

**MDTE Series**  
Wire Wound Molded SMD Power Inductors  
Size 4020



**FEATURES**

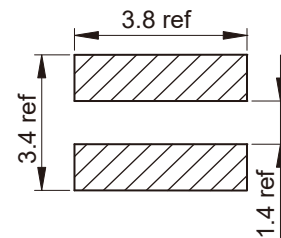
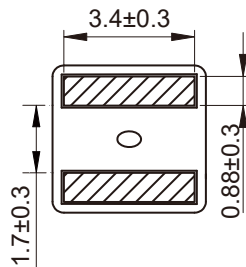
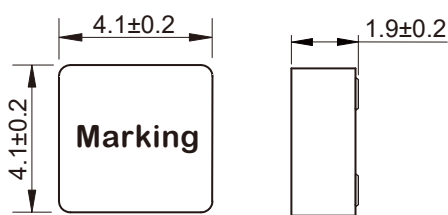
- Soft saturation
- High current, low DCR, high efficiency
- Very low acoustic noise and very low leakage flux noise
- High reliability
- 100% Lead(Pb)-Free and RoHS compliant
- Operating temperature -55~+125 °C (Including self - temperature rise)
- Quantity: 3000pcs

**APPLICATION**

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

**Dimensions: [mm]**

**Land Pattern: [mm]**



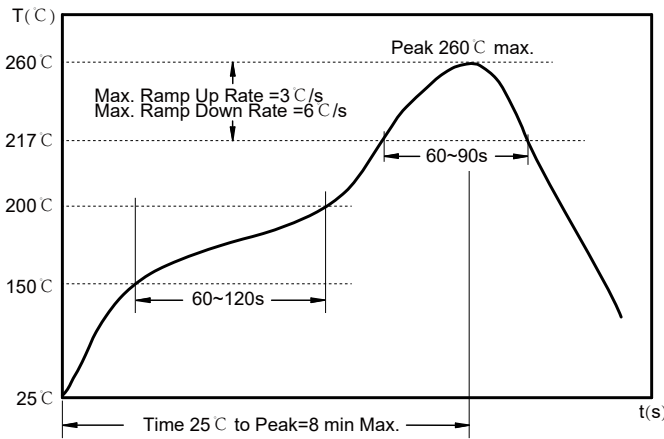
**Electrical Properties:**

Part No	Inductance @ 100KHz/0.1V (μH)	Tolerance	Saturation Current Typ. (A)	Saturation Current Max. (A)	Temperature Rise Current Typ. (A)	DC Resistance Max. (mΩ)
MDTE4020-R10M	0.10	±20%	38.0	33.0	18.0	2.42
MDTE4020-R22M	0.22	±20%	19.5	18.8	16.8	4.60
MDTE4020-R36M	0.36	±20%	17.0	15.0	14.5	6.30
MDTE4020-R40M	0.40	±20%	15.5	13.5	14.0	7.73
MDTE4020-R47M	0.47	±20%	14.5	13.0	12.5	8.58
MDTE4020-R56M	0.56	±20%	14.0	12.6	12.0	9.30
MDTE4020-R60M	0.60	±20%	13.7	12.3	11.7	9.52
MDTE4020-R72M	0.72	±20%	12.0	10.6	10.5	11.6
MDTE4020-1R0M	1.00	±20%	9.6	8.8	9.6	14.6
MDTE4020-1R2M	1.20	±20%	9.0	7.8	9.0	17.9
MDTE4020-1R5M	1.50	±20%	8.0	7.4	7.6	23.5
MDTE4020-1R8M	1.80	±20%	7.5	7.0	7.0	28.0
MDTE4020-2R2M	2.20	±20%	6.5	6.0	5.6	38.7

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

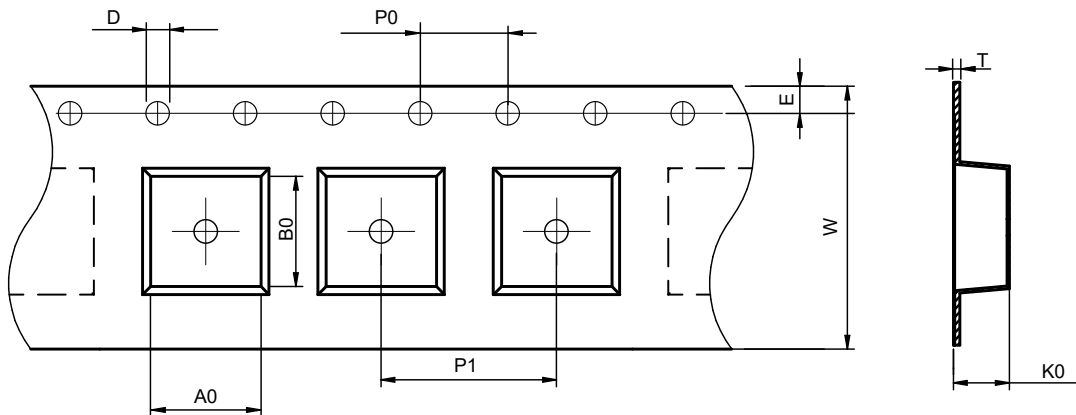
### Soldering Reflow:



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.

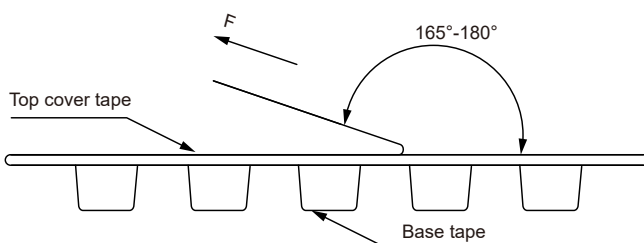
### Packaging Information:

#### Tape Dimension:



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDTE4020	4.5±0.1	4.5±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:

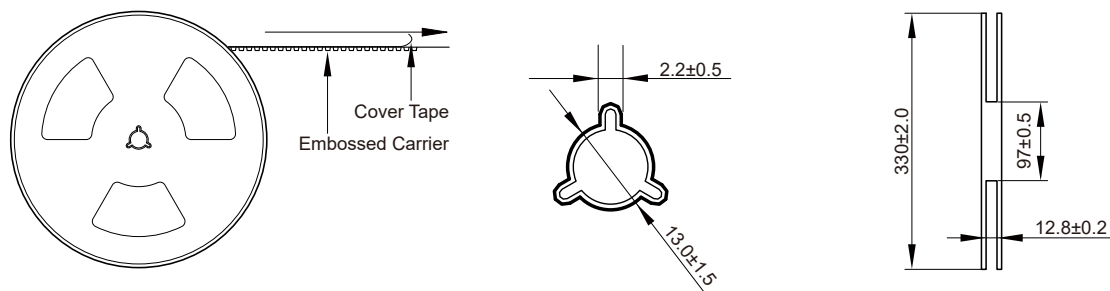


The peel force of top cover tape shall be between 0.1 to 1.3 N

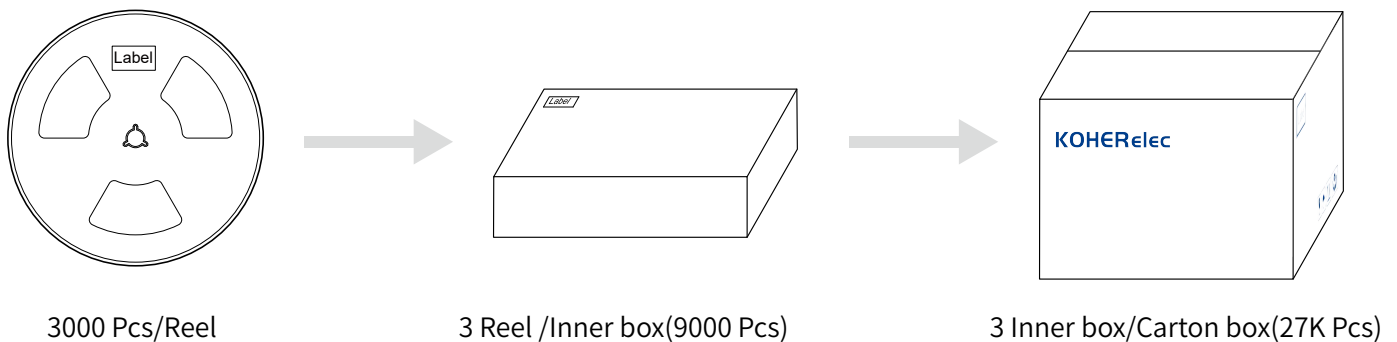
#### Product Marking:

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.