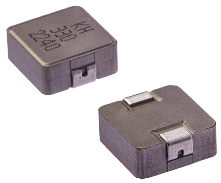
MDA Series

SMD Low Profile High Current Molded Inductor

Size 1050



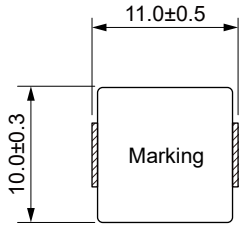
FEATURES

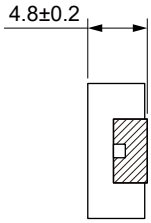
- Shielded construction
- Capable of corresponding high frequency .
- Low loss realized with low DCR.
- High performance (Isat) realized by metal dust core.
- Ultra low buzz noise, due to composite construction.
- 100% Lead(Pb)-Free and RoHS compliant.
- AEC-Q200 qualified
- Operating temperature: -55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

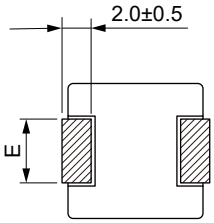
APPLICATION

- Headlamps, tail lamps and interior lighting
- HVAC
- Doors, window lift and seat control
- Audio subsystem
- Digital instrument cluster
- In-Vehicle Infotainment and navigation

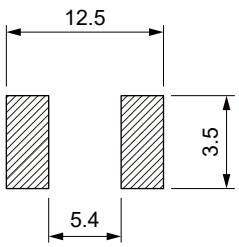
Dimensions: [mm]







Land Pattern: [mm]



Electrical Properties:

Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDA1050-R36M	0.36	±20%	34.0	30.0	52.0	46.0	0.82	0.92	3.0±0.3
MDA1050-R47M	0.47	±20%	33.0	29.0	46.0	40.0	1.15	1.32	3.0±0.3
MDA1050-R68M	0.68	±20%	28.0	25.0	35.0	32.0	1.60	1.90	2.5±0.3
MDA1050-1R0M	1.00	±20%	25.0	23.0	33.0	30.0	2.60	3.00	2.5±0.3
MDA1050-1R5M	1.50	±20%	23.0	21.0	27.0	24.0	3.40	3.80	2.5±0.3
MDA1050-2R2M	2.20	±20%	19.5	17.5	20.0	18.0	5.10	5.60	3.0±0.3
MDA1050-3R3M	3.30	±20%	17.0	15.0	17.5	15.5	8.10	9.10	3.0±0.3
MDA1050-4R7M	4.70	±20%	15.0	13.0	16.0	14.0	9.30	10.5	3.0±0.3
MDA1050-5R6M	5.60	±20%	13.0	11.0	15.0	12.5	12.8	14.4	3.0±0.3
MDA1050-6R8M	6.80	±20%	12.0	10.0	14.0	12.0	15.0	17.3	3.0±0.3
MDA1050-8R2M	8.20	±20%	10.0	8.5	13.5	11.5	16.1	18.8	3.0±0.3
MDA1050-100M	10.0	±20%	7.6	7.2	13.0	11.0	18.9	21.8	3.0±0.3
MDA1050-150M	15.0	±20%	6.5	6.0	8.5	7.5	32.0	39.0	3.0±0.3
MDA1050-220M	22.0	±20%	6.0	5.5	6.0	5.5	44.0	54.0	3.0±0.3

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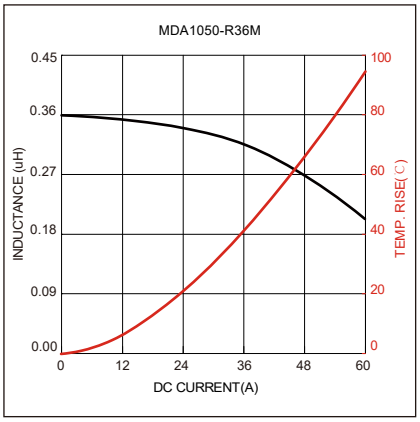
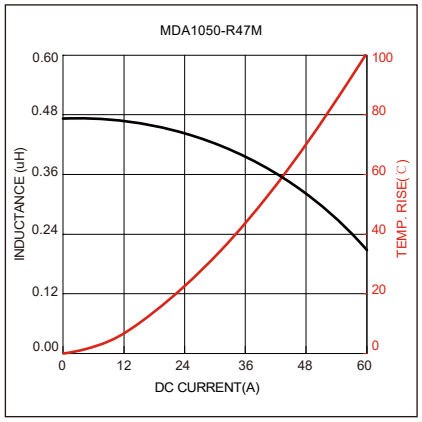
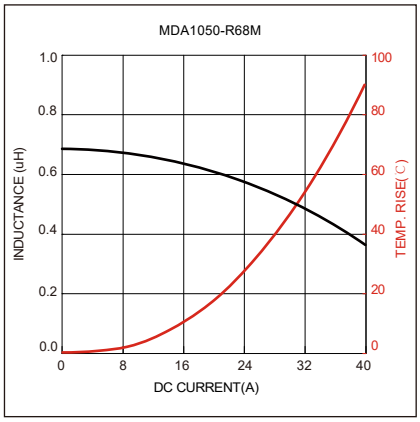
MDA1050-330M	33.0	±20%	5.5	5.0	5.8	5.2	74.0	86.0	3.0±0.3
MDA1050-470M	47.0	±20%	4.5	4.0	4.0	3.5	106	127	3.0±0.3

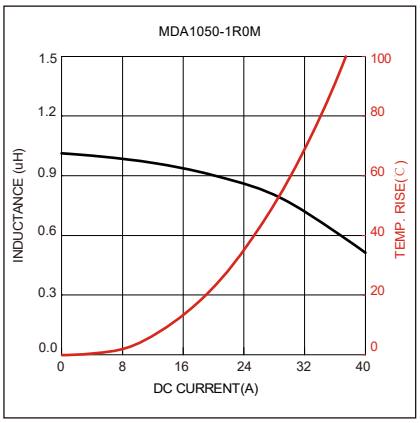
Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is △T=40°C

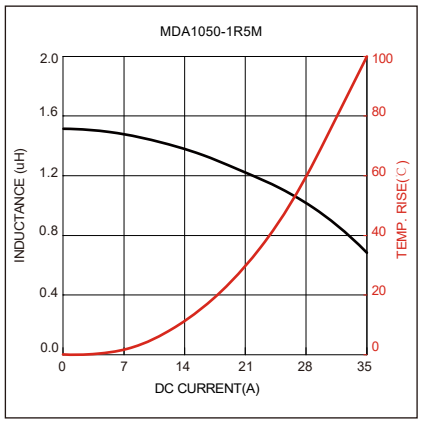
Typical Electrical Characteristics:

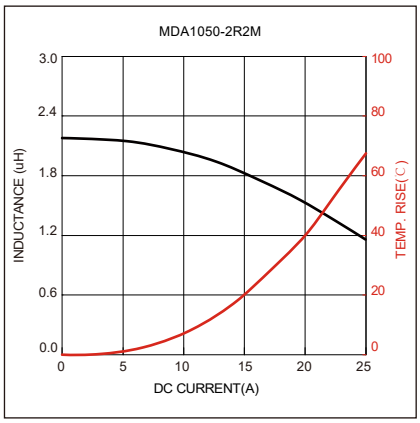


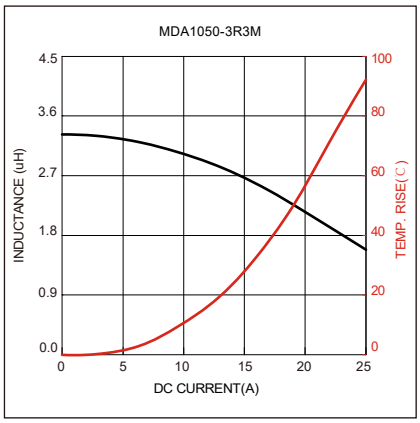


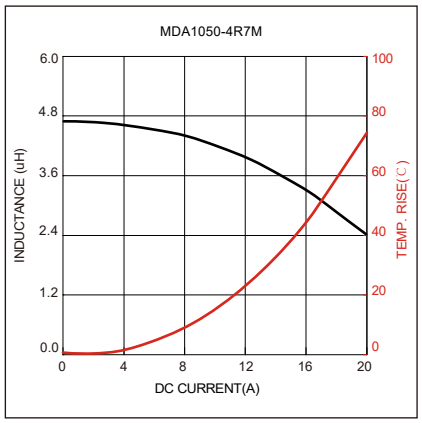


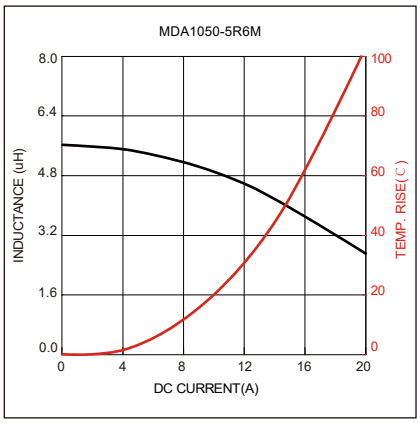


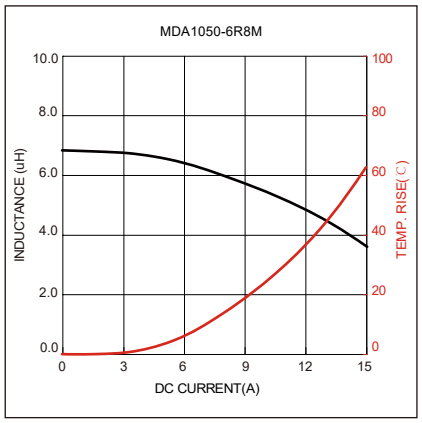


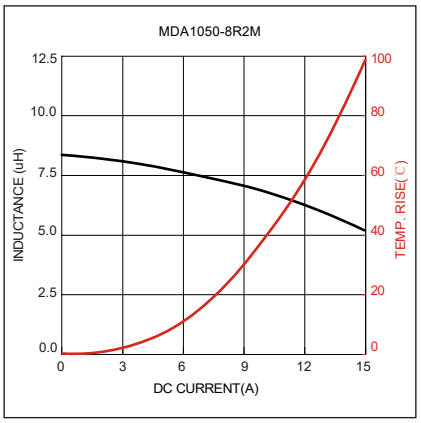


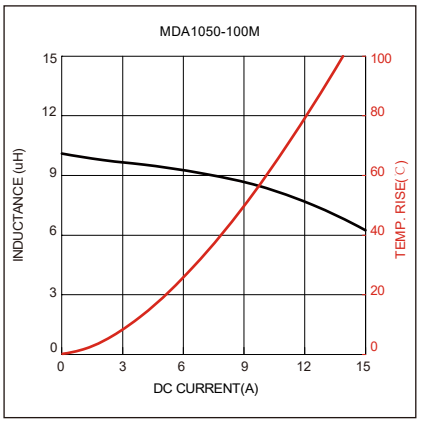


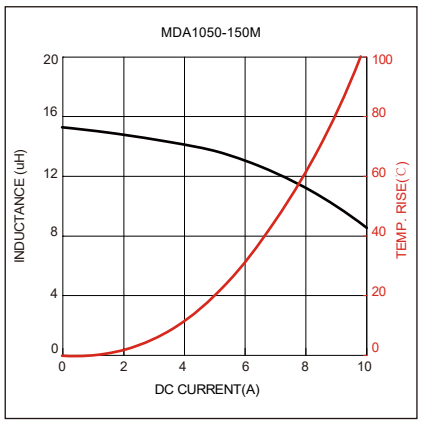


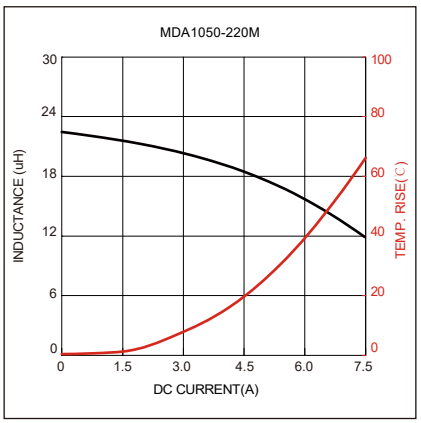


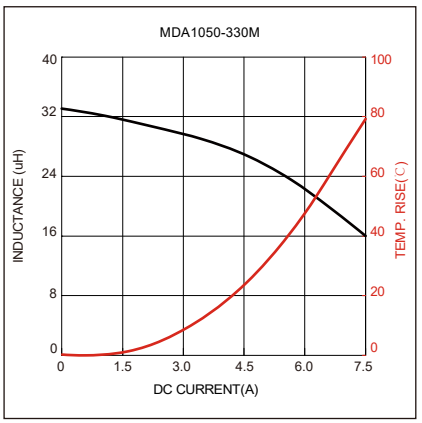

MDA1050-6R8M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
10.0
8.0
6.0
4.0
2.0
0.0
100
80
60
40
20
0
0
3
6
9
12
15

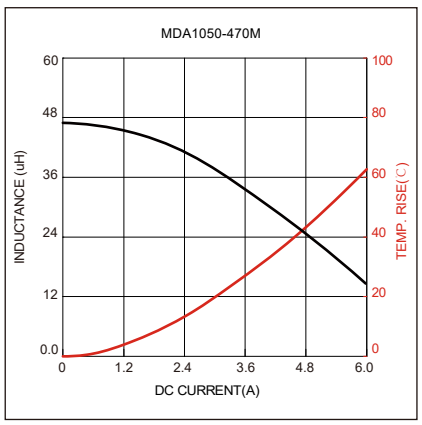

MDA1050-8R2M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
12.5
10.0
7.5
5.0
2.5
0.0
100
80
60
40
20
0
0
3
6
9
12
15


MDA1050-100M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
15
12
9
6
3
0
100
80
60
40
20
0
0
3
6
9
12
15

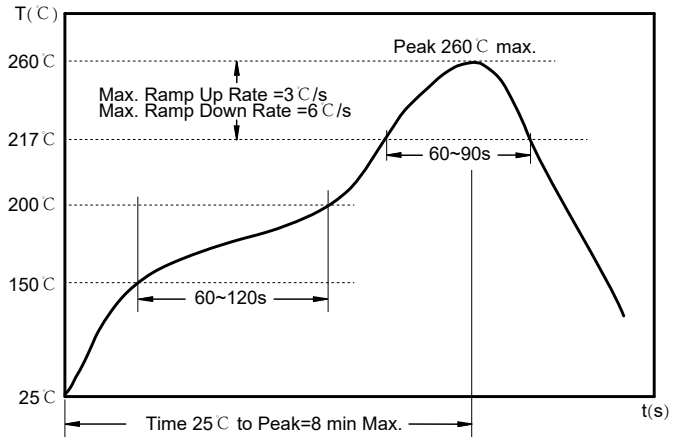

MDA1050-150M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
20
16
12
8
4
0
100
80
60
40
20
0
0
2
4
6
8
10


MDA1050-220M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
30
24
18
12
6
0
100
80
60
40
20
0
0
1.5
3.0
4.5
6.0
7.5


MDA1050-330M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
40
32
24
16
8
0
100
80
60
40
20
0
0
1.5
3.0
4.5
6.0
7.5


MDA1050-470M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
60
48
36
24
12
0.0
100
80
60
40
20
0
0
1.2
2.4
3.6
4.8
6.0

Soldering Reflow:



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

Allowed time above 217℃: 60~90 sec.

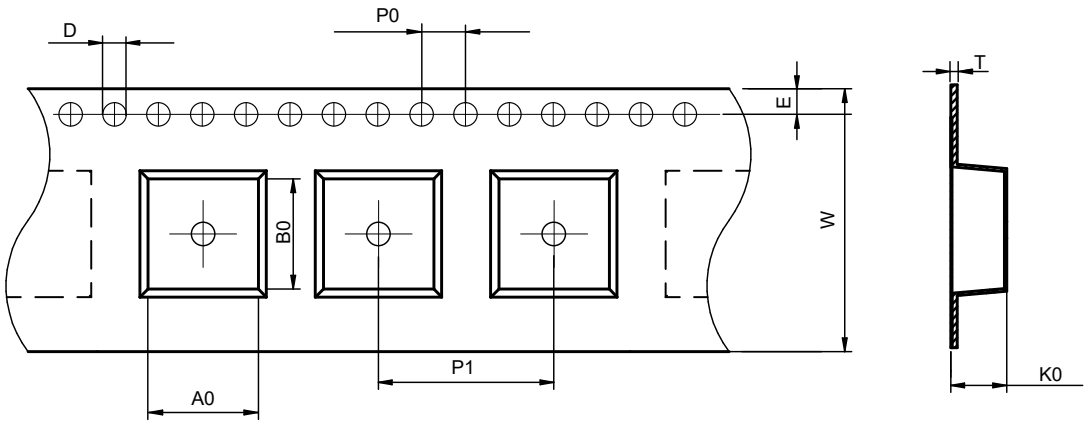
Max temperature: 260℃.

Max time at max temperature: 10 sec.

Allowed Reflow time: 2x max.

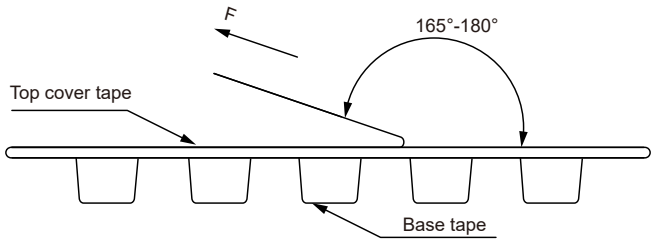
Packaging Information:

Tape Dimension:



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDA1050	10.4±0.1	11.6±0.1	1.5±0.1	4.0±0.1	16.0±0.1	24.0±0.3	5.4±0.1	1.75±0.1	0.40±0.05

Peel force of top cover tape:

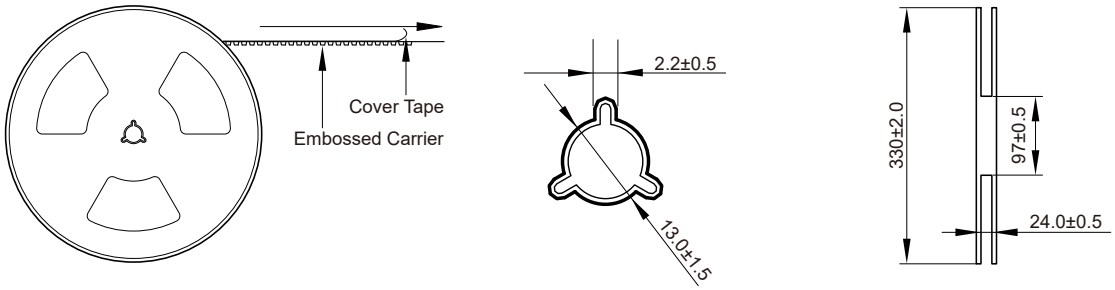


The peel force of top cover tape shall be between 0.1 to 1.3 N

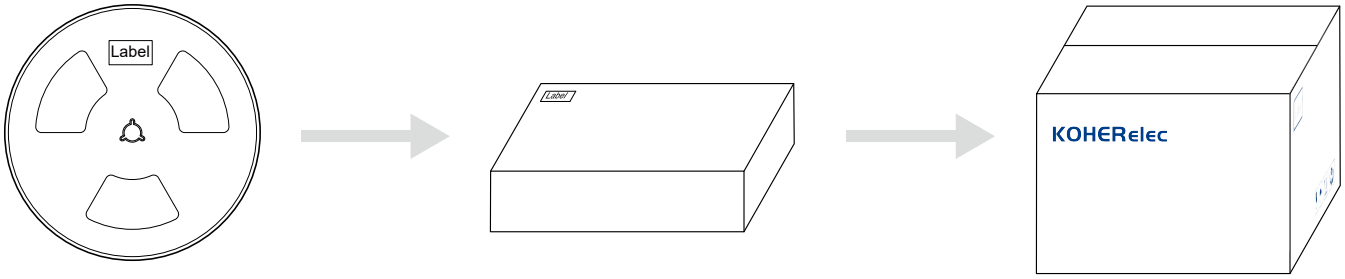
Product Marking:

Marking	KH+Printing (Inductance+period)

Reel Dimension： [mm]



Packaging Quantity:



500 Pcs/Reel

2 Reel /Inner box(1000 Pcs)

3 Inner box/Carton box(3K 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.