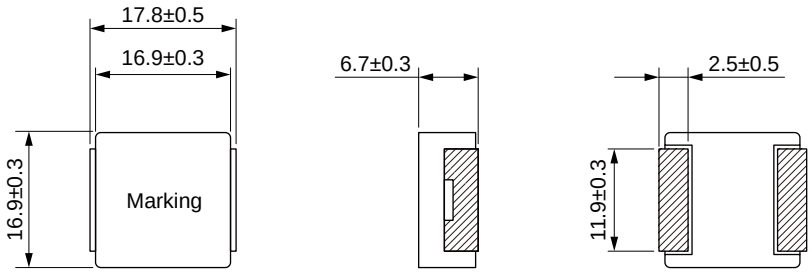
# SMD Low Profile High Current Molded Inductor
# Size 1870

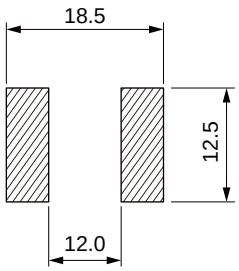
- Shielded construc on
- Capable of corresponding high frequency .
- Low loss realized with low DCR.
- High performance (Isat) realized by metal dust core.
- Ultra low buzz noise, due to composite construc on.
- 100% Lead(Pb)-Free and RoHS compliant.
- AEC-Q200 qualified
- Opera ng temperature: -55 to +155 °C(including self-temperature rise)
- Quan ty: 200PCS

- Noise filter for various drive circuitry requiring high temp. opera on and peak current handing capability
- Boost-Converter
- Buck-Converter DC/DC

## Dimensions: [mm]




## Land Pattern: [mm]



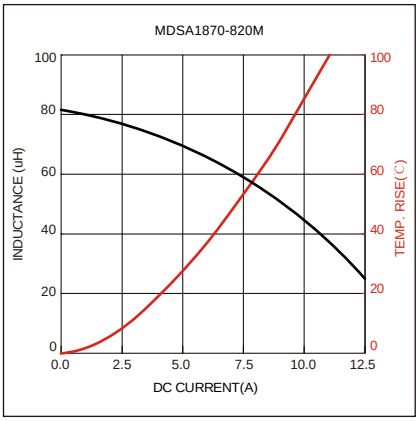

## Electrical Properties:

| | (μH) | | | Saturation | (mΩ) | (mΩ) |
|---|---|---|---|---|---|---|
| MDSA1870-1R0M | 1.00 | ±20% | 45.0 | 48.0 | 1.20 | 1.40 |
| MDSA1870-1R5M | 1.50 | ±20% | 38.0 | 45.0 | 1.60 | 1.90 |
| MDSA1870-2R2M | 2.20 | ±20% | 31.0 | 34.0 | 2.00 | 2.50 |
| MDSA1870-3R3M | 3.30 | ±20% | 29.0 | 31.0 | 3.00 | 3.80 |
| MDSA1870-4R7M | 4.70 | ±20% | 27.0 | 28.0 | 4.00 | 5.00 |
| MDSA1870-6R8M | 6.80 | ±20% | 23.0 | 24.0 | 6.50 | 7.80 |
| MDSA1870-100M | 10.0 | ±20% | 20.0 | 21.0 | 10.0 | 11.5 |
| MDSA1870-150M | 15.0 | ±20% | 15.0 | 15.0 | 13.5 | 16.5 |
| MDSA1870-220M | 22.0 | ±20% | 13.0 | 13.0 | 21.5 | 25.0 |
| MDSA1870-330M | 33.0 | ±20% | 11.5 | 11.5 | 33.0 | 38.0 |
| MDSA1870-470M | 47.0 | ±20% | 9.0 | 9.0 | 41.0 | 48.0 |
| MDSA1870-680M | 68.0 | ±20% | 7.8 | 8.1 | 68.0 | 78.0 |
| MDSA1870-820M | 82.0 | ±20% | 6.3 | 7.8 | 71.0 | 85.0 |

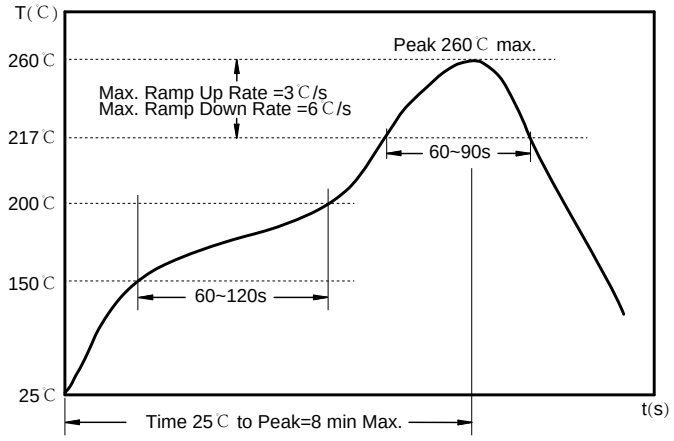
Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is △T=40°C

Typical Electrical Characteristics:

# Typical Electrical Characteristics:



## Soldering Reflow:




Preheat condition: 150 ~200℃/ 60~120 sec.

Allowed time above 217℃: 60~90 sec.

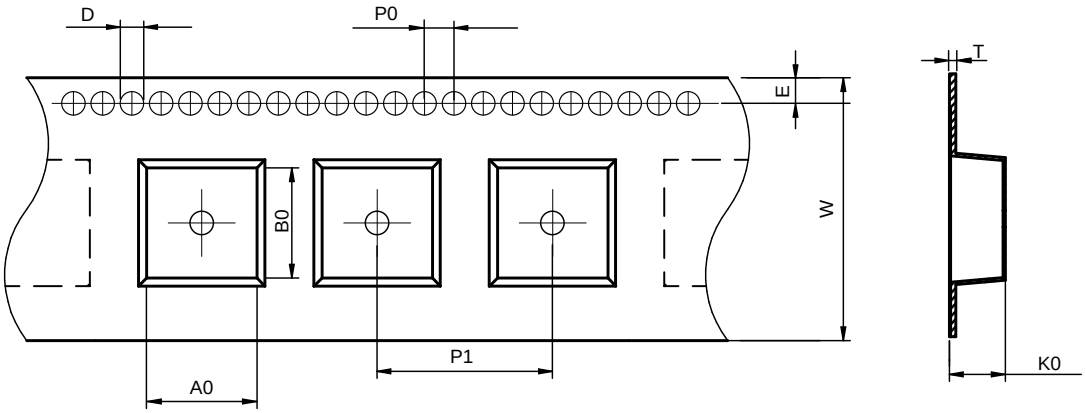
Max temperature: 260℃.

Max time at max temperature: 10 sec.

Allowed Reflow time: 2x max.

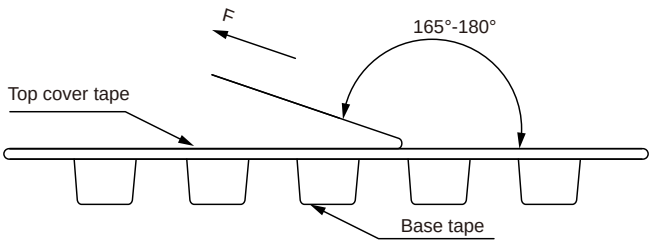
## Packaging Information:

### Tape Dimension:




| Series | A0 (mm) | B0 (mm) | D (mm) | P0 (mm) | P1 (mm) | W (mm) | K0 (mm) | E (mm) | T (mm) |
|---|---|---|---|---|---|---|---|---|---|
| MDSA1870 | 17.5±0.1 | 18.1±0.1 | 1.5±0.1 | 4.0±0.1 | 24.0±0.1 | 32.0±0.3 | 7.3±0.1 | 1.75±0.1 | 0.50±0.05 |

### Peel force of top cover tape:

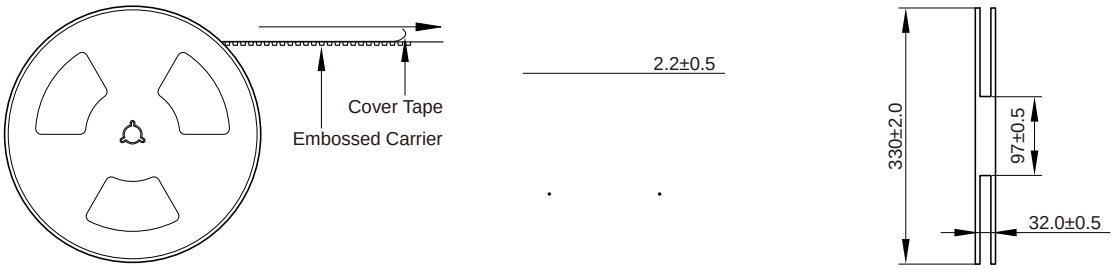



The peel force of top cover tape shall be between 0.1 to 1.3 N

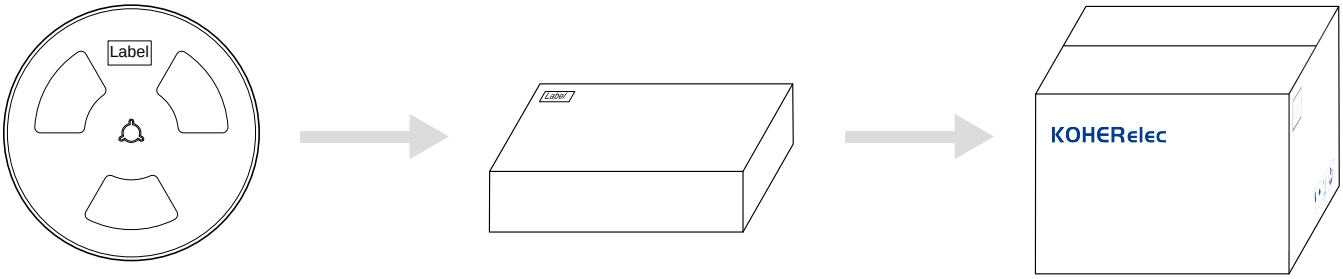
### Product Marking:

| | |
|---|---|
| Marking | KH+Printing(Inductance) |

## Reel Dimension：[mm]




## Packaging Quantity:




200 Pcs/Reel　　2 Reel /Inner box( 400 Pcs)　　2 Inner box/Carton box(800 Pcs)

# Cautions and Warnings:

## Storage Conditions：

- The storage period is within 12 months after the completion of production. Be sure to follow the storage conditions (temperature: -5 to 35°C, humidity: 75% RH Max).If the storage period elapses, the soldering of the terminal electrodes may deteriorate.The warranty period is one year.
- Product should not be exposed to environment with high temperature, high humidity, dust, corrosive gas and etc.
- Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- Please always handle products carefully to prevent any damage caused by dropping down or inappropriate removing.

## Operation Instructions:

- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- Before soldering, be sure to preheat components.The preheating temperature should be set so that the temperature difference between the solder temperature and chip temperature does not exceed 150°C.
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications.If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- Generally, Koher might not be familiar with either customer's specific application or actual requests as customer does.As a result customer shall be responsible for checking and confirming whether Koher product with the performance described in the product specification is suitable for using in customer's particular application or not.