

MDSA Series

SMD Low Profile High Current Molded Inductor

Size 7030



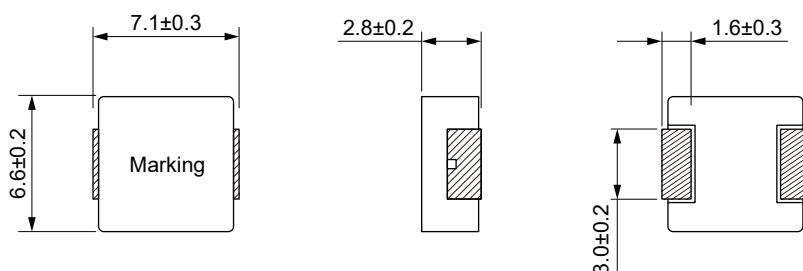
FEATURES

- 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: 1000PCS

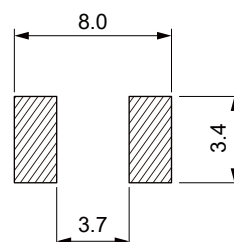
APPLICATION

- 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:

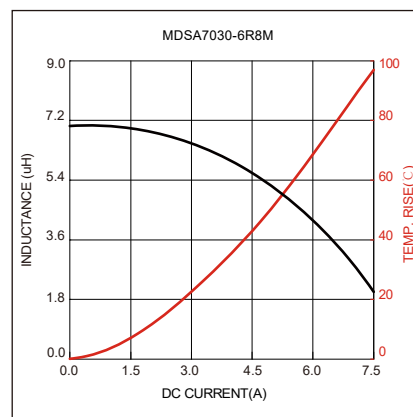
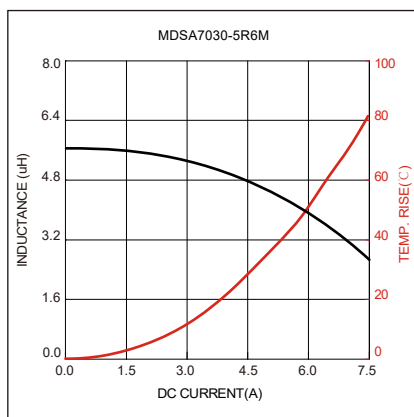
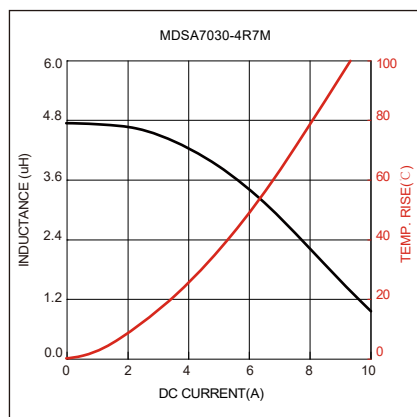
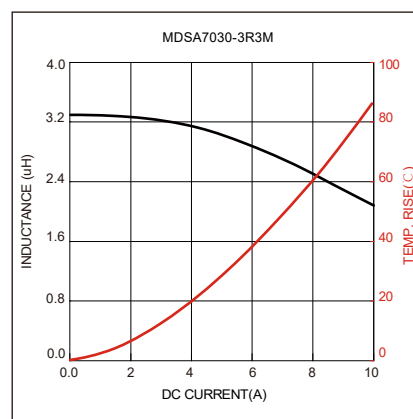
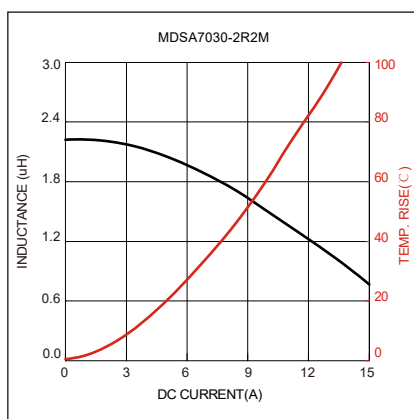
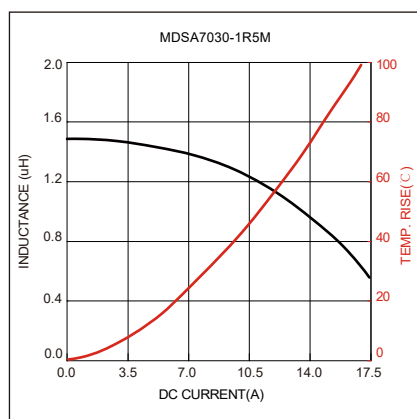
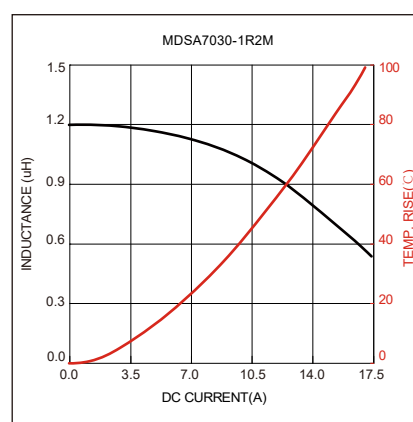
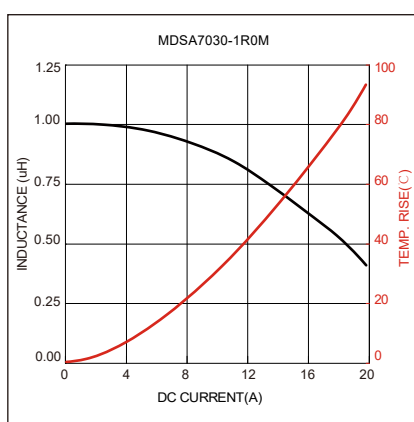
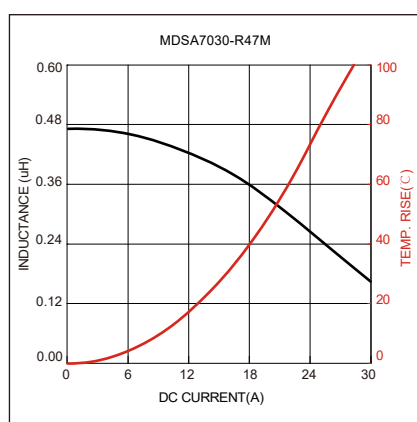
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDSA7030-R47M	0.47	±20%	17.8	19.6	3.40	4.05
MDSA7030-1R0M	1.00	±20%	11.8	14.9	6.71	7.42
MDSA7030-1R2M	1.20	±20%	9.9	13.7	7.70	9.50
MDSA7030-1R5M	1.50	±20%	9.8	13.7	10.2	12.2
MDSA7030-2R2M	2.20	±20%	7.7	10.0	13.8	15.1
MDSA7030-3R3M	3.30	±20%	6.4	9.4	19.2	22.1
MDSA7030-4R7M	4.70	±20%	5.5	6.4	28.0	33.0
MDSA7030-5R6M	5.60	±20%	5.4	6.0	39.1	42.2
MDSA7030-6R8M	6.80	±20%	4.4	5.9	43.2	50.0
MDSA7030-8R2M	8.20	±20%	4.3	5.9	54.4	60.3
MDSA7030-100M	10.0	±20%	3.9	5.4	62.0	68.1
MDSA7030-150M	15.0	±20%	2.9	4.4	110.1	140.0

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)
MDSA7030-220M	22.0	$\pm 20\%$	2.4	3.0	150.2	190.1
MDSA7030-330M	33.0	$\pm 20\%$	2.1	2.4	215.0	258.0
MDSA7030-470M	47.0	$\pm 20\%$	1.5	1.9	318.3	385.2

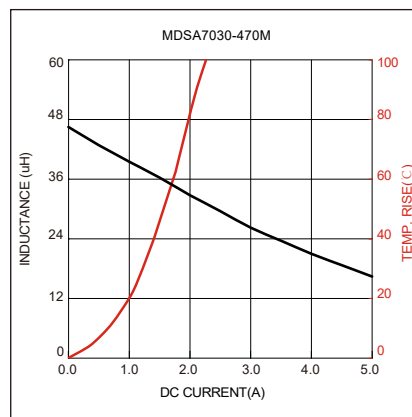
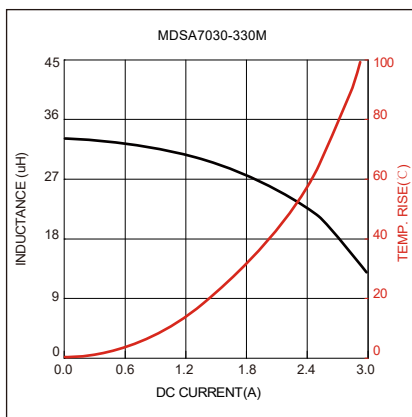
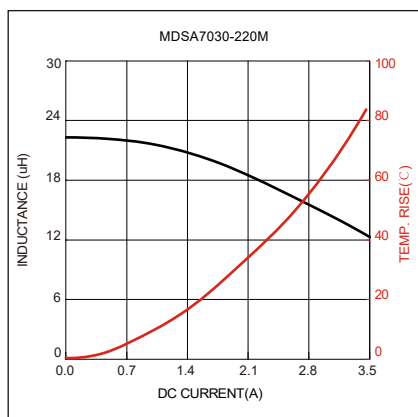
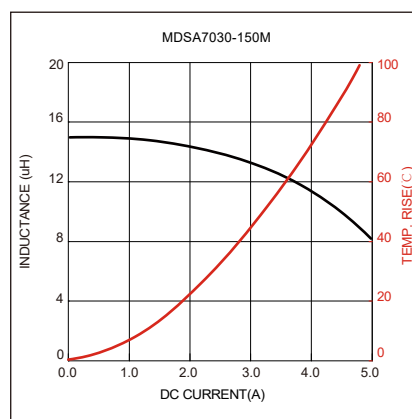
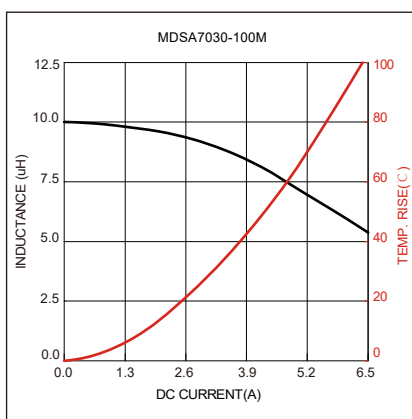
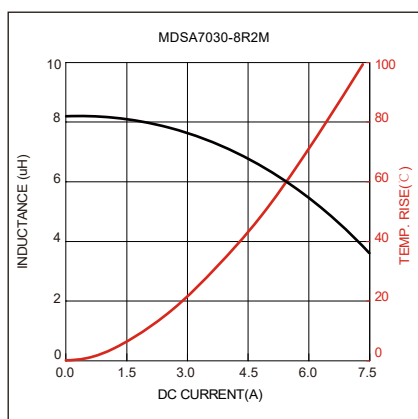
Saturation Current will cause L to drop approximately 30%

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

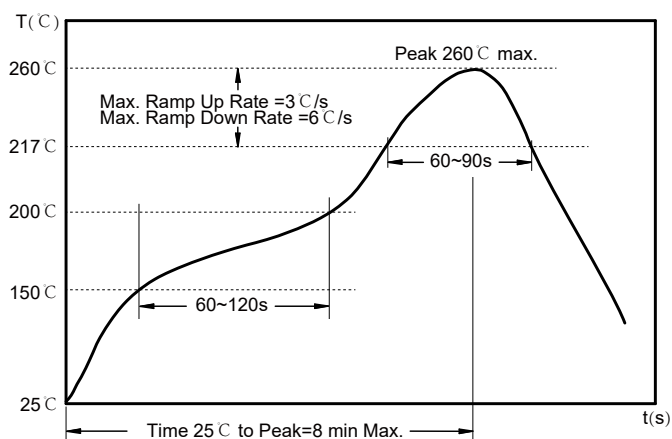
Typical Electrical Characteristics:



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Soldering Reflow:



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

Allowed time above 217°C: 60~90 sec.

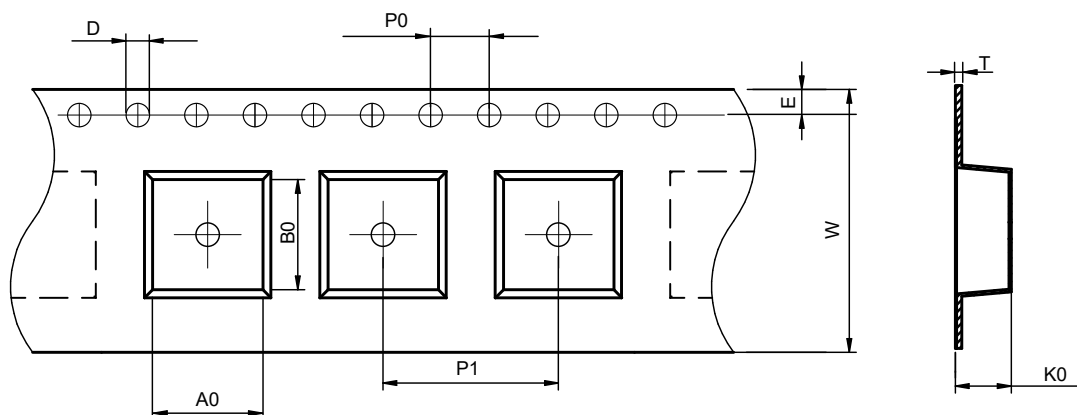
Max temperature: 260°C.

Max time at max temperature: 10 sec.

Allowed Reflow time: 2x max.

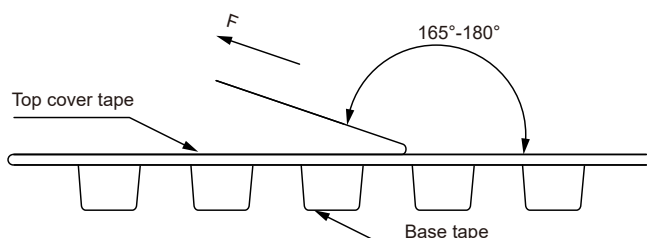
Packaging Information:

Tape Dimension:



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDSA7030	7.0±0.3	7.7±0.3	1.5±0.1	4.0±0.1	12.0±0.1	16.0±0.3	3.3±0.1	1.75±0.1	0.35±0.05

Peel force of top cover tape:

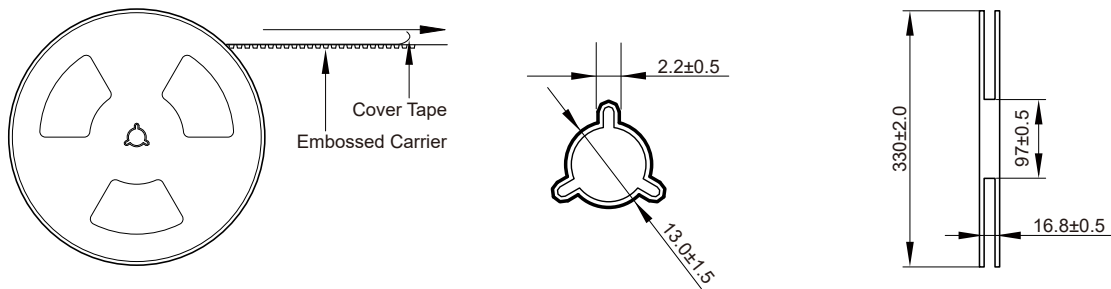


The peel force of top cover tape shall be between 0.1 to 1.3 N

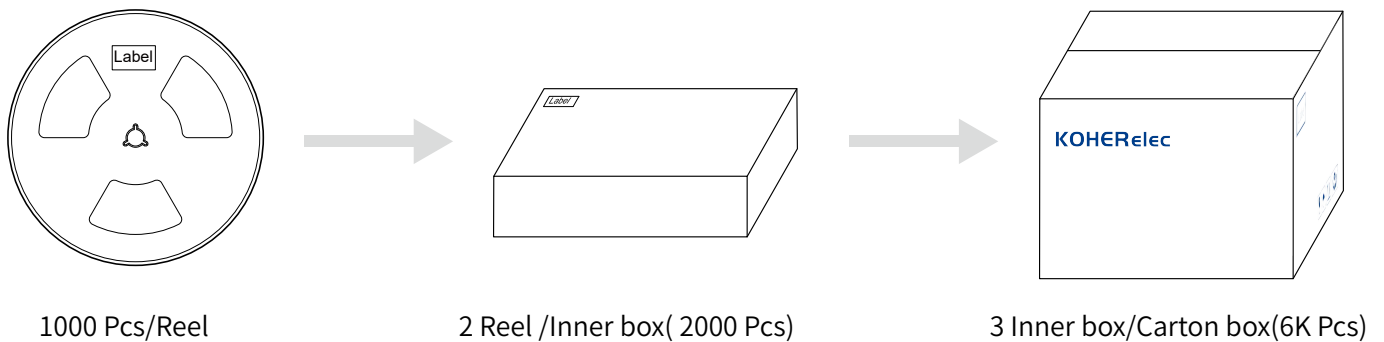
Product Marking:

Marking	K+Printing (Inductance+period)
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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.