

# MDCA Series

## SMD Power Inductor

### Size 1390



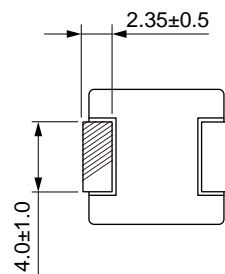
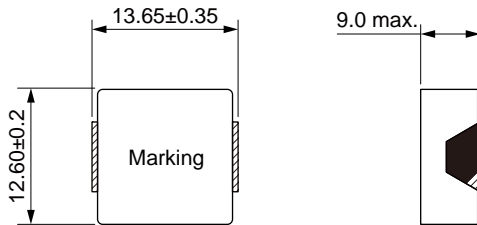
#### FEATURES

- Shielded construction.
- Capable of corresponding high frequency.
- Low loss realized with low DCR.
- High performance (Isat) realized by Carbonyl Powder.
- Ultra low buzz noise, due to composite construction.
- 100% Lead(Pb)-Free and RoHS compliant.
- AEC-Q200 qualified
- Operating temperature: -55 to +125 °C(including self-temperature rise)
- Quantity: 500pcs

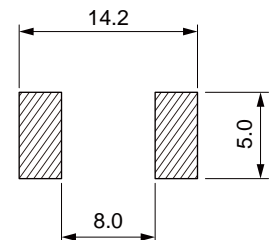
#### APPLICATION

- Headlamps, tail lamps and interior lighting
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- Doors, window lift and seat control
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- In-Vehicle Infotainment and navigation

#### Dimensions: [mm]



#### Land Pattern: [mm]



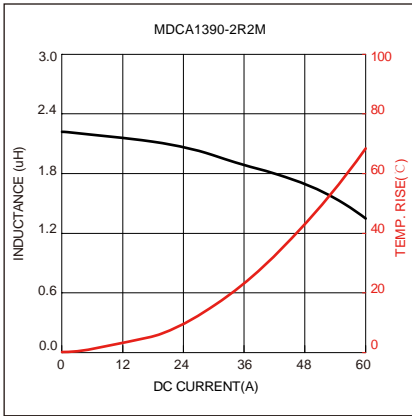
#### Electrical Properties:

Part No	Inductance @ 100KHz/1V	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Current Typ. (A)	Current Max. (A)	DC Resistance Typ.	DC Resistance Max.
MDCA1390-2R2M	2.2		43.5	40.0	52.5	47.0	2.50	2.90

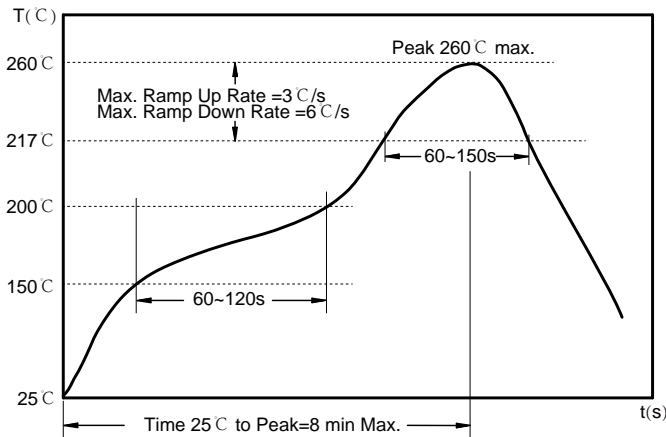
Saturation Current will cause L to drop approximately 30%

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

## Typical Electrical Characteristics:



## Soldering Reflow:



Preheat condition: 150 ~200 °C / 60~120 sec.

Allowed time above 217 °C : 60~150 sec.

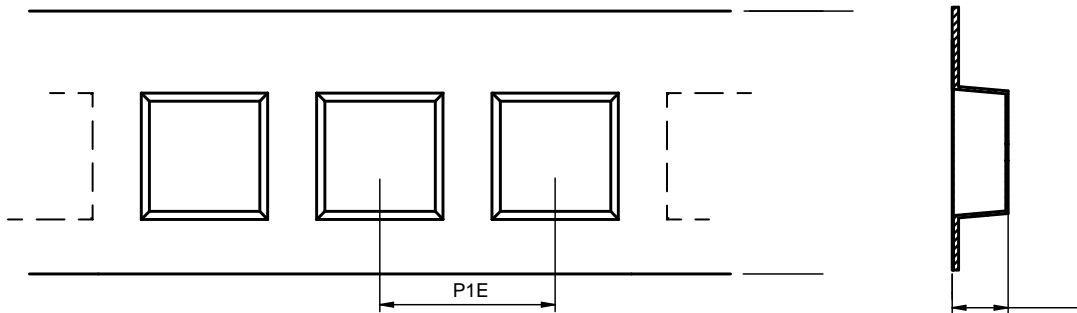
Max temperature: 260 °C .

Max time at max temperature: 10 sec.

Allowed Reflow time: 2x max.

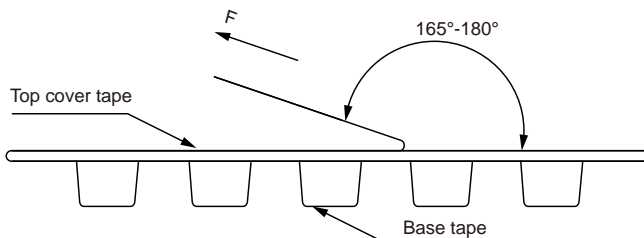
## Packaging Information:

### Tape Dimension :



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDCA1390	13.0± 0.1	14.8± 0.1	1.5± 0.1	4.0± 0.1	16.0± 0.1	24.0± 0.3	9.5± 0.1	1.75± 0.1	0.50± 0.05

### Peel force of top cover tape:

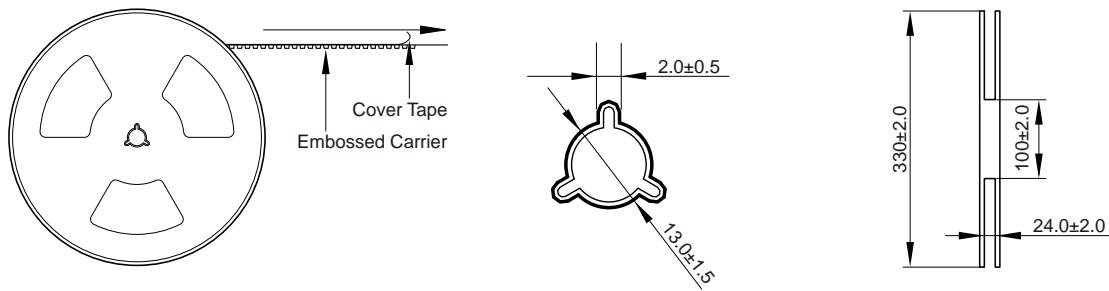


The peel force of top cover tape shall be between 0.1 to 1.3 N

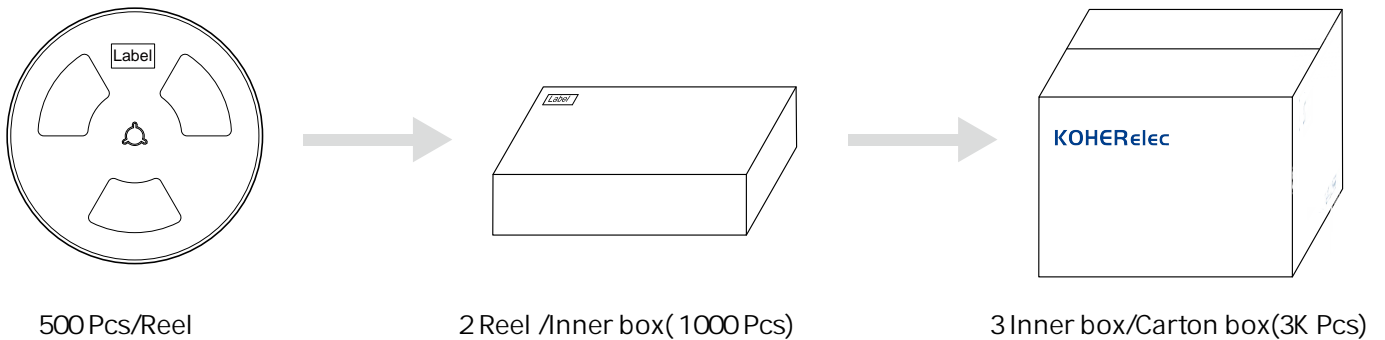
### Product Marking:

Marking	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. 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.