

# Product Specification

Number: L-KLS18-SPN8D28-680M

Name: SMD Power Inductors

Specification: \_\_\_\_\_

Customer: \_\_\_\_\_

Date: 2024-05-07

Customer Signature:



**NINGBO KLS ELECTRONIC CO; LTD**

**Tel : 0086-574-86828566**

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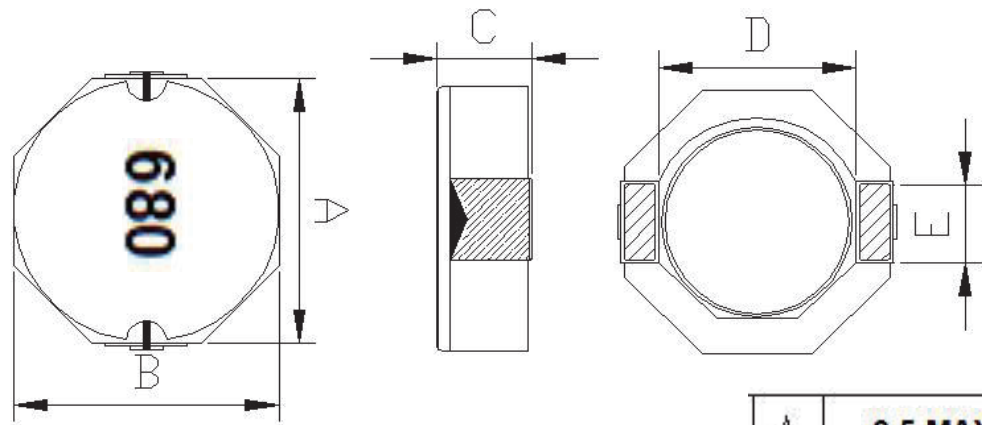
**ADD : NO. 8-1, RONGXIA RD. XIAPU SHANQIAN  
INDUSTRIAL ZONE BEILUN NINGBO ZHEJIANG.**

|         |        |        |          |
|---------|--------|--------|----------|
| Compile | Check  | Review | Approval |
| Jenny   | Jack.C |        |          |

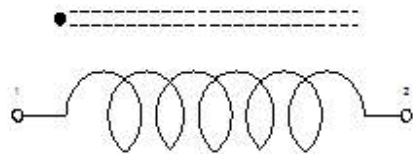
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Type:L-KLS18-SPN8D28-680M

1. Dimension (Unit: mm)



2. Schematics



|   |           |
|---|-----------|
| A | 9.5 MAX   |
| B | 8.0 ±0.4  |
| C | 3.0 Max.  |
| D | 6.30 Ref. |
| E | 2.50 Ref. |

5. Electrical Characteristics

| No | Part Number          | Stamp | Inductance | Test Condition | DCR(mΩ)<br>Max. | Isat (A)*Max.<br>(L0A-L0.9A)/L0A≤30% | Turns          |
|----|----------------------|-------|------------|----------------|-----------------|--------------------------------------|----------------|
| 01 | L-KLS18-SPN8D28-680M | 680   | 68μH±20%   | 100KHz/0.25V   | 286             | 0.9                                  | 0.15*1P*30.5TS |
|    |                      |       |            |                |                 |                                      |                |
|    |                      |       |            |                |                 |                                      |                |
|    |                      |       |            |                |                 |                                      |                |
|    |                      |       |            |                |                 |                                      |                |

\*The rated current is the current at which the inductance decreases by 35% from the initial value or the DC current at which the temperature rise is  $\Delta t=40^{\circ}\text{C}$  ,whichever is smaller( $T_a=20^{\circ}\text{C}$ ).

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TEST REPORT

ELECTRICAL CHARCTERISTIC

MECHANICAL DIMENSIONS

| SPEC<br>TOL | L     | DCR   |  |  | A    | B    | C    |
|-------------|-------|-------|--|--|------|------|------|
|             | uH    | m Ω   |  |  | MM   | MM   | MM   |
|             | 68    | 286   |  |  | 9.5  | 8.0  | 3.0  |
| NO          | ±20%  | Max   |  |  | MAX  | ±0.4 | MAX  |
| 1           | 69.12 | 262.8 |  |  | 9.54 | 8.08 | 2.89 |
| 2           | 68.13 | 262.6 |  |  | 9.54 | 8.09 | 2.90 |
| 3           | 67.30 | 261.0 |  |  | 9.52 | 8.09 | 2.91 |
| 4           | 70.14 | 261.2 |  |  | 9.53 | 8.08 | 2.89 |
| 5           | 69.22 | 262.3 |  |  | 9.53 | 8.08 | 2.90 |
| 6           | 69.17 | 261.6 |  |  | 9.54 | 8.09 | 2.91 |
| 7           | 69.16 | 262.5 |  |  | 9.55 | 8.08 | 2.89 |
| 8           | 68.96 | 261.6 |  |  | 9.54 | 8.09 | 2.90 |
| 9           | 70.52 | 263.8 |  |  | 9.55 | 8.08 | 2.90 |
| 10          | 65.36 | 264.2 |  |  | 9.55 | 8.09 | 2.91 |

TH2817  
TH1775  
VR131  
HP4284  
CH3250

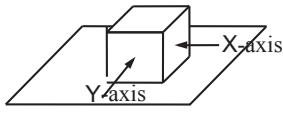
CH2815  
CH1062

✓  
✓

✓

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## 6. General Characteristics

| Item                         | Conditions                                                                                                                                                                       | Specification                                                                      |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Storage Temperature</b>   |                                                                                                                                                                                  | $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$                                     |
| <b>Operating Temperature</b> |                                                                                                                                                                                  | $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$                                    |
| <b>Visual Check</b>          |                                                                                                                                                                                  | No distinct defects                                                                |
| <b>Terminal Strength</b>     | <p>With the force of 5.0N for <math>10 \pm 1</math> seconds with the coil soldered to PCB.</p>  | No terminals are peeled off                                                        |
| <b>Temperature Feature</b>   | $-55 \sim +450^{\circ}\text{C}$                                                                                                                                                  | <b>Inductance Coefficient</b><br>$(0 \sim 2000) \times 10^{-6} / ^{\circ}\text{C}$ |
| <b>Reflow Heat Endurance</b> | Refer to ETCM-001                                                                                                                                                                | Refer to ETCM-001                                                                  |
| <b>Insulation Resistance</b> | With D.C. 100V applied to the windings and core.                                                                                                                                 | Over 100M $\Omega$                                                                 |
| <b>Dielectric Strength</b>   | With 100VDC applied for 1 minute between windings and core.                                                                                                                      | No dielectric breakdown                                                            |
| <b>Humidity Test</b>         | Humidity 90~95% and temperature $40 \pm 2^{\circ}\text{C}$ for 96 hours and then drying for 1 hour under normal conditions.                                                      | Inductance deviation within $\pm 10\%$<br>No mechanical defects are found.         |
| <b>Vibration Test</b>        | After 2 hour's vibration in each of 3 orientations( $10 \sim 55 \sim 10\text{Hz}$ ) with 1.5mm P-P amplitudes.                                                                   | Inductance deviation within $\pm 10\%$<br>No mechanical defects are found.         |
| <b>Shock Test</b>            | Dropped once with $981\text{m/s}^2$ (100G) shock attitude upon a rubber block shock testing machine in 3 different directions                                                    | Inductance deviation within $\pm 10\%$ .<br>No mechanical defects are found.       |

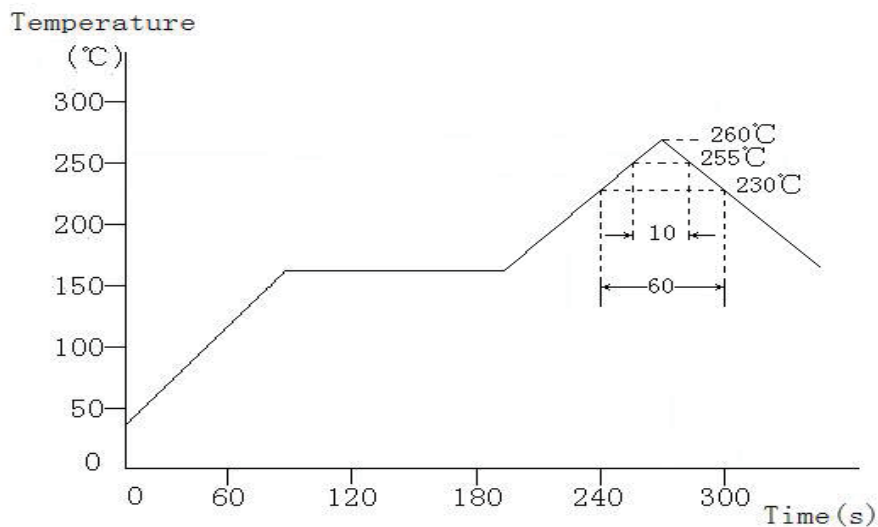
## 9. Remarks

- (1) Packing specification to be according to KB-0013.
- (2) Reflow heat endurance and Recommended reflow conditions to be according to ETCM-001.

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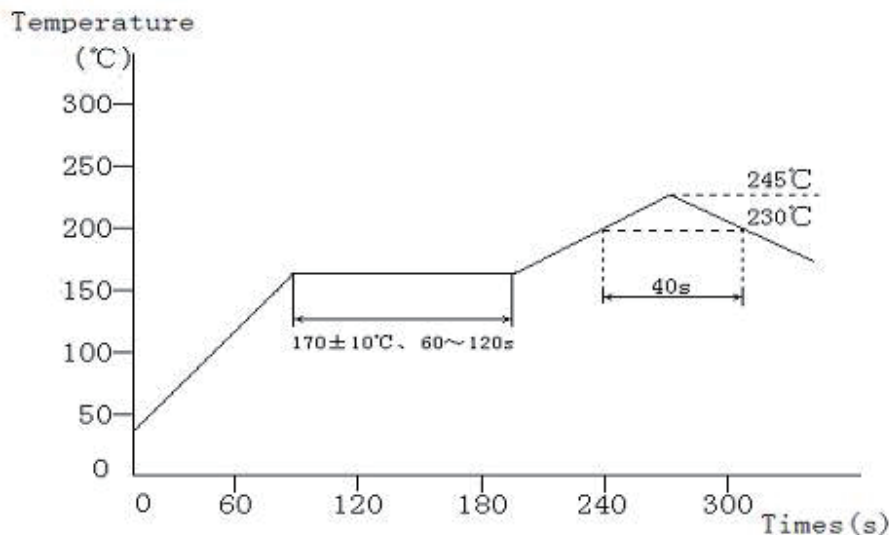
## Leadfree Reflow Soldering Heat Endurance and Recommended Reflow Conditions

### (1) Reflow Soldering Heat Endurance



- ☐ No mechanical and electrical defects are found after testing based on the above profile and keeping under the conditions of room temperature and humidity for 2 hours.
- ☐ Twice reflow test is acceptable with the test interval remaining 1 hour under the normal conditions.
- ☐ The reflow test profile may vary with the testing instruments

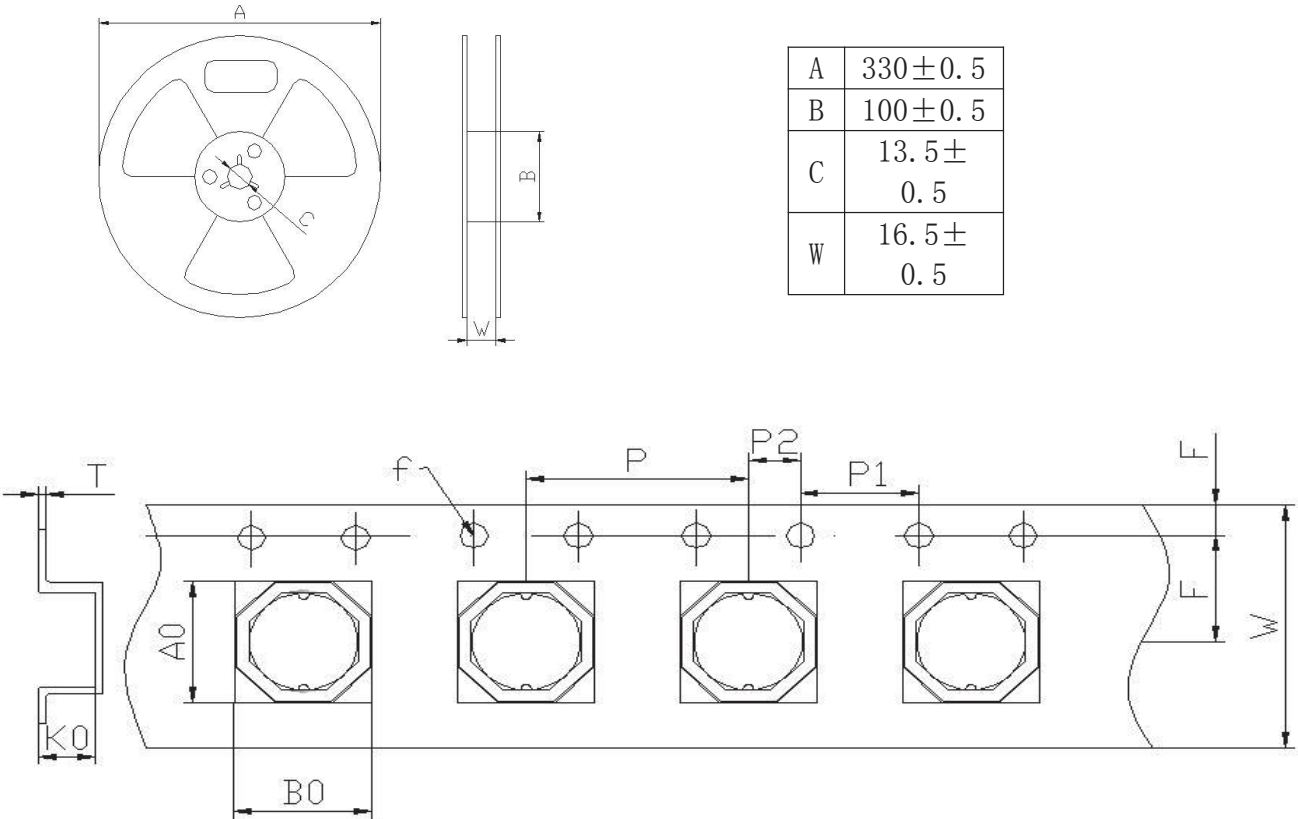
### (2) Recommended Reflow Conditions



The recommended reflow profile is based on the testing instruments used, Solderability will depend on the testing equipments, reflow conditions, testing method, etc. so it is necessary to make a confirmation of them when the reflow conditions are set up.

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## 1.Reel Dimension(m/m)



## 2. Taping Dimension

| Series               | A0       | B0      | W        | E       | F        | φ f     |
|----------------------|----------|---------|----------|---------|----------|---------|
|                      | 9.6±0.1  | 8.3±0.1 | 16.0±0.3 | 7.5±0.1 | 1.75±0.1 | 1.5±0.1 |
| L-KLS18-SPN8D28-680M | P        | P1      | P2       | K0      | T        |         |
|                      | 12.0±0.1 | 4.0±0.1 | 2.0±0.1  | 4.5±0.1 | 0.35±0.1 |         |

## 3.Packing Quantities: 1000pcs/Reel.

