

MDSA Series

SMD Low Profile High Current Molded Inductor

Size 1040



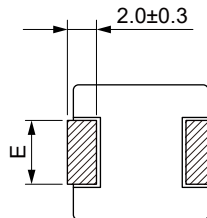
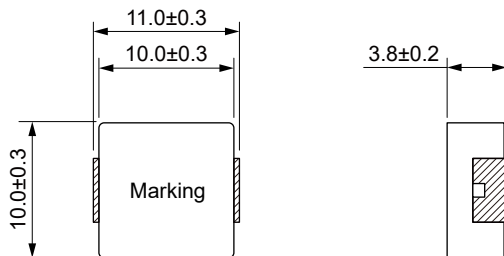
FEATURES

- 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: 500PCS

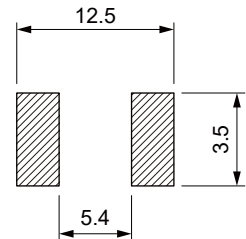
APPLICATION

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

Dimensions: [mm]



Land Pattern: [mm]



Electrical Properties:

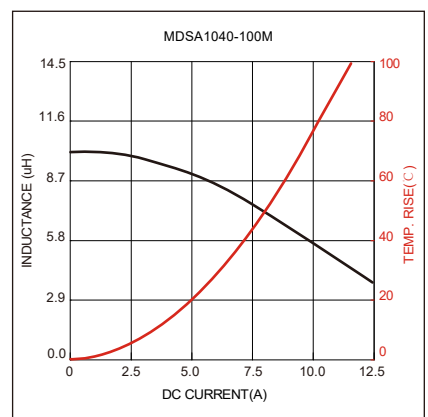
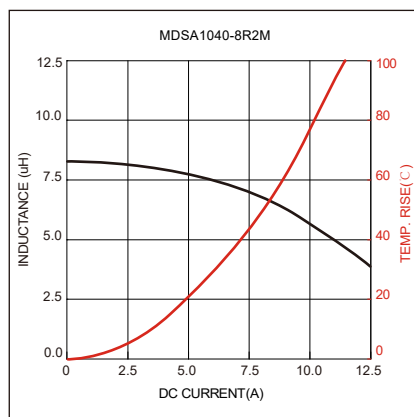
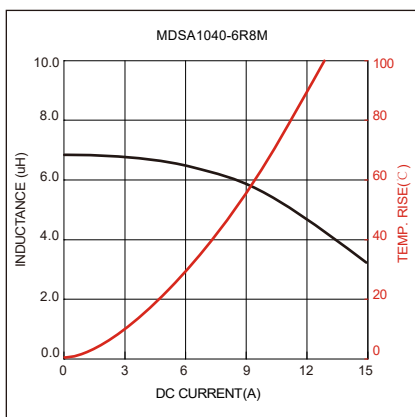
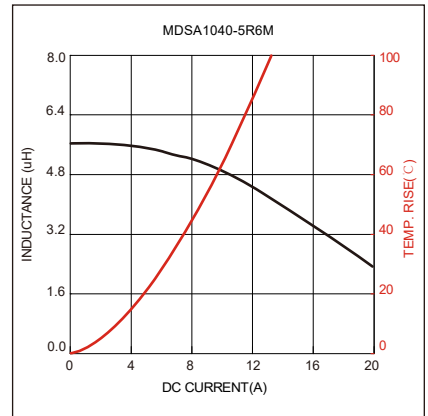
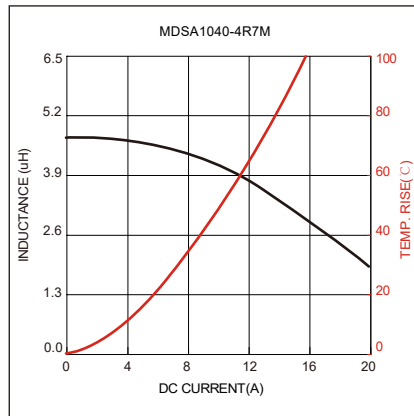
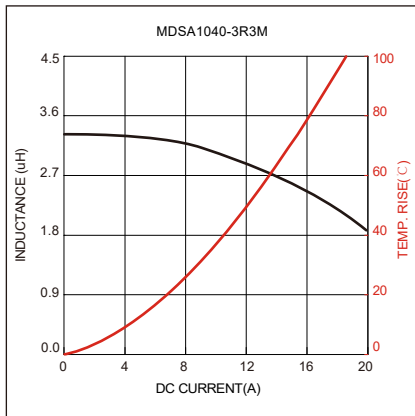
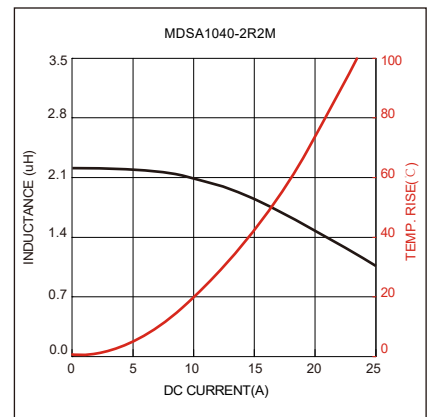
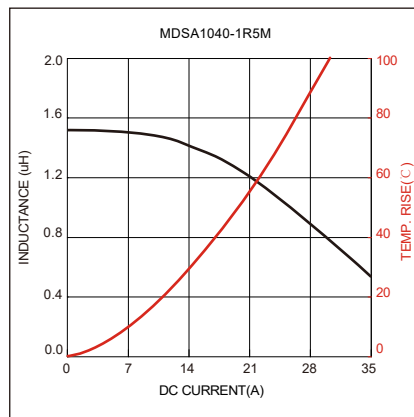
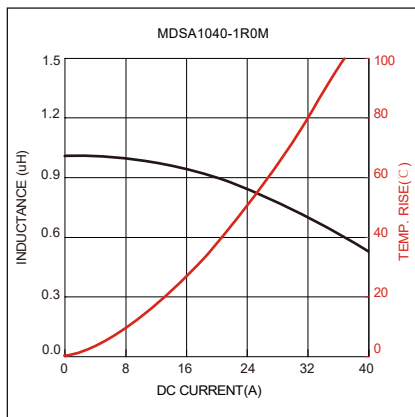
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDSA1040-1R0M	1.00	±20%	19.0	28.0	3.00	3.55	2.5±0.3
MDSA1040-1R5M	1.50	±20%	16.8	25.0	3.80	4.40	2.5±0.3
MDSA1040-2R2M	2.20	±20%	14.4	19.2	5.90	7.00	3.0±0.3
MDSA1040-3R3M	3.30	±20%	10.5	16.8	10.7	12.0	3.0±0.3
MDSA1040-4R7M	4.70	±20%	8.40	14.6	16.0	19.5	3.0±0.3
MDSA1040-5R6M	5.60	±20%	7.60	13.5	19.2	23.3	3.0±0.3
MDSA1040-6R8M	6.80	±20%	7.40	11.7	22.2	25.0	3.0±0.3
MDSA1040-8R2M	8.20	±20%	7.20	9.00	25.5	29.0	3.0±0.3
MDSA1040-100M	10.0	±20%	7.20	8.20	27.5	31.0	3.0±0.3
MDSA1040-150M	15.0	±20%	5.90	6.70	42.0	46.0	3.0±0.3

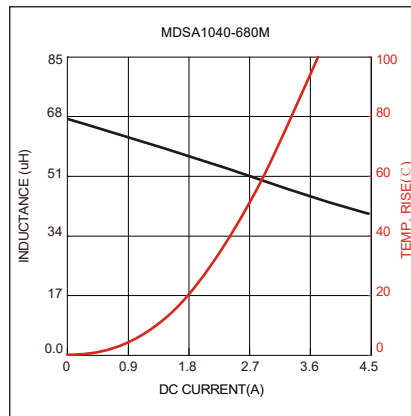
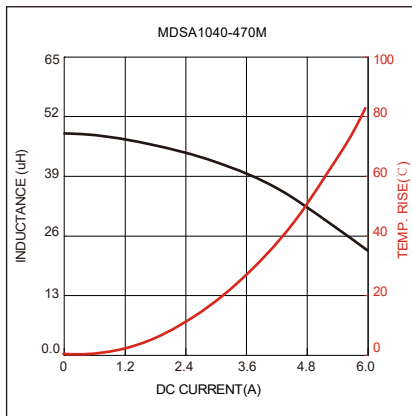
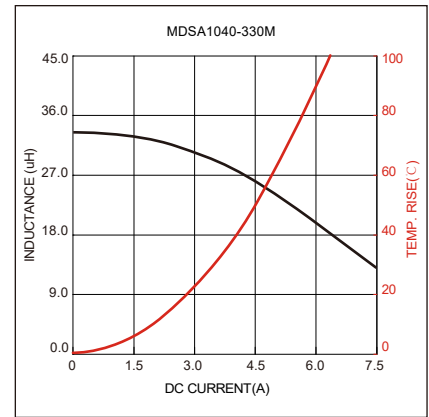
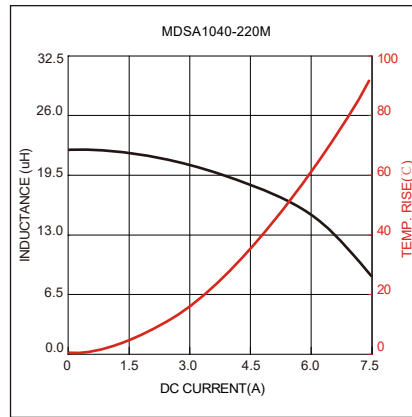
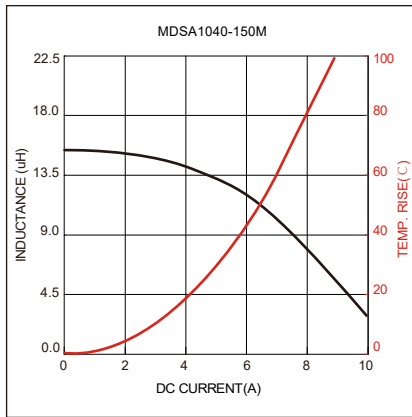
Part No	Inductance @ 100KHz/1V (μ H)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (m Ω)	DC Resistance Max. (m Ω)	E
MDSA1040-220M	22.0	$\pm 20\%$	4.70	5.90	59.0	67.0	3.0 ± 0.3
MDSA1040-330M	33.0	$\pm 20\%$	4.20	5.20	85.0	92.0	3.0 ± 0.3
MDSA1040-470M	47.0	$\pm 20\%$	3.30	4.70	126	144	3.0 ± 0.3
MDSA1040-680M	68.0	$\pm 20\%$	2.40	3.10	193	212	3.0 ± 0.3

Saturation Current will cause L to drop approximately 30%

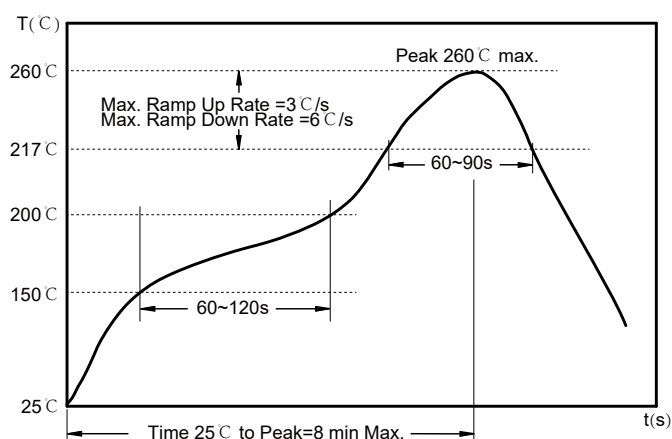
Temperature Rise Current: The actual value of DC current when the temperature rise is $\Delta T = 40^\circ\text{C}$

Typical Electrical Characteristics:





Soldering Reflow:



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

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

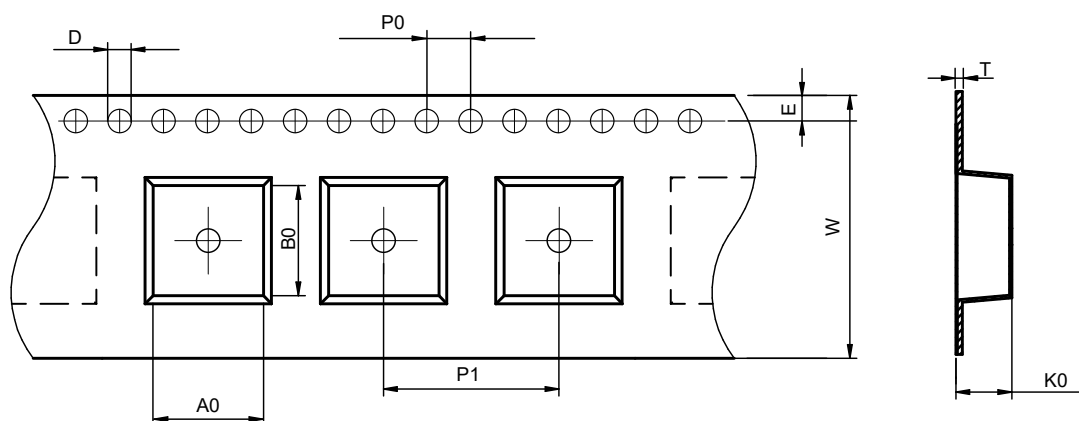
Max temperature: 260 °C .

Max time at max temperature: 10 sec.

Allowed Reflow time: 2x max.

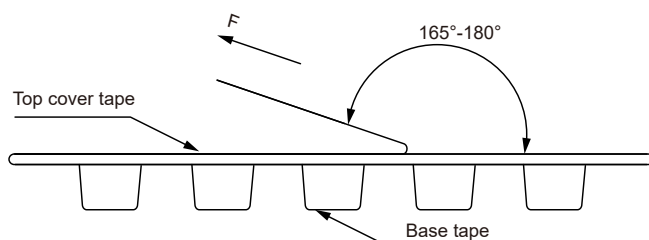
Packaging Information:

Tape Dimension:



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDSA1040	10.4±0.1	11.6±0.1	1.5±0.1	4.0±0.1	16.0±0.1	24.0±0.3	4.3±0.1	1.75±0.1	0.35±0.05

Peel force of top cover tape:

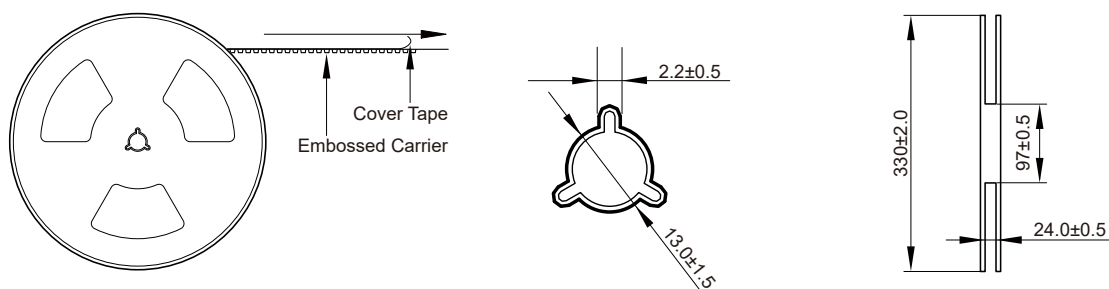


The peel force of top cover tape shall be between 0.1 to 1.3 N

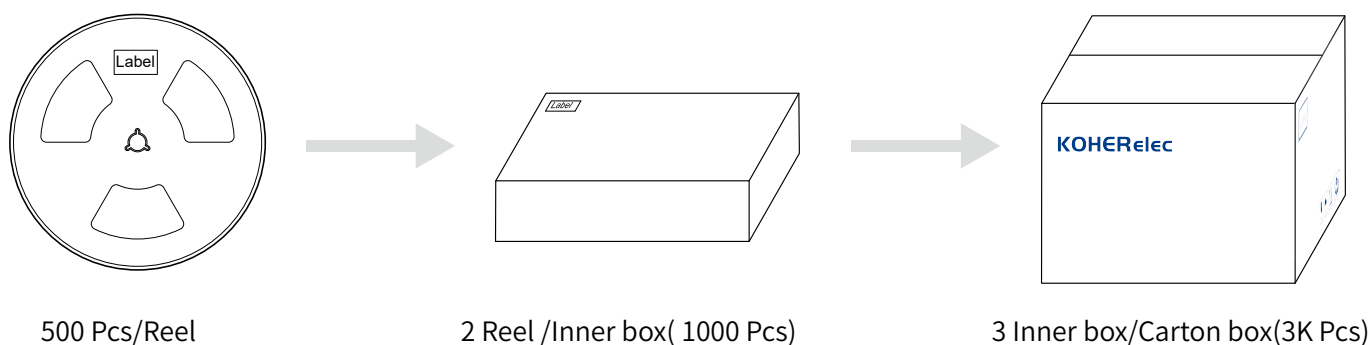
Product Marking:

Marking	KH+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.