

|          |                 |                 |                        |
|----------|-----------------|-----------------|------------------------|
| ITEM P/N | PSPNAQ3015-100M | TEST INSTRUMENT | LCZ1068/1310BIAS/502AC |
| PRODUCT  | SMD INDUCTOR    | TEST FREQUENCY  | 1KHz / 0.25V           |

**CUSTOMER :****CUSTOMER P/N :****DESCRIPTION :** SMD INDUCTOR**P/N :** PSPNAQ3015-100M**REVISION NO. :** Version:1.0**DATE :** 2017-4-9**NOTES :** STANDARD

| DOCUMENTED |       |
|------------|-------|
| APPROVED   | Yuki  |
| CHECKED    | Ben   |
| PREPARED   | Peter |

**CUSTOMER APPROVAL**

company seals



PROD TECHNOLOGY CO., LTD.

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E-LIVEN TECHNOLOGY CO., LTD.

NO.28 ho-cheng RD,bade city,taoyuan,  
taiwan

Version:1.0

## SPECIFICATION FOR APPROVAL

**RoHS  
COMPLIANT**

|          |                 |                 |                        |
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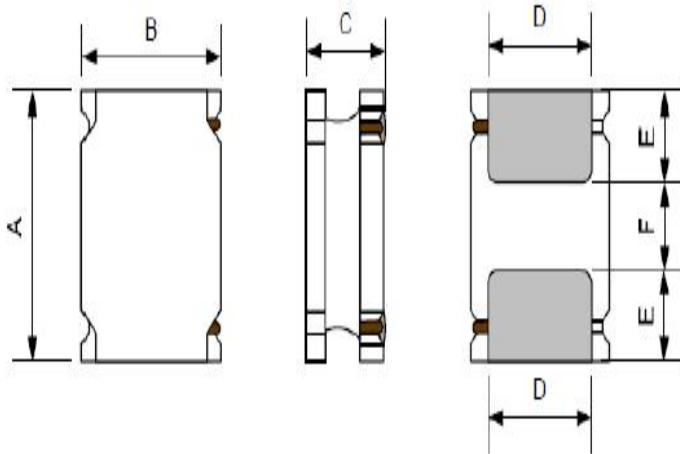


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## PACKING DIMENSIONS (mm)



| 3015 | Dimensions |
|------|------------|
| A    | 3.00±0.2   |
| B    | 3.00±0.2   |
| C    | 1.50Max.   |
| D    | 2.50±0.2   |
| E    | 0.75±0.2   |
| F    | 1.50±0.2   |

## EXPLANATION OF PART NUMBERS

|                     |             |   |                        |
|---------------------|-------------|---|------------------------|
| <b>PSPNAQ</b>       | <b>3015</b> | - | <b>100M</b>            |
| <u>Serial Codes</u> | <u>Size</u> |   | <u>Inductance Code</u> |

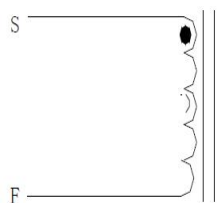
## ELECTRICAL CHARACTERISTICS

| ITEM P/N        | @ 25 °C Ambient Temperture |           |                              |                           |                |
|-----------------|----------------------------|-----------|------------------------------|---------------------------|----------------|
|                 | INDUCTANCE                 |           | I <sub>rms</sub><br>(A) Max. | I <sub>sat</sub> (A) Max. | DCR (mΩ) ±30%. |
|                 | Lo (μH)                    | TOLERANCE |                              |                           |                |
| PSPNAQ3015-100M | 10.00                      | ±20%      | 0.86                         | 0.97                      | 225.0          |

- ◎ All test Data is referenced to 25°C ambient
- ◎ Typical Heat Rating DC Current would cause an approximately ΔT of 40°C
- ◎ Typical Saturation DC Current would cause Lo to drop approximately 35%
- ◎ Operation Temperature Range : -40°C ~ 125°C
- ◎ The Part temperature (ambient + ΔT) should not exceed 125°C under worst case operating conditions.
- ◎ Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all effect the part temperature. Part temperature should be verified in the end application.

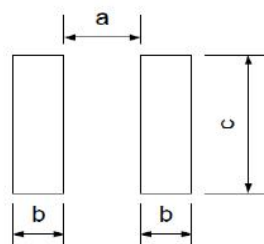
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## SCHEMATIC



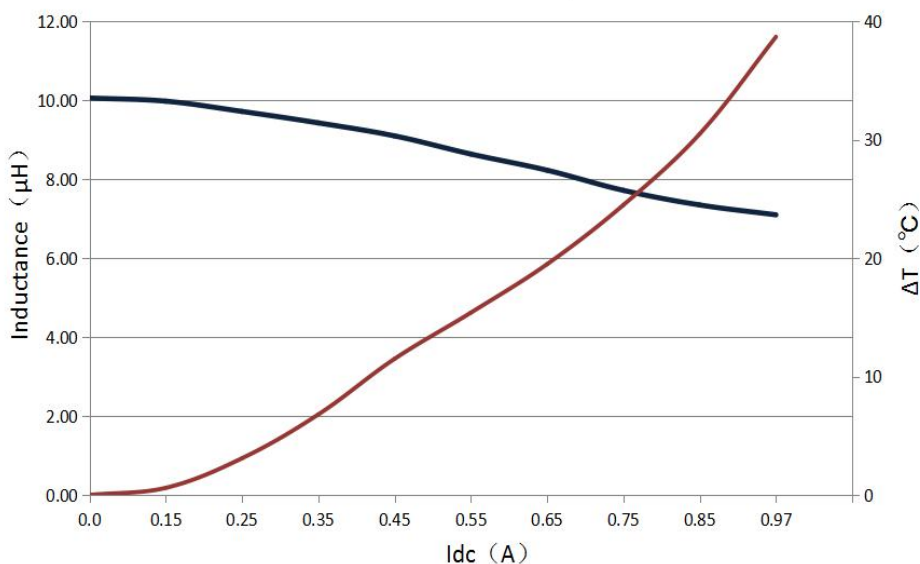
"●" 表示起线

## Recommended Land Pattern

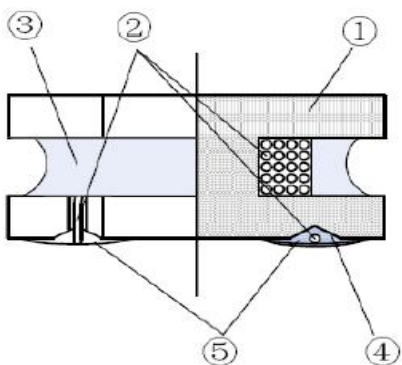


|    |         |
|----|---------|
| a. | 1.5Typ. |
| b. | 0.8Typ. |
| c. | 2.7Typ. |

## PERFORMANCE CURVES



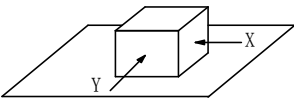
## Construction and materials

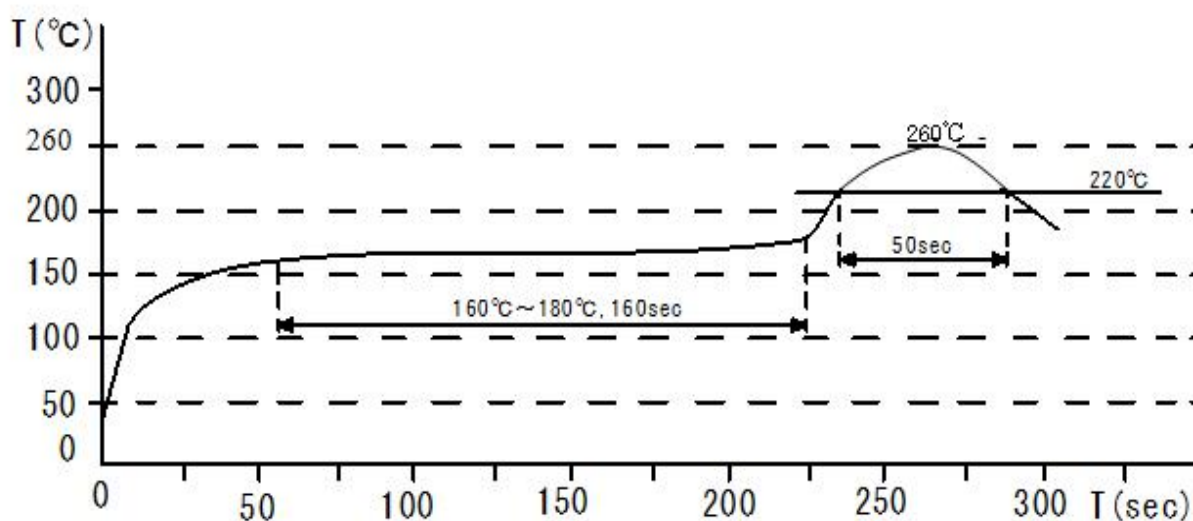


| Code | Part Name          | Material Name                            |
|------|--------------------|------------------------------------------|
| 1    | Ferrite Core       | Ni-Zn Ferrite                            |
| 2    | Wire               | Polyurethane system enameled copper wire |
| 3    | Magnteic Glue      | Epoxy resin and magnetic power           |
| 4    | Plating Electrodes | Ag<br>Ni<br>Sn                           |
| 5    | Outer Electrodes   | Top surface solder coatng Sn、Ag、Cu       |

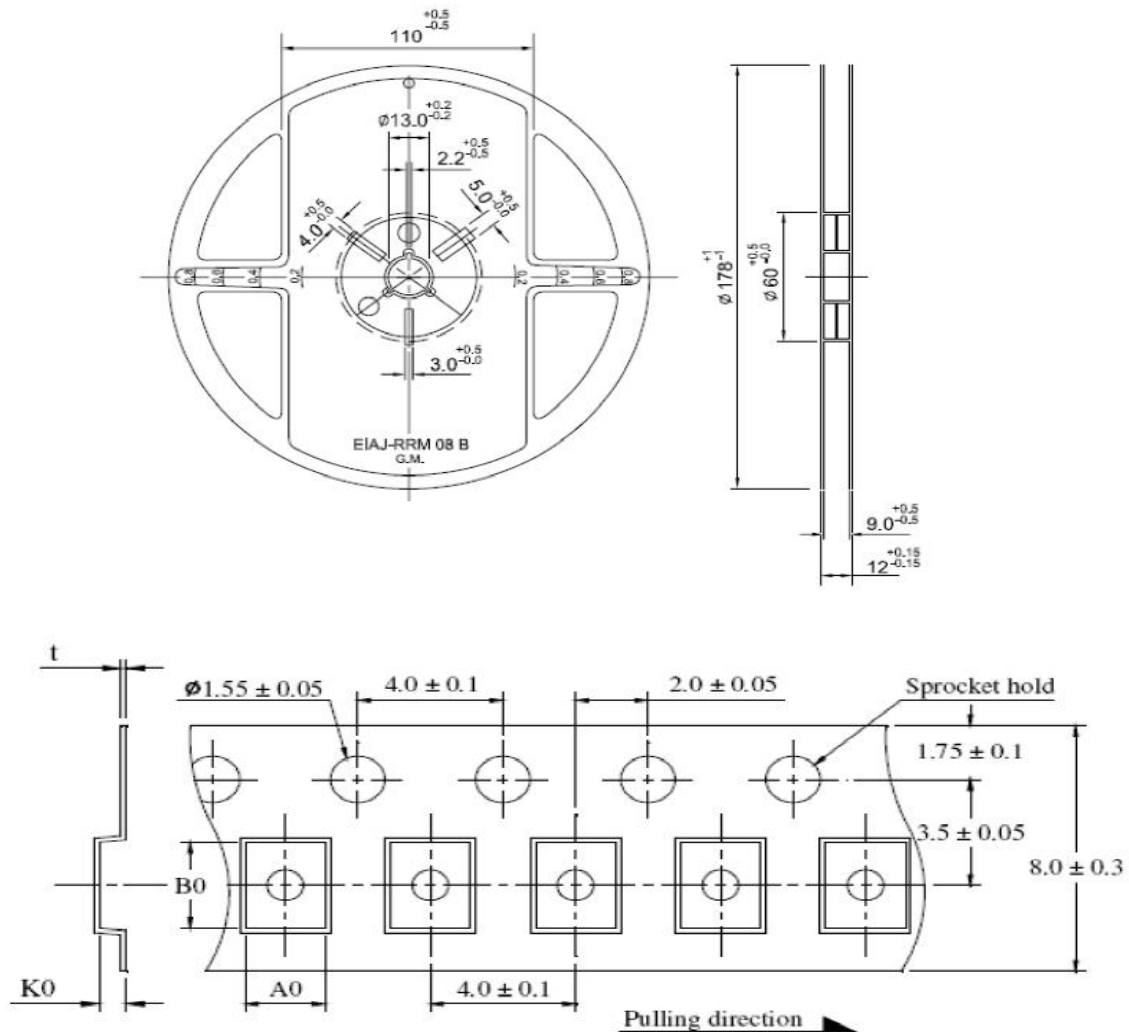
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**RELIABILITY TEST:**

|                             |                                                                                                                                                                                                                                                                                                                   |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage Temperature range   | -40°C ~ +125°C                                                                                                                                                                                                                                                                                                    |
| Operating temperature range | -40°C ~ +125°C (Including coil's self temperature rise)                                                                                                                                                                                                                                                           |
| External appearance         | No external defects can be found in the visual inspection.                                                                                                                                                                                                                                                        |
| Electrode strength          | No electrode detachment should be found when the device is pushed in two directions of X and Y with the force of 10.0N for 10±2 seconds after soldering between copper plate and the electrodes. (Refer to figure at right)<br> |
| Vibration test              | Inductance deviation is within ±3.0% after 1 hour sweeping vibration in each three directions, namely, forward and backward, up and down, right and left. The frequency is 10~55~10Hz and the amplitude of 1 minute cycle is 1.5mm PP.                                                                            |
| Humidity test               | Inductance deviation is within ±5.0% after 96±4 hours test under the condition of relative humidity of 90~95% and temperature of 40±2°C and 1 hour storage under room ambient conditions after the device is wiped with dry cloth.                                                                                |

**Recommended reflow condition**

|          |                 |                 |                        |
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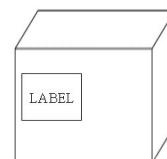
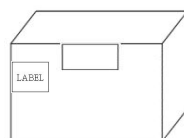
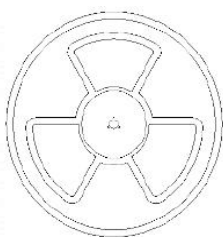
**CARRIERTAPEING REEL & CARRIER MATERIALS (PAPER PLASTICS) UNIT : (mm)**


|    | A0       | B0       | K0       | t         |
|----|----------|----------|----------|-----------|
| mm | 1.80±0.1 | 2.20±0.1 | 1.15±0.1 | 0.22±0.05 |

每盤2000pcs

每盒裝6盤(12000PCS)

每箱裝5盒(60000PCS)



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## TEST DATA

| SPEC<br>No. | A<br>(mm) | B<br>(mm) | C<br>(mm) | DCR<br>±30%( mΩ ) | INDUCTANCE |           |
|-------------|-----------|-----------|-----------|-------------------|------------|-----------|
|             | 3.00±0.2  | 3.00±0.2  | 1.50Max.  |                   | L(0)±20%   | 0.97 A    |
|             |           |           |           | 225               | 10.00      | ≈65% L(0) |
| 1           | 3.02      | 3.00      | 1.42      | 231.0             | 10.10      | PASS      |
| 2           | 3.01      | 2.99      | 1.45      | 232.0             | 10.08      | PASS      |
| 3           | 3.02      | 3.01      | 1.45      | 238.0             | 10.09      | PASS      |
| 4           | 3.03      | 3.02      | 1.44      | 231.0             | 10.20      | PASS      |
| 5           | 3.02      | 3.01      | 1.45      | 229.0             | 9.86       | PASS      |
| 6           | 3.02      | 3.00      | 1.39      | 220.0             | 9.89       | PASS      |
| 7           | 3.05      | 3.01      | 1.42      | 227.0             | 9.97       | PASS      |
| 8           | 3.02      | 2.99      | 1.41      | 225.0             | 10.03      | PASS      |
| 9           | 3.01      | 3.01      | 1.42      | 226.0             | 10.35      | PASS      |
| 10          | 3.05      | 3.03      | 1.45      | 219.0             | 10.01      | PASS      |
| $\bar{X}$   | 3.03      | 3.01      | 1.43      | 227.80            | 10.058     |           |
| R           | 0.04      | 0.04      | 0.06      | 19.00             | 0.490      |           |

⊗ All test Data is referenced to 25°C ambient

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# ANNOUNCEMENTS

## 产品注意事项

使用本产品时，请注意以下事项

- ◎ 产品保存期限为12个月，保存条件：温度5~40℃，湿度10~80%RH以内，超过保存期限可能会使产品端子电极发生氧化。
- ◎ 请勿在极端环境下使用和保存（高盐，强酸，强碱，强辐射等）。
- ◎ 产品焊接前，请进行预热；预热温度与焊接温度之间温差建议控制在150℃以内。
- ◎ 产品焊接后需重新拆卸焊接修正时，请遵循规格书规定的条件范围；过高的加热温度以及反复的拆卸可能会导致产品失效。
- ◎ 产品焊接到线路板后，请注意不可因线路板整体变形或局部变形而施加给电感剩余应力，这可能会导致电感发生破裂，脱落，以致失效。
- ◎ 产品请勿接触清洗剂，酒精等液体，这会侵蚀产品本体，从而导致产品失效。
- ◎ 产品通电后温度会随电流的增大而上升，设计时请务必考虑留有余量。
- ◎ 过高的静电会对产品产生永久性损害，请注意静电防护。
- ◎ 产品通电过程请勿触摸产品任何部位，防止触电。
- ◎ 本产品作为磁性产品，设计时请务必考虑周边元器件与本产品可能产生的相互影响。
- ◎ 本产品适用于一般电子设备，如：AV设备，通信设备，家电产品，娱乐设备，计算机设备，个人设备，办公设备，计测设备，工业机器人等。且该一般电子设备需在常规的操作和使用方法环境下使用。对于需要高度安全性和可靠性的，或者因本产品失效造成设备故障，误操作，运转不良等危及到人的生命身体及财产安全，以及对社会产生较大不良影响的特殊用途，设计使用前务必同本公司沟通，设计使用者如未取得我司书面同意状况下使用造成任何后果，我司不予承担。特殊用途包含但不限定如下清单：

- |                       |                  |
|-----------------------|------------------|
| 1 军用设备                | 8 关系到国防安全的设备     |
| 2 运输设备（汽车，轨道交通产品，船舶等） | 9 防灾赈灾设备         |
| 3 航空，航天设备             | 10 各种安规设备        |
| 4 发电控制设备              | 11 紧急救护设备        |
| 5 核动力相关设备             | 12 其他被认定为特殊用途的设备 |
| 6 爆炸引燃控制设备            |                  |
| 7 交通控制设备              |                  |

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