MDSA Series

SMD Low Profile High Current Molded Inductor

Size 1365

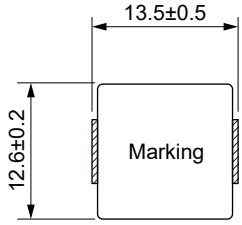
FEATURES

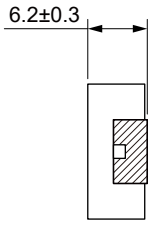
- Shielded construction
- Capable of corresponding high frequency .
- Low loss realized with low DCR.
- High performance (Isat) realized by metal dust core.
- Ultra low buzz noise, due to composite construction.
- 100% Lead(Pb)-Free and RoHS compliant.
- AEC-Q200 qualified
- Operating temperature: -55 to +155 °C(including self-temperature rise)
- Quantity: 500PCS

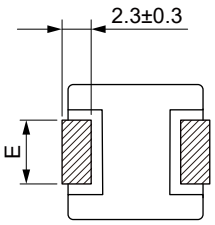
APPLICATION

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

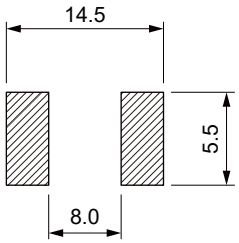
Dimensions: [mm]







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)	E
MDSA1365-R47M	0.47	±20%	40.0	66.0	0.95	1.10	4.7±0.3
MDSA1365-R68M	0.68	±20%	35.0	54.0	1.40	1.60	4.0±0.3
MDSA1365-1R0M	1.00	±20%	32.0	44.0	1.60	1.90	4.0±0.3
MDSA1365-1R5M	1.50	±20%	28.0	34.0	2.30	2.70	4.0±0.3
MDSA1365-2R2M	2.20	±20%	24.0	28.0	3.90	4.40	4.7±0.3
MDSA1365-3R3M	3.30	±20%	21.0	26.0	5.50	6.50	4.7±0.3
MDSA1365-4R7M	4.70	±20%	19.0	24.0	7.20	8.40	4.7±0.3
MDSA1365-5R6M	5.60	±20%	17.5	22.0	8.80	10.3	4.7±0.3
MDSA1365-6R8M	6.80	±20%	16.0	20.0	10.2	11.8	4.7±0.3
MDSA1365-8R2M	8.20	±20%	14.5	18.5	12.5	14.5	4.7±0.3
MDSA1365-100M	10.0	±20%	12.5	16.5	13.8	16.8	4.7±0.3
MDSA1365-150M	15.0	±20%	10.6	13.0	23.0	27.0	4.7±0.3

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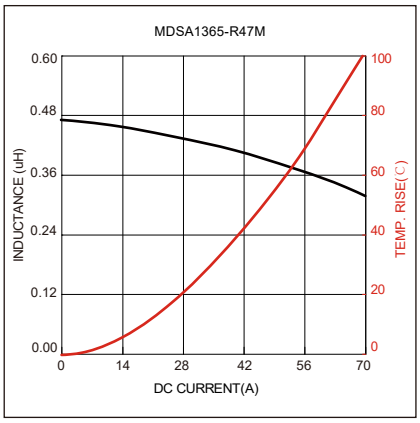
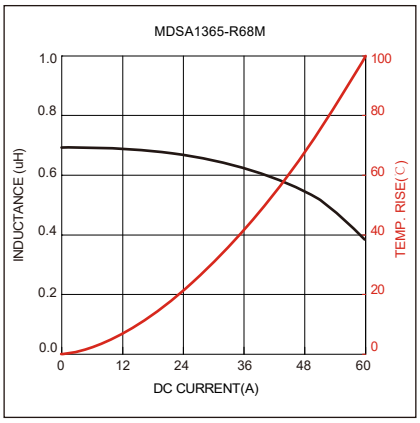
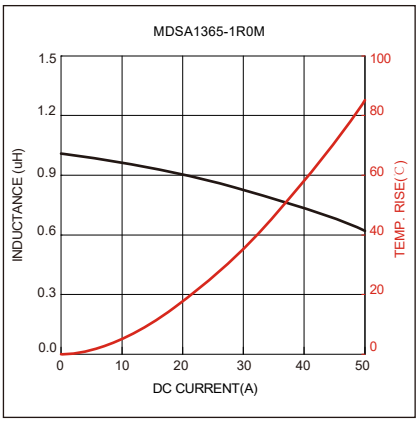
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDSA1365-220M	22.0	±20%	9.60	9.80	32.0	36.0	4.7±0.3
MDSA1365-330M	33.0	±20%	8.70	8.80	47.0	56.0	4.7±0.3
MDSA1365-470M	47.0	±20%	7.80	7.50	60.0	69.0	4.7±0.3
MDSA1365-680M	68.0	±20%	5.60	5.80	85.0	103.0	4.7±0.3

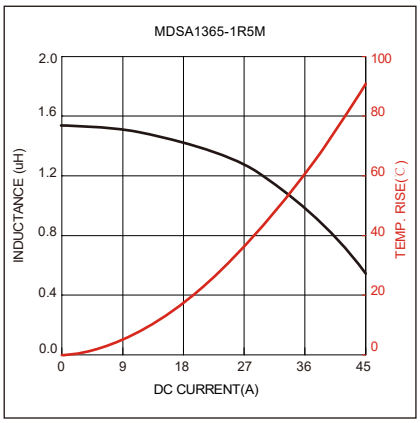
Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is △T=40°C

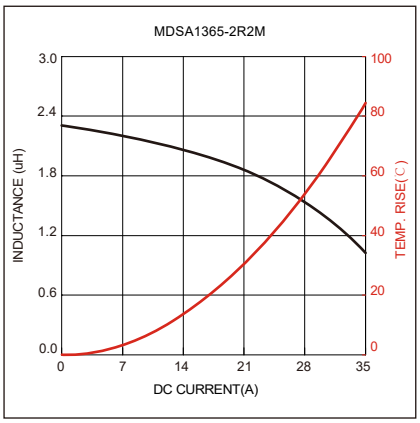
Typical Electrical Characteristics:

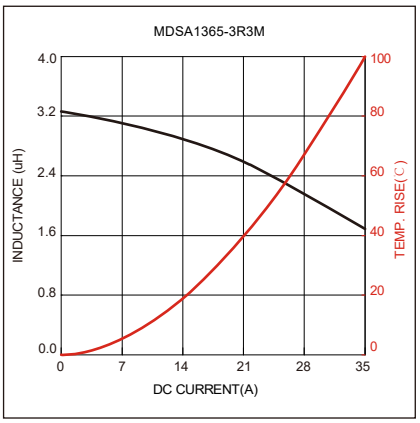


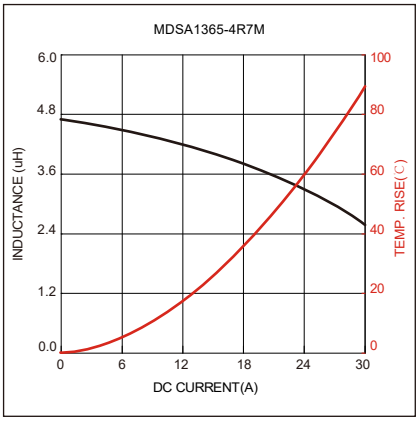


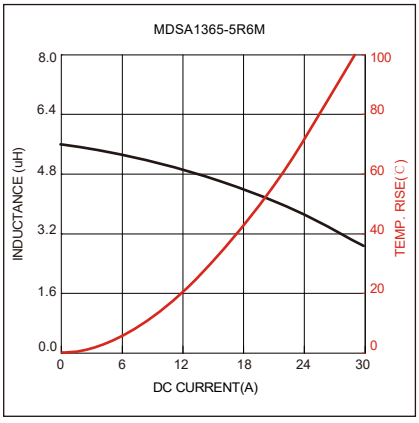


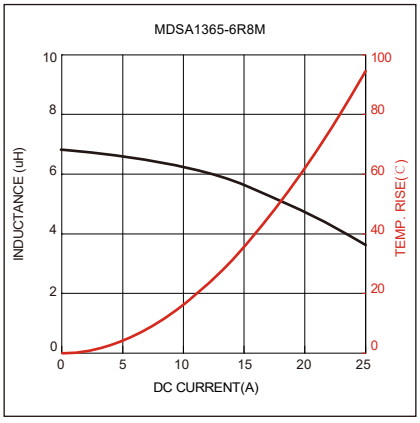


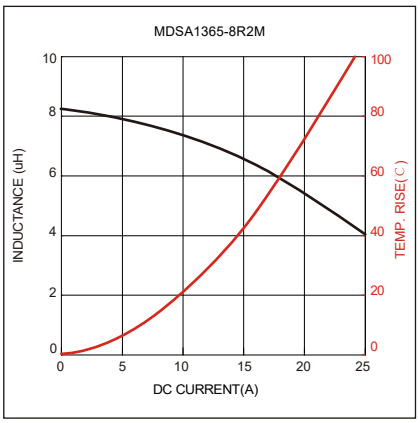


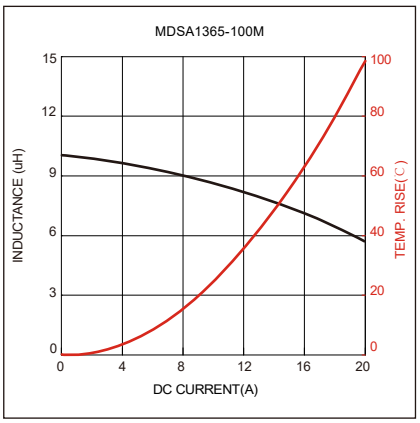


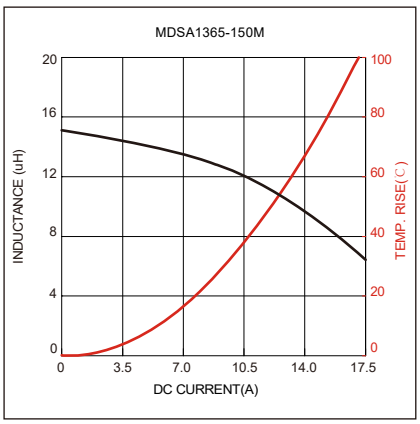


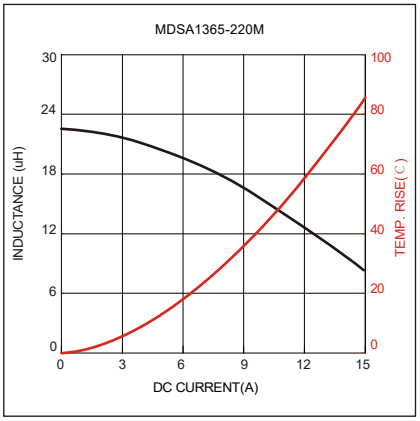


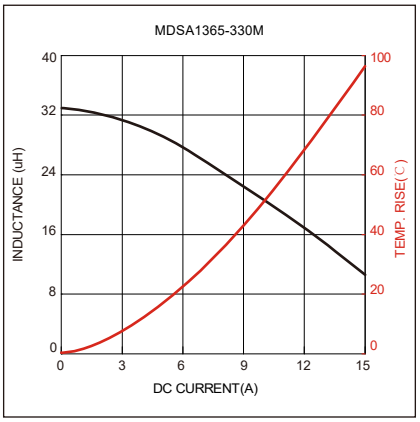


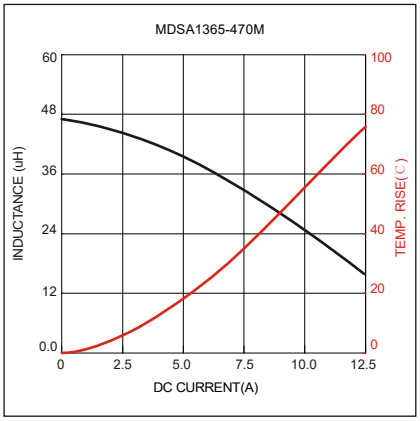

MDSA1365-8R2M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0 2 4 6 8 10
0 20 40 60 80 100
0 5 10 15 20 25

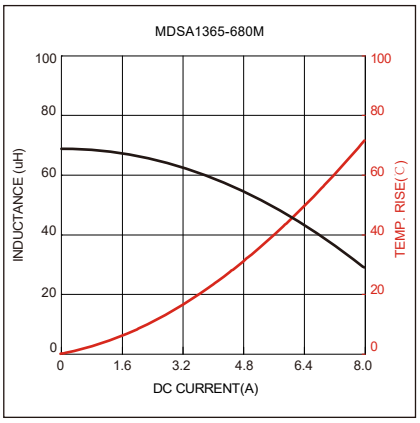

MDSA1365-100M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0 3 6 9 12 15
0 20 40 60 80 100
0 4 8 12 16 20


MDSA1365-150M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0 4 8 12 16 20
0 20 40 60 80 100
0 3.5 7.0 10.5 14.0 17.5

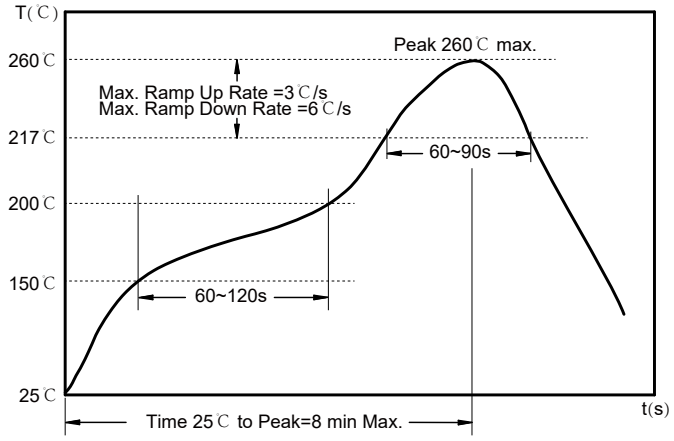

MDSA1365-220M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0 6 12 18 24 30
0 20 40 60 80 100
0 3 6 9 12 15


MDSA1365-330M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0 8 16 24 32 40
0 20 40 60 80 100
0 3 6 9 12 15


MDSA1365-470M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0.0 12 24 36 48 60
0 20 40 60 80 100
0 2.5 5.0 7.5 10.0 12.5


MDSA1365-680M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0 20 40 60 80 100
0 20 40 60 80 100
0 1.6 3.2 4.8 6.4 8.0

Soldering Reflow:



Preheat condition: 150 ~200℃/ 60~120 sec.

Allowed time above 217℃: 60~90 sec.

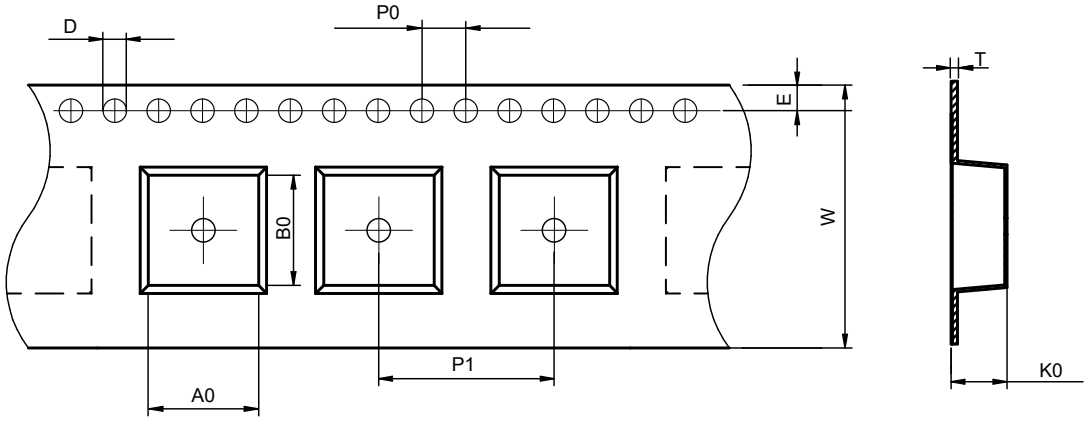
Max temperature: 260℃.

Max time at max temperature: 10 sec.

Allowed Reflow time: 2x max.

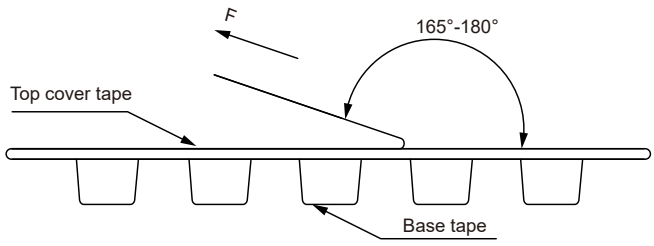
Packaging Information:

Tape Dimension:



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDSA1365	13.1±0.1	14.0±0.1	1.5±0.1	4.0±0.1	16.0±0.1	24.0±0.3	6.8±0.1	1.75±0.1	0.50±0.05

Peel force of top cover tape:

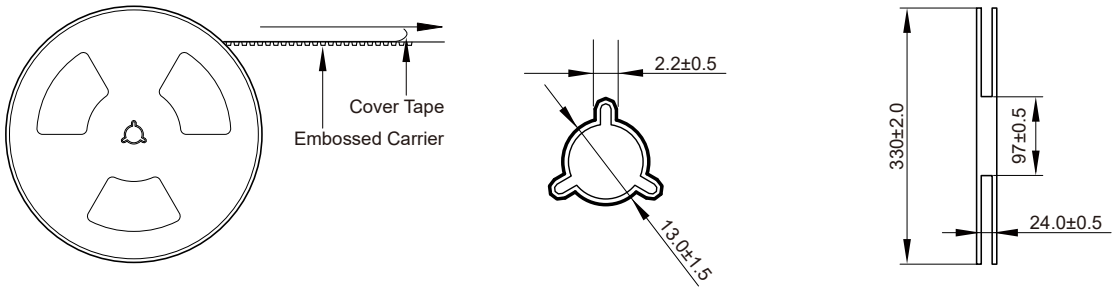


The peel force of top cover tape shall be between 0.1 to 1.3 N

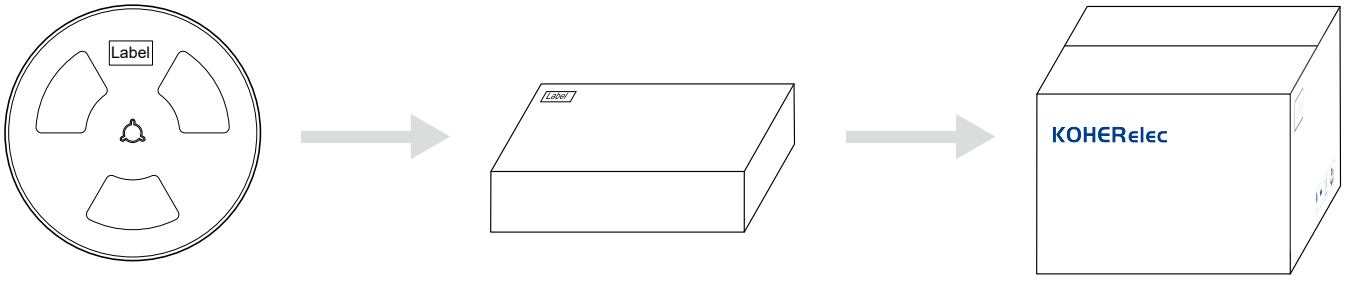
Product Marking:

Marking	KH+Printing (Inductance)

Reel Dimension：[mm]



Packaging Quantity:



500 Pcs/Reel

2 Reel /Inner box(1000 Pcs)

2 Inner box/Carton box(2K Pcs)

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.