

## MDTE Series

### Wire Wound Molded SMD Power Inductors

#### Size 5020



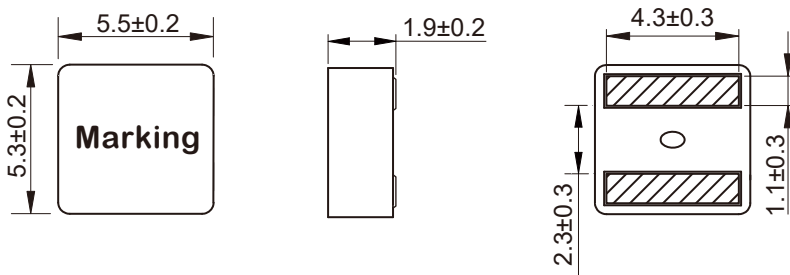
#### FEATURES

- 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: 3000pcs

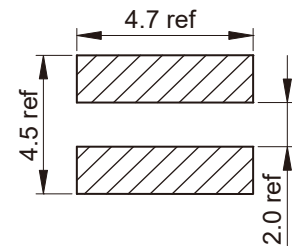
#### APPLICATION

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

#### Dimensions: [mm]



#### Land Pattern: [mm]



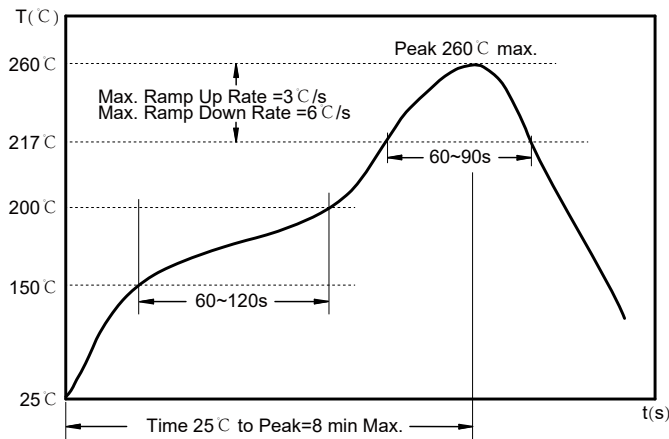
#### Electrical Properties:

Part No	Inductance @ 100KHz/0.1V ( $\mu$ H)	Tolerance	Saturation Current Typ. (A)	Saturation Current Max. (A)	Temperature Rise Current Typ. (A)	DC Resistance Max. (m $\Omega$ )
MDTE5020-R15M	0.15	±20%	30.0	27.0	18.8	4.60
MDTE5020-R16M	0.16	±20%	30.0	27.0	18.8	4.60
MDTE5020-R33M	0.33	±20%	26.0	24.0	14.4	7.00
MDTE5020-R47M	0.47	±20%	22.0	20.0	14.1	8.05
MDTE5020-R56M	0.56	±20%	19.0	16.0	13.9	9.54
MDTE5020-R68M	0.68	±20%	16.0	14.0	13.4	10.2
MDTE5020-R80M	0.80	±20%	15.5	13.5	13.0	11.8
MDTE5020-R82M	0.82	±20%	15.0	13.0	12.0	12.7
MDTE5020-1R0M	1.00	±20%	14.5	12.8	10.5	13.8
MDTE5020-1R2M	1.20	±20%	14.0	12.2	9.40	16.3
MDTE5020-1R5M	1.50	±20%	13.3	11.7	8.80	18.7

Saturation Current will cause L to drop approximately 30%

Temperature Rise Current: The actual value of DC current when the temperature rise is  $\Delta T=40^{\circ}\text{C}$

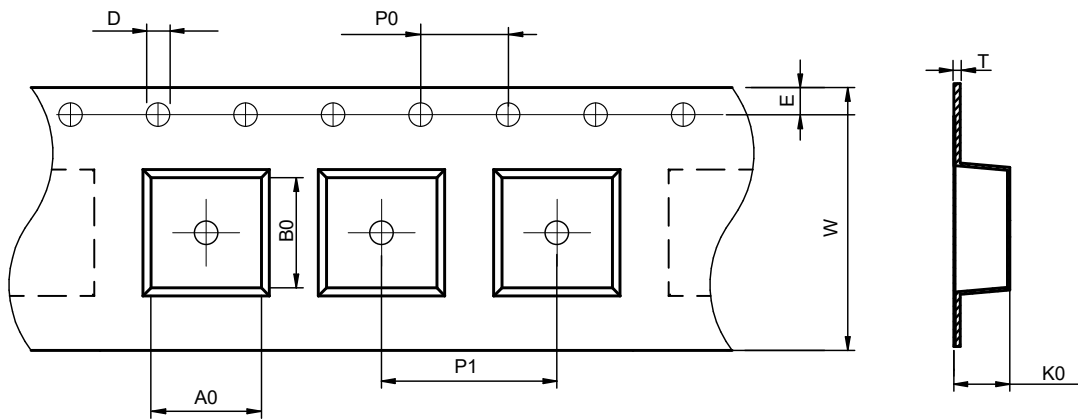
### Soldering Reflow:



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.

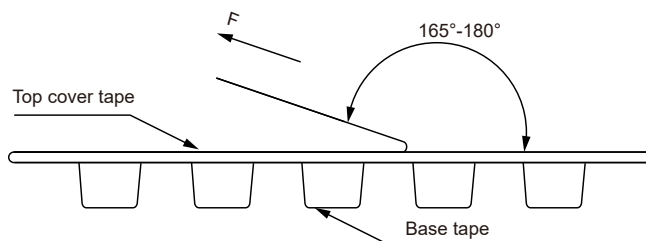
### Packaging Information:

#### Tape Dimension:



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDTE5020	6.0±0.1	5.7±0.1	1.5±0.1	4.0±0.1	8.0±0.1	12.0±0.3	2.3±0.1	1.75±0.1	0.35±0.05

#### Peel force of top cover tape:

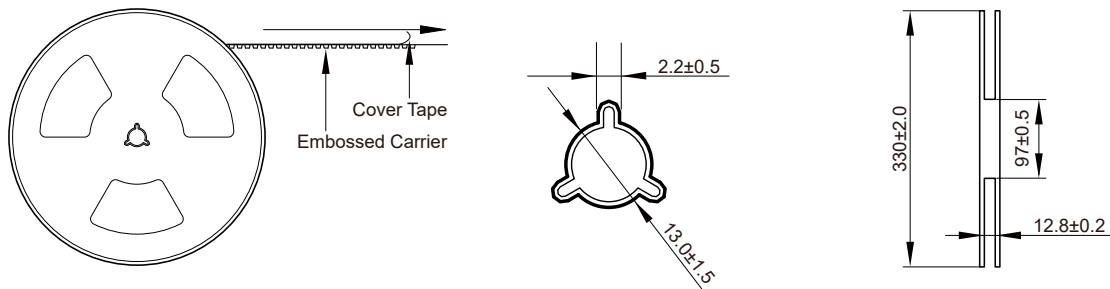


The peel force of top cover tape shall be between 0.1 to 1.3 N

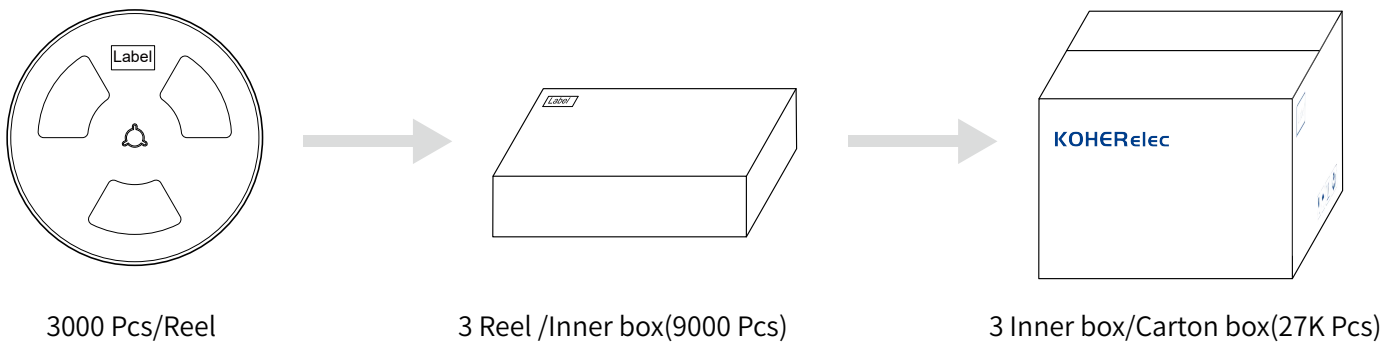
#### Product Marking:

Marking	Printing (Inductance)
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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.