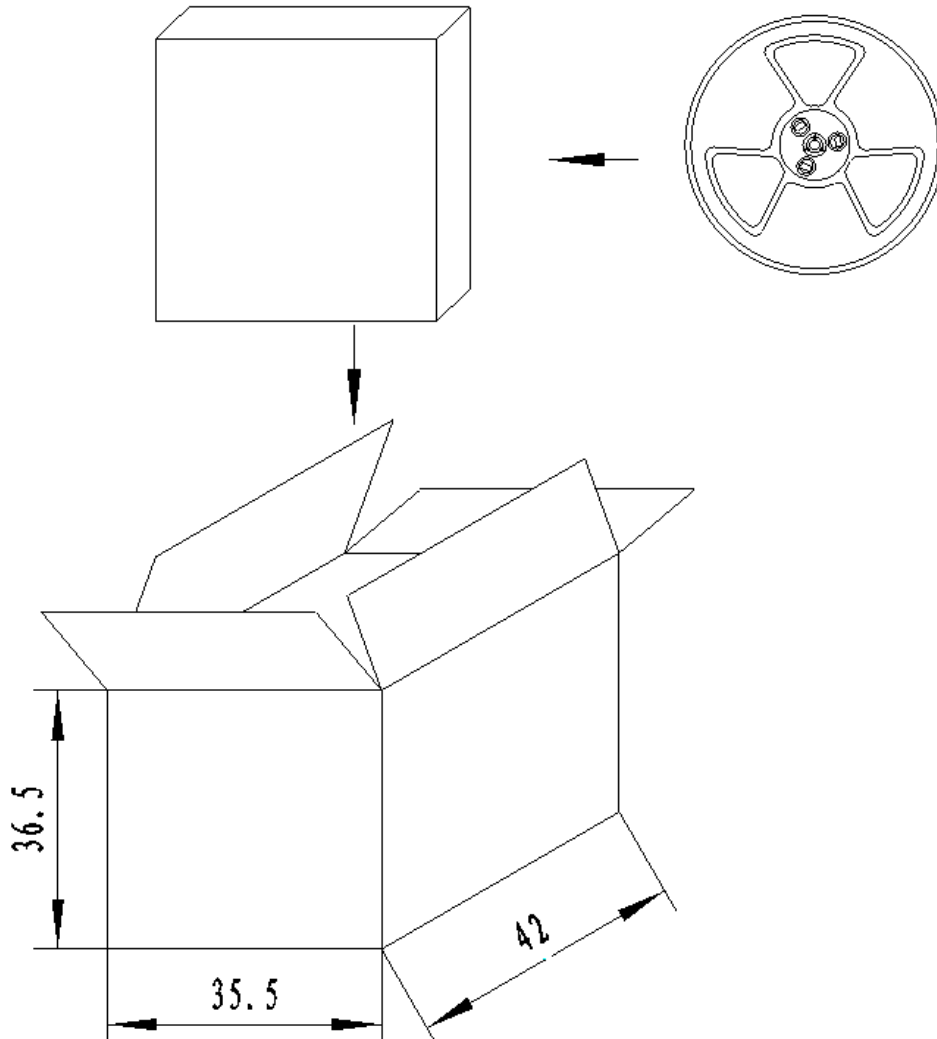
NOTE:

1. 10 sprocket hole pitch cumulative tolerance $\pm 0.2\text{mm}$.
2. All dimensions meet EIA-481-D requirements.
3. Thickness: $0.4 \pm 0.05\text{mm}$.
4. Component loaded per 13" reel: 1000pcs.



| | | | | |
|---|---|------------|----------------------|---|
|  | DATE | 29-04-2020 | SPECIFICATION | Changzhou Cre-sound Electronics Co., Ltd |
| | PAGE | 8/8 | | www.cre-soundbuzzer.com |
| | Version | A/0 | | www.wj-lianhua.com |
| | <i>MODEL NAME: LET9032ES-03L-2.7-16-R</i> | | | |

PACKING:



NOTES:

- 1.1000 PCS per box
- 2.Total 10 boxes per carton
- 3.Total 10000 PCS carton

Changzhou Cre-sound Electronics Co., Ltd
 Tel: +86-519-86321175; Fax: +86-519-86702455
 E-mail: martin@wj-lianhua.com