

MDCE Series

Molding SMD Power Inductors



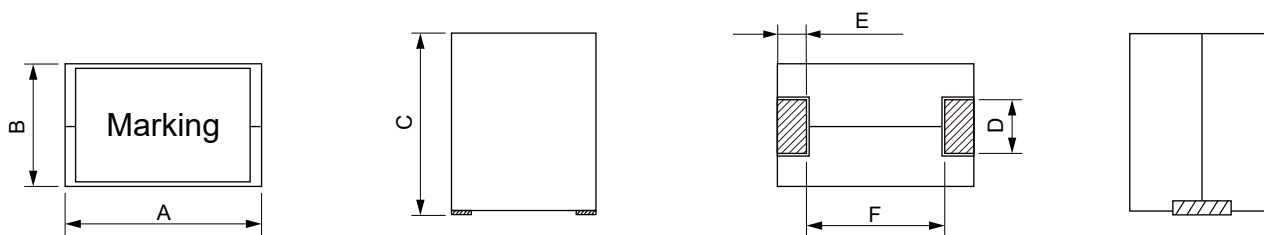
FEATURES

- High saturation characteristic core for large saturation current and low loss.
- Closed magnetic circuit design reduces leakage flux.
- High precision DCR.
- Halogen Free & ROHS compliant.
- Operating temperature: -40 to +125 °C

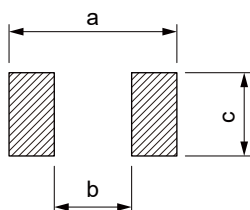
APPLICATION

- AI Servers, Data Centers, GPU/AI Accelerators.
- Desktop Motherboards, CPU/GPU Power Delivery.
- Multi-phase VRM, High-current DC-DC Converters.
- Networking Equipment, Communication Infrastructure.

Dimensions: [mm]



Land Pattern: [mm]



Series	A	B	C	D	E	F	a	b	c
MDCE060610	6.5 max	6.5 max	10.0 max	3.7±0.2	1.75 typ	2.75 typ	7.2	2.6	4.2
MDCE090510	9.0 max	5.2 max	9.5 max	2.4 typ	2.50 typ	3.70 typ	9.2	3.4	3.0
MDCE100710	10.0 max	7.0 max	10.0 max	2.4±0.2	2.70 typ	4.60 typ	11.0	4.4	3.0

Electrical Properties:

Part No	Inductance @ 100KHz/0.1V (nH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance ±10% (mΩ)
MDCE060610-R12L	120	±15%	70	65	0.170

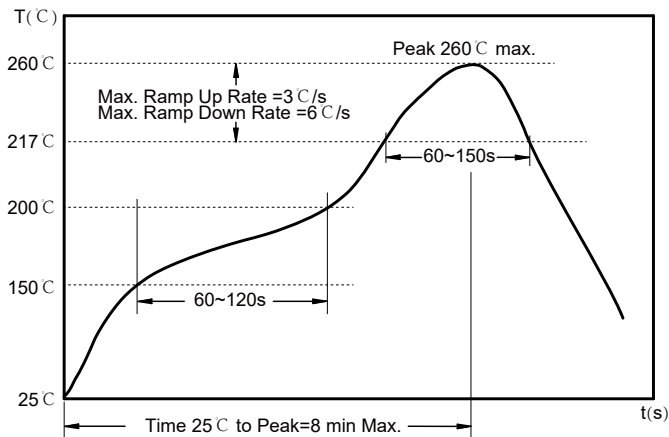
Part No	Inductance @ 500KHz/0.25V (nH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance ±10% (mΩ)
MDCE090510SL-R10L	100	±15%	63	80	0.125

Part No	Inductance @ 500KHz/0.25V (nH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance ±10% (mΩ)
MDCE100710L-R15L	150	±15%	62	80	0.185

Saturation Current will cause L0 to drop approximately 20%.

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

Soldering Reflow:



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

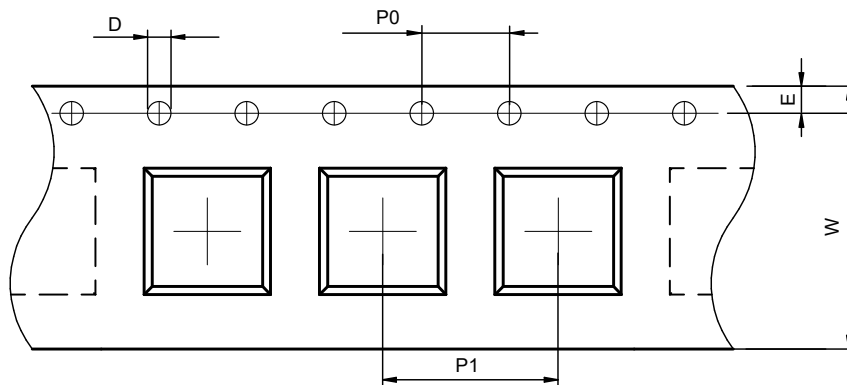
Allowed time above 217 °C: 60~150 sec.

Max temperature: 260 °C.

Time within 5 °C of actual Peak Temperature: 30 sec max.

Packaging Information:

Tape Dimension: [mm]

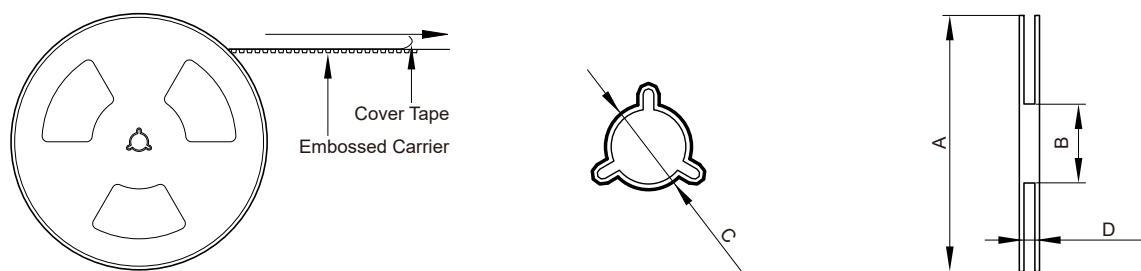


Series	D typ.	P0 typ.	P1 typ.	W typ.	E typ.
060610	1.5	4.0	16.0	24.0	1.75
090510	1.5	4.0	12.0	24.0	1.75
100710	1.5	4.0	16.0	24.0	1.75

Product Marking:

Marking	Printing (Inductance)
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Reel Dimension: [mm]



Series	A (mm)	B (mm)	C (mm)	D (mm)	Qty/Reel (pcs)
060610	330±1.0	100±1.0	13.2±0.5	24.5±0.2	400
090510	330±1.0	100±1.0	13.2±0.5	24.5±0.2	500
100710	330±1.0	100±1.0	13.2±0.5	24.5±0.2	400

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.