

**MDSA Series**  
**SMD Low Profile High Current Molded Inductor**  
**Size 7050**



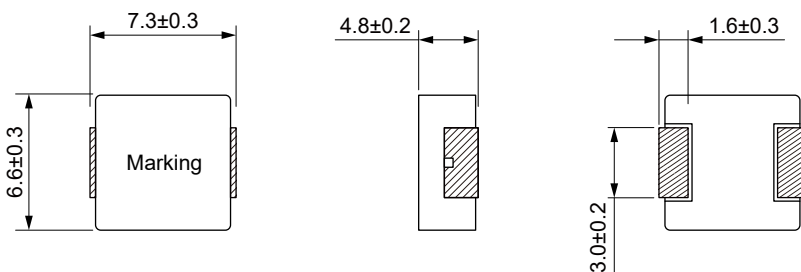
**FEATURES**

- 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: 800PCS

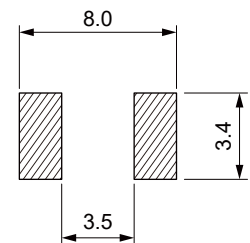
**APPLICATION**

- 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:**

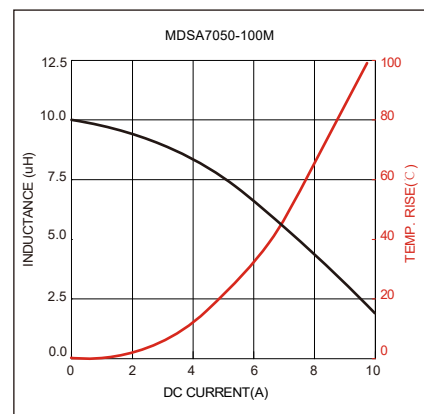
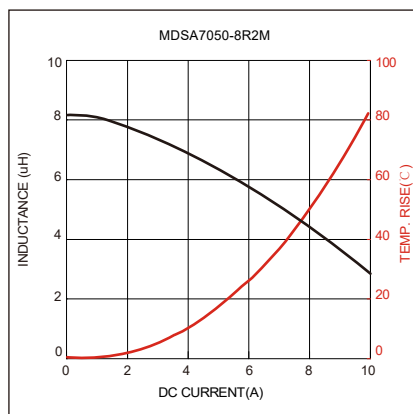
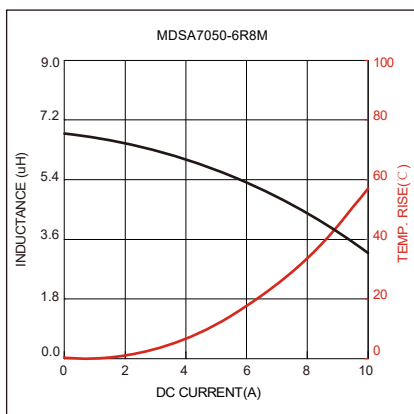
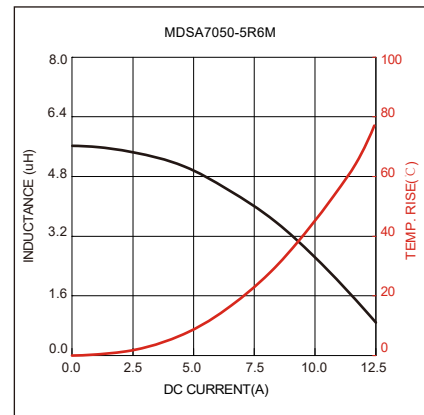
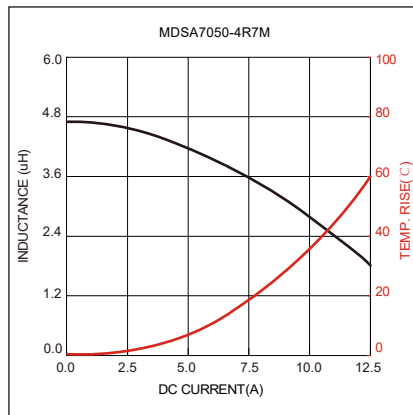
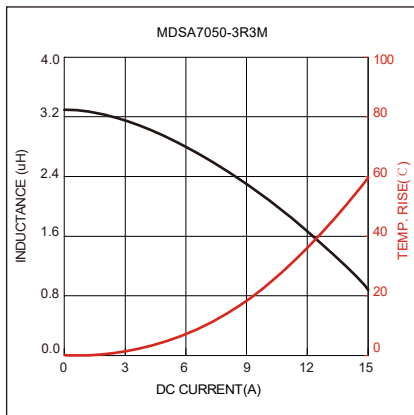
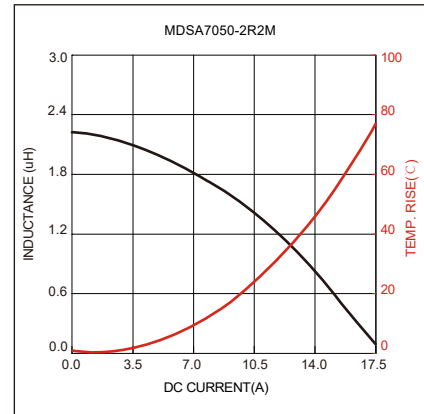
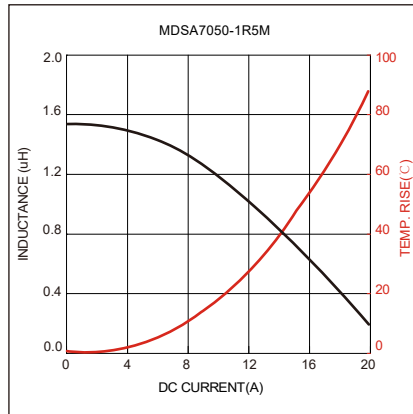
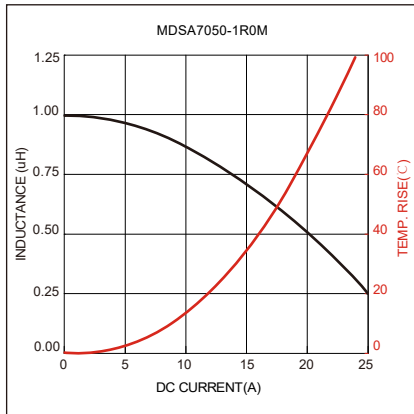
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDSA7050-1R0M	1.00	±20%	16.0	15.0	5.80	6.50
MDSA7050-1R5M	1.50	±20%	14.0	12.0	6.80	7.50
MDSA7050-2R2M	2.20	±20%	13.0	9.5	10.5	12.0
MDSA7050-3R3M	3.30	±20%	12.5	9.0	14.5	17.0
MDSA7050-4R7M	4.70	±20%	10.5	8.5	21.0	25.0
MDSA7050-5R6M	5.60	±20%	9.5	7.5	29.0	34.0
MDSA7050-6R8M	6.80	±20%	8.6	7.1	31.0	37.0
MDSA7050-8R2M	8.20	±20%	7.2	6.2	40.0	46.0

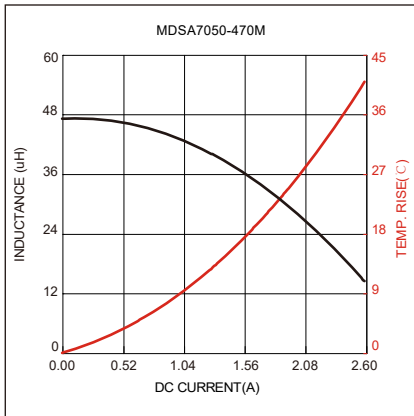
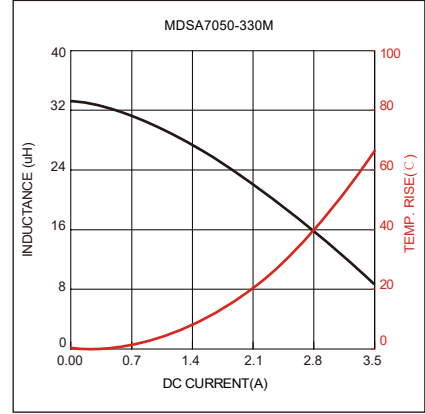
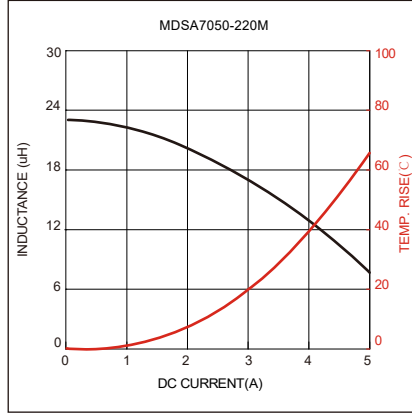
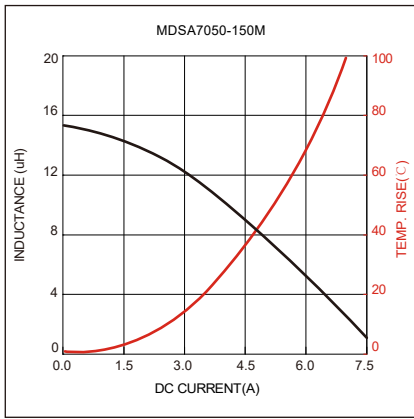
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDSA7050-100M	10.0	±20%	6.6	5.6	45.0	54.0
MDSA7050-150M	15.0	±20%	4.7	3.8	74.0	86.0
MDSA7050-220M	22.0	±20%	4.0	3.4	124	144
MDSA7050-330M	33.0	±20%	2.8	2.0	145	172
MDSA7050-470M	47.0	±20%	2.5	1.7	278	325

Saturation Current will cause L to drop approximately 30%

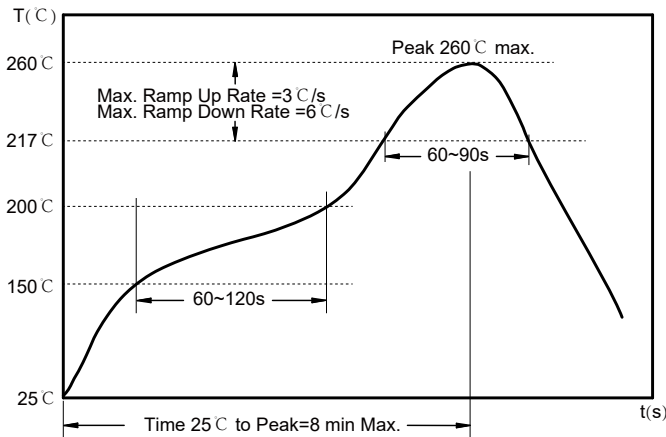
Temperature Rise Current: The actual value of DC current when the temperature rise is  $\Delta T=40^{\circ}\text{C}$

### Typical Electrical Characteristics:





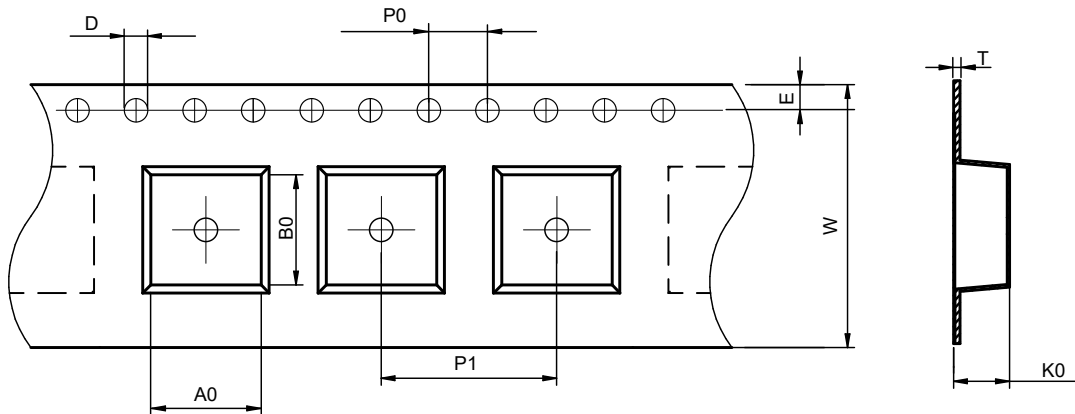
### Soldering Reflow:



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.

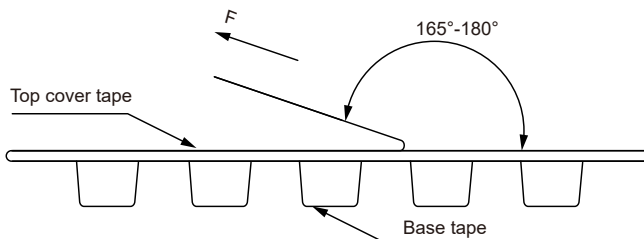
### Packaging Information:

#### Tape Dimension :



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDSA7050	6.9±0.1	7.5±0.1	1.5±0.1	4.0±0.1	12.0±0.1	16.0±0.3	5.4±0.1	1.75±0.1	0.40±0.05

#### Peel force of top cover tape:

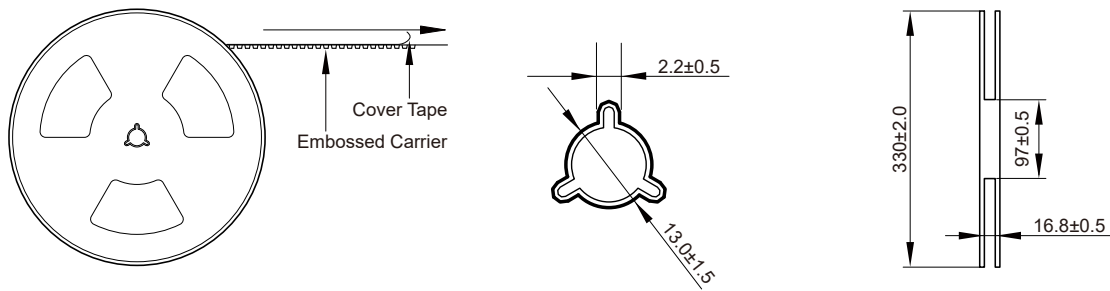


The peel force of top cover tape shall be between 0.1 to 1.3 N

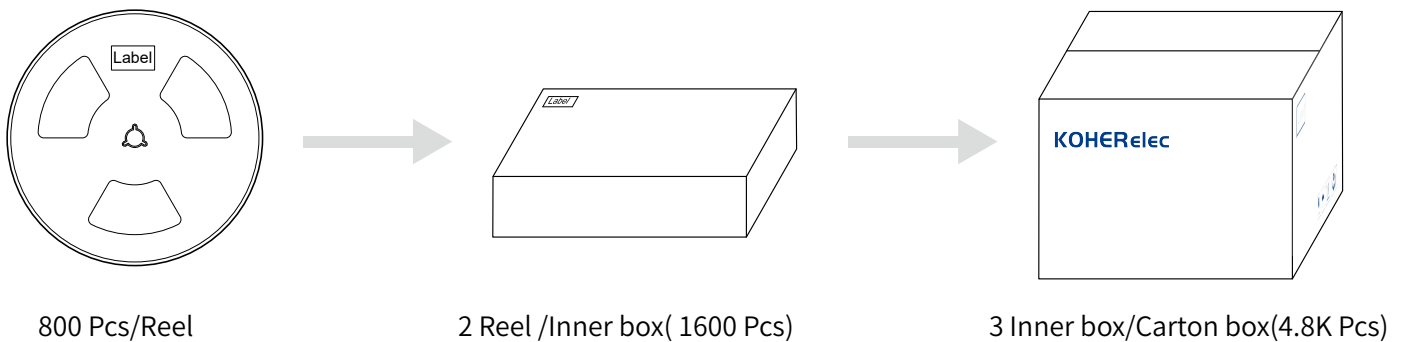
#### Product Marking:

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.

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