

MDTE Series

Wire Wound Molded SMD Power Inductors

Size 5050

FEATURES

- Soft saturation
- High current, low DCR, high efficiency
- Very low acoustic noise and very low leakage flux noise
- High reliability
- 100% Lead(Pb)-Free and RoHS compliant
- Operating temperature -55~+125 C (Including self - temperature rise)
- Quantity: 1500pcs

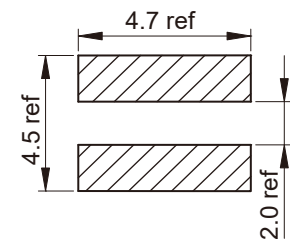
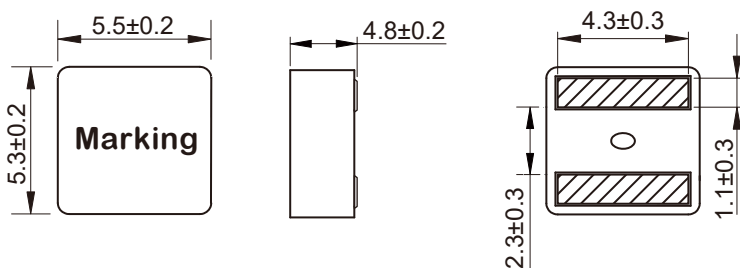


APPLICATION

- Note PC power system, incl. IMVP-6
- DC/DC converter

Dimensions: [mm]

Land Pattern: [mm]



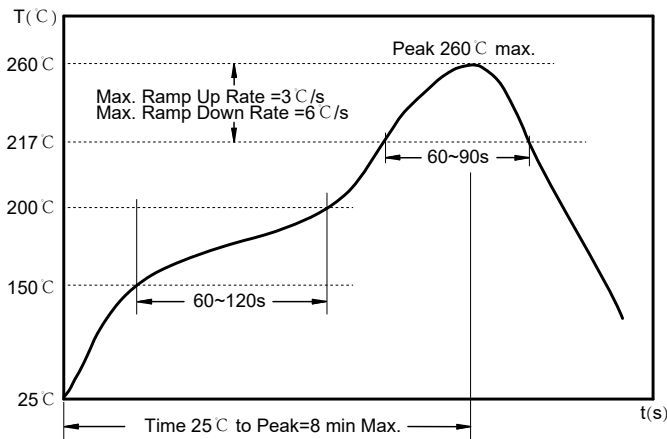
Electrical Properties:

| Part No | Inductance @ 100KHz/0.1V (μH) | Tolerance | Saturation Current Typ. (A) | Saturation Current Max. (A) | Temperature Rise Current Typ. (A) | DC Resistance Max. (mΩ) |
|---------------|-------------------------------|-----------|-----------------------------|-----------------------------|-----------------------------------|-------------------------|
| MDTE5050-5R6M | 5.6 | ±20% | 8.6 | 7.2 | 7.2 | 24.20 |
| MDTE5050-6R8M | 6.8 | ±20% | 7.8 | 6.6 | 6.4 | 28.60 |
| MDTE5050-8R2M | 8.2 | ±20% | 7.2 | 6.1 | 6.1 | 32.50 |
| MDTE5050-100M | 10 | ±20% | 6.5 | 5.4 | 5.0 | 43.00 |
| MDTE5050-150M | 15 | ±20% | 3.7 | 3.2 | 3.9 | 76.70 |
| MDTE5050-220M | 22 | ±20% | 3.6 | 3.0 | 3.4 | 99.65 |

Saturation Current will cause L to drop approximately 30%

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

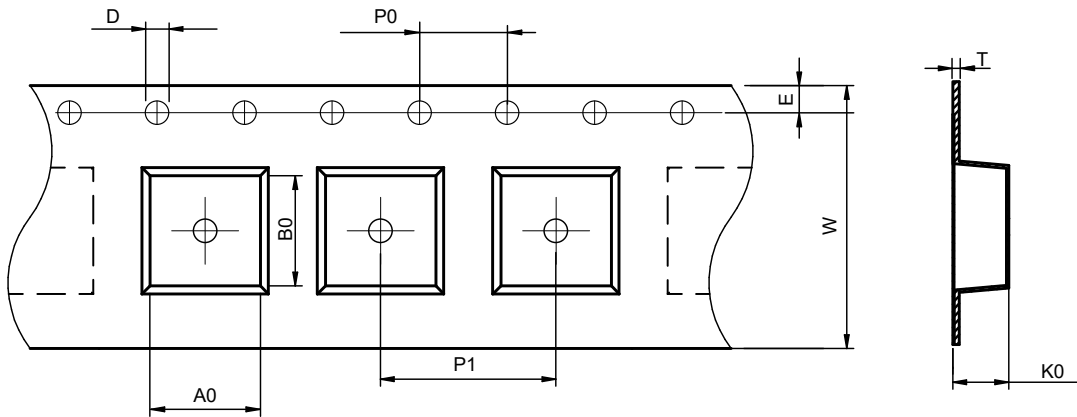
Soldering Reflow:



Preheat condition: 150 ~200 °C / 60~120 sec.
 Allowed time above 217 °C: 60~90 sec.
 Max temperature: 260 °C.
 Max time at max temperature: 10 sec.
 Allowed Reflow time: 2x max.

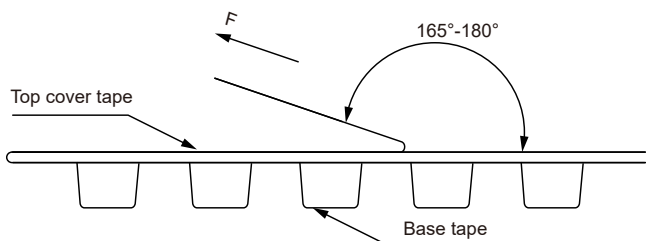
Packaging Information:

Tape Dimension:



| Series | A0 (mm) | B0 (mm) | D (mm) | P0 (mm) | P1 (mm) | W (mm) | K0 (mm) | E (mm) | T (mm) |
|----------|---------|---------|---------|---------|---------|----------|---------|----------|-----------|
| MDTE5050 | 6.0±0.1 | 5.7±0.1 | 1.5±0.1 | 4.0±0.1 | 8.0±0.1 | 16.0±0.3 | 5.3±0.1 | 1.75±0.1 | 0.35±0.05 |

Peel force of top cover tape:

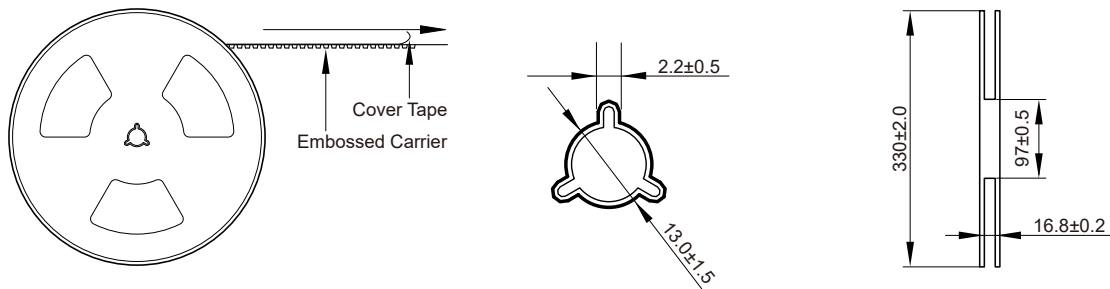


The peel force of top cover tape shall be between 0.1 to 1.3 N

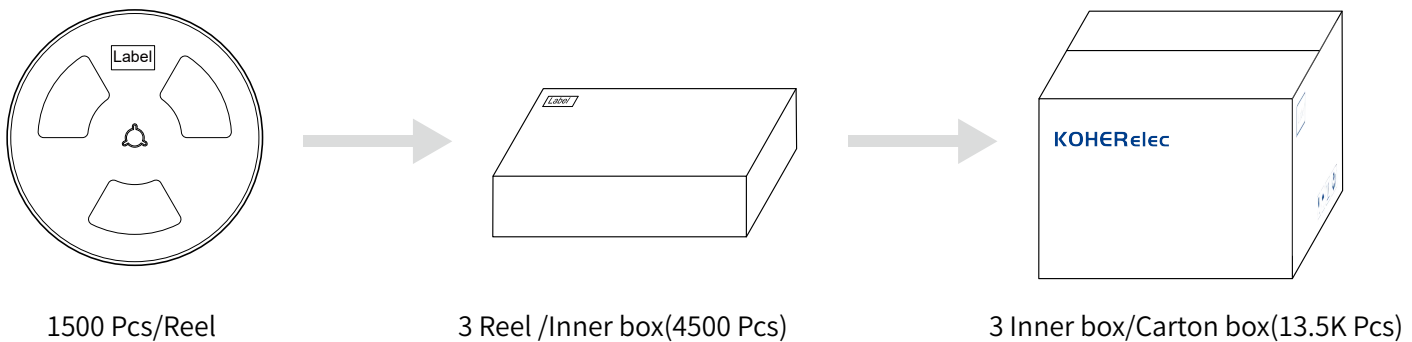
Product Marking:

| | |
|---------|-----------------------|
| Marking | Printing (Inductance) |
|---------|-----------------------|

Reel Dimension: [mm]



Packaging Quantity:



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.
- 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.