

MDSA Series

SMD Low Profile High Current Molded Inductor Size 5030



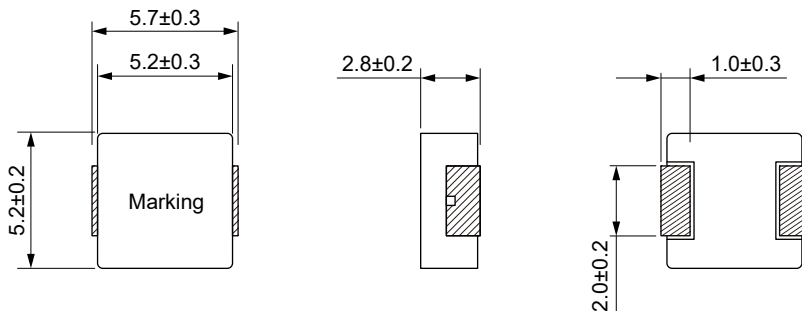
FEATURES

- Shielded construction
- Capable of corresponding high frequency .
- Low loss realized with low DCR.
- High performance (Isat) realized by metal dust core.
- Ultra low buzz noise, due to composite construction.
- 100% Lead(Pb)-Free and RoHS compliant.
- AEC-Q200 qualified
- Operating temperature: -55 to +155 °C(including self-temperature rise)
- Quantity: 2000PCS

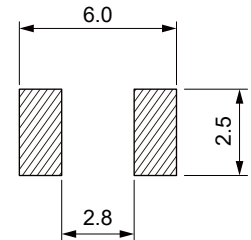
APPLICATION

- Noise filter for various drive circuitry requiring high temp. operation and peak current handing capability.
- Boost-Converter
- Buck-Converter DC/DC

Dimensions: [mm]



Land Pattern: [mm]



Electrical Properties:

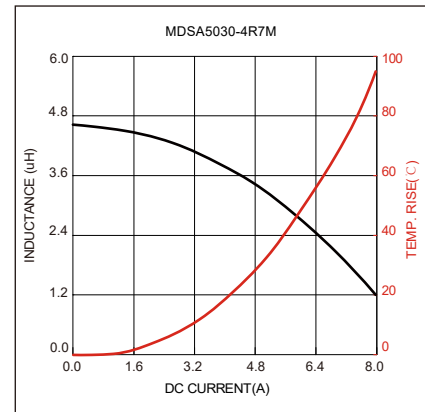
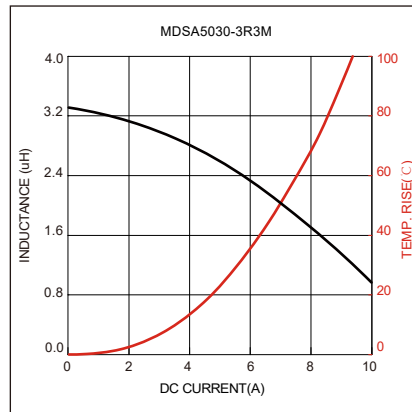
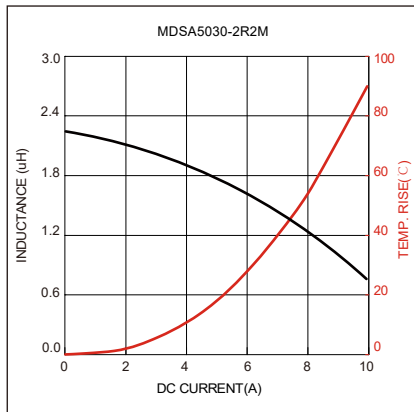
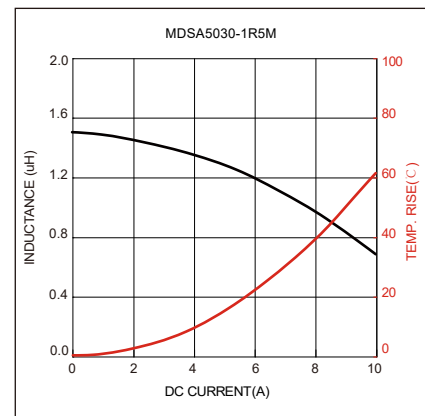
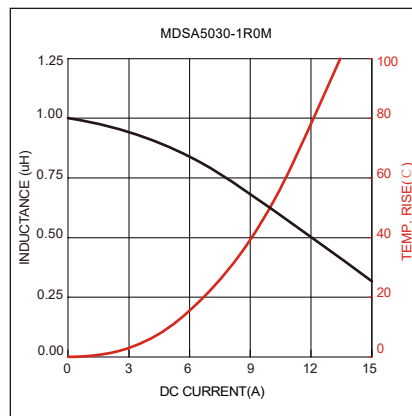
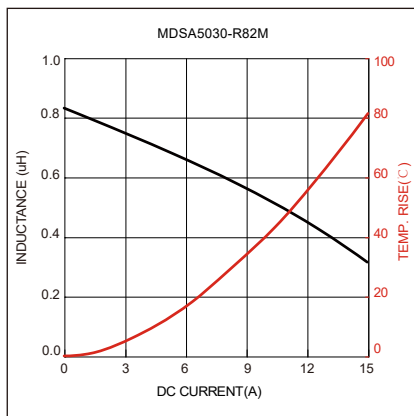
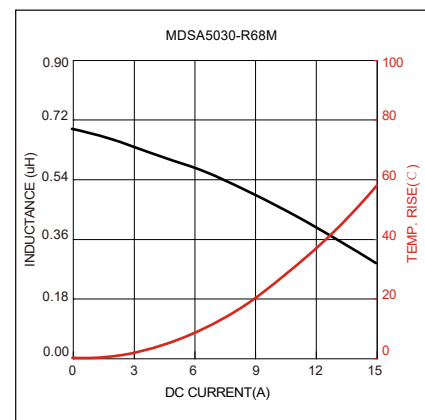
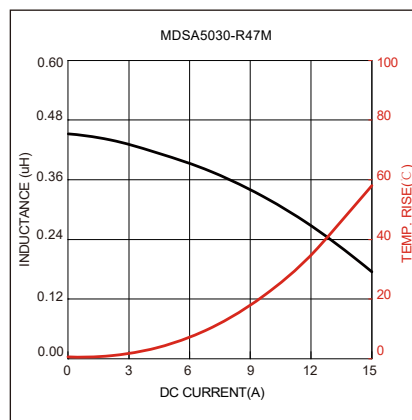
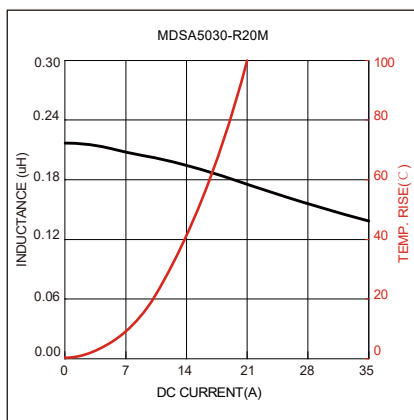
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDSA5030-R20M	0.20	±20%	13.8	19.6	3.80	4.10
MDSA5030-R47M	0.47	±20%	13.2	9.8	5.30	6.20
MDSA5030-R68M	0.68	±20%	12.3	8.7	7.70	8.80
MDSA5030-R82M	0.82	±20%	9.8	8.5	8.20	9.40
MDSA5030-1R0M	1.00	±20%	8.9	8.4	11.2	12.6
MDSA5030-1R5M	1.50	±20%	7.9	7.3	13.9	16.0
MDSA5030-2R2M	2.20	±20%	6.9	6.3	22.0	25.8
MDSA5030-3R3M	3.30	±20%	6.3	5.9	28.3	34.0
MDSA5030-4R7M	4.70	±20%	5.5	5.2	39.0	45.0

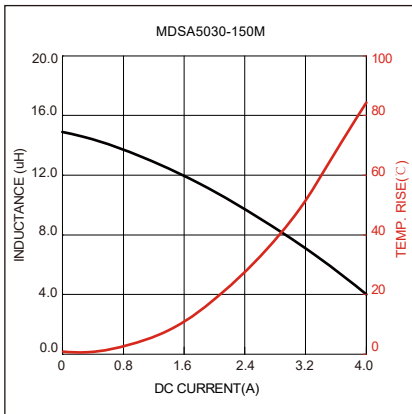
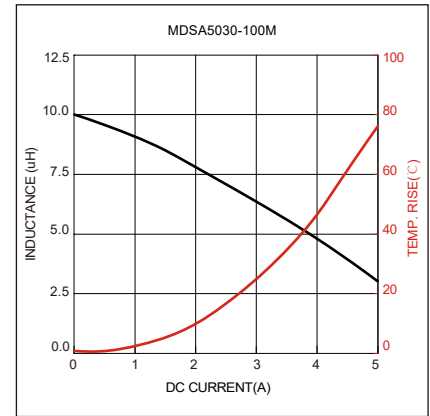
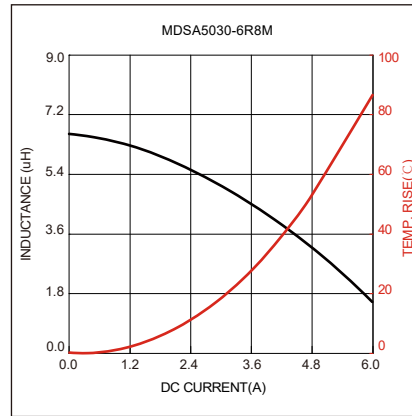
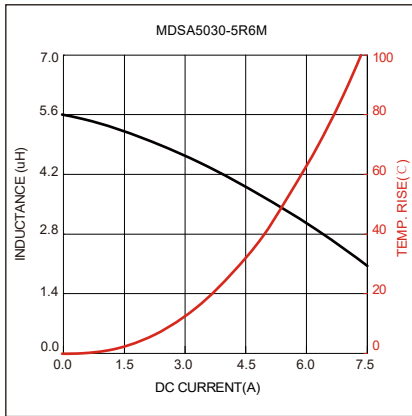
Part No	Inductance @ 100KHz/1V (μ H)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (m Ω)	DC Resistance Max. (m Ω)
MDSA5030-5R6M	5.60	$\pm 20\%$	4.9	4.5	52.0	60.0
MDSA5030-6R8M	6.80	$\pm 20\%$	4.3	3.4	58.0	68.0
MDSA5030-100M	10.0	$\pm 20\%$	3.7	2.4	89.0	105.0
MDSA5030-150M	15.0	$\pm 20\%$	2.8	2.1	142.0	173.0

Saturation Current will cause L to drop approximately 30%

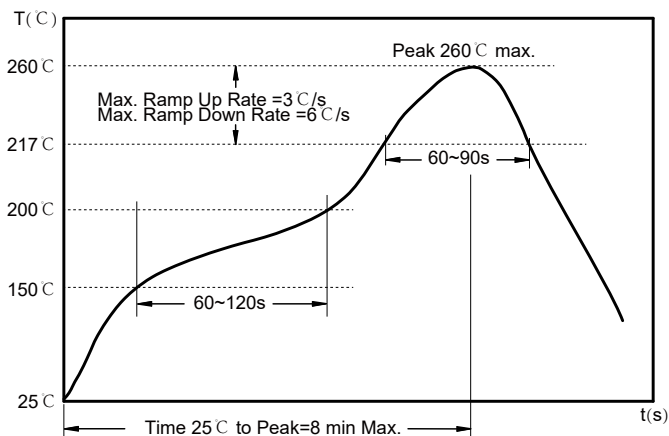
Temperature Rise Current: The actual value of DC current when the temperature rise is $\Delta T = 40^\circ\text{C}$

Typical Electrical Characteristics:





Soldering Reflow:



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

Allowed time above 217 °C : 60~90 sec.

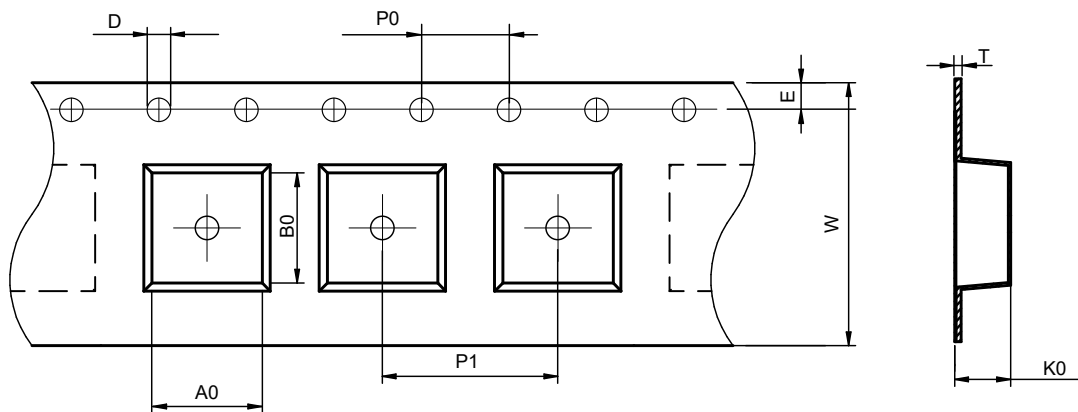
Max temperature: 260 °C .

Max time at max temperature: 10 sec.

Allowed Reflow time: 2x max.

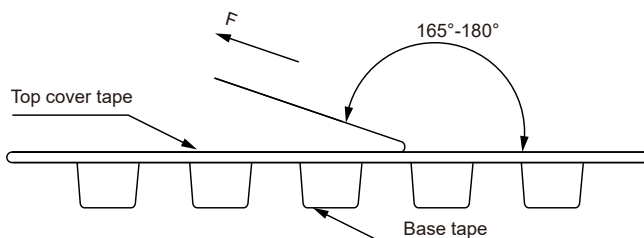
Packaging Information:

Tape Dimension :



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDSA5030	5.5±0.1	5.9±0.1	1.5±0.1	4.0±0.1	8.0±0.1	12.0±0.3	3.3±0.1	1.75±0.1	0.35±0.05

Peel force of top cover tape:

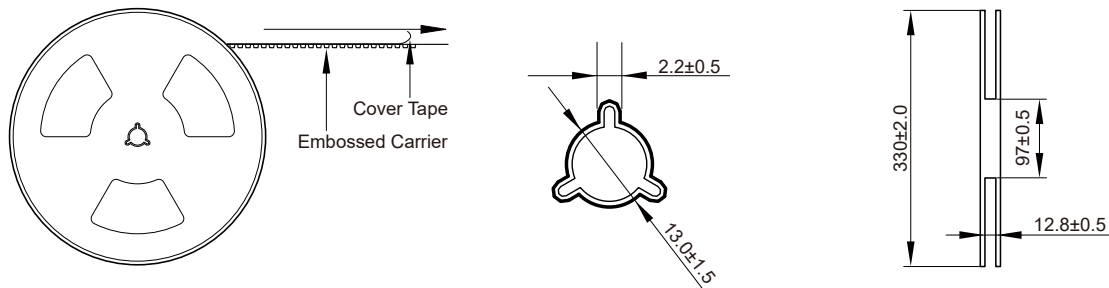


The peel force of top cover tape shall be between 0.1 to 1.3 N

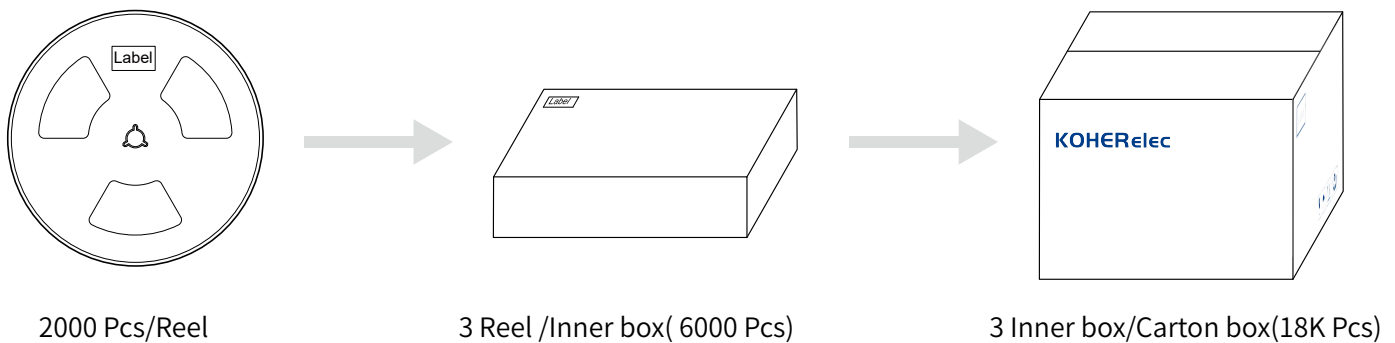
Product Marking:

Marking	K+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.