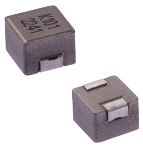
THE DATASHEET OF

MDA7050-100M

MDA Series

SMD Low Profile High Current Molded Inductor

Size 7050



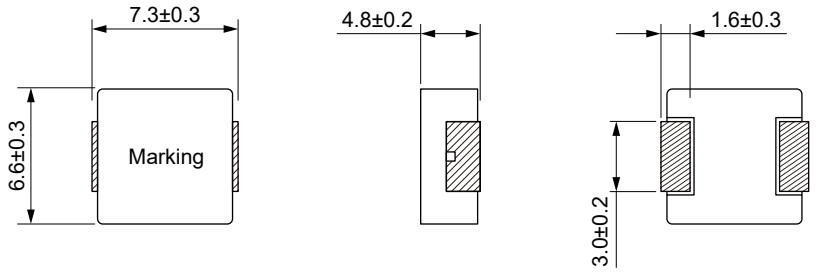
FEATURES

- 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

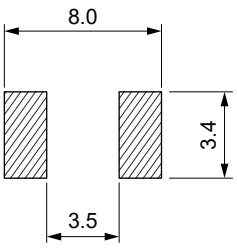
APPLICATION

- 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]



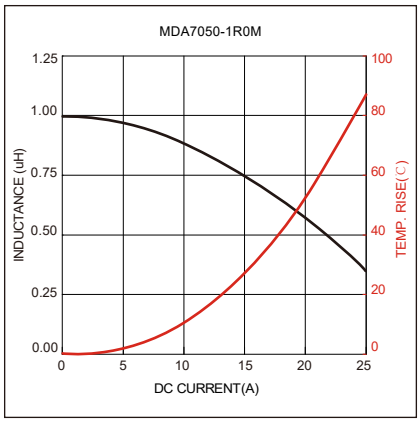
Electrical Properties:

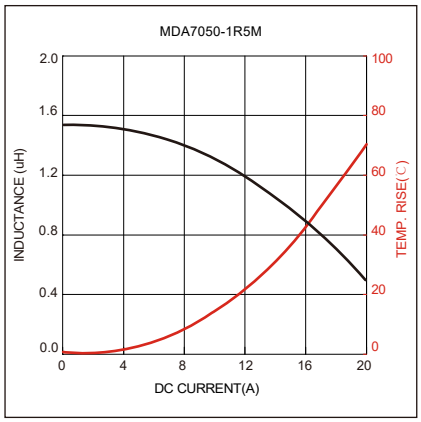
Part No	Inductance @ 100KHz/1V (µH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDA7050-1R0M	1.00	±20%	17.0	15.0	16.0	13.0	5.60	6.20
MDA7050-1R5M	1.50	±20%	15.0	13.0	13.0	10.5	6.60	7.30
MDA7050-2R2M	2.20	±20%	14.0	12.0	10.0	8.5	10.0	11.5
MDA7050-3R3M	3.30	±20%	13.0	11.0	9.5	8.0	14.0	16.2
MDA7050-4R7M	4.70	±20%	11.0	9.5	8.8	7.5	20.8	24.0
MDA7050-5R6M	5.60	±20%	10.0	8.5	8.0	7.2	28.0	33.0
MDA7050-6R8M	6.80	±20%	9.0	8.0	7.6	7.0	30.0	36.0
MDA7050-8R2M	8.20	±20%	7.5	6.5	6.5	6.0	38.5	45.0
MDA7050-100M	10.0	±20%	7.0	6.0	6.0	5.7	44.0	53.0
MDA7050-150M	15.0	±20%	5.0	4.0	4.0	3.2	73.0	85.0

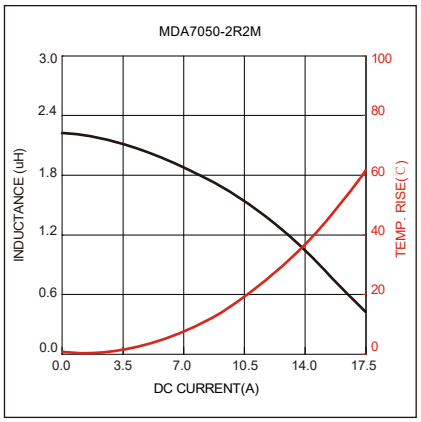
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDA7050-220M	22.0	±20%	4.2	3.6	3.6	3.1	122	142
MDA7050-330M	33.0	±20%	3.0	2.5	2.3	1.8	142	170
MDA7050-470M	47.0	±20%	2.6	2.0	1.8	1.5	275	320

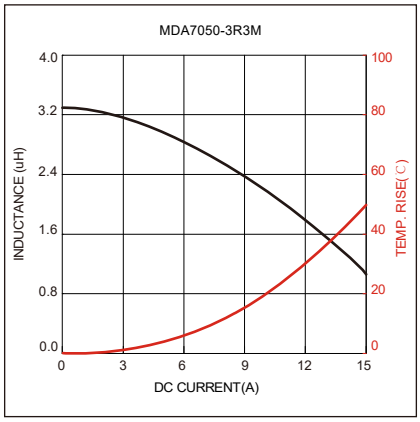
Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is △T=40°C

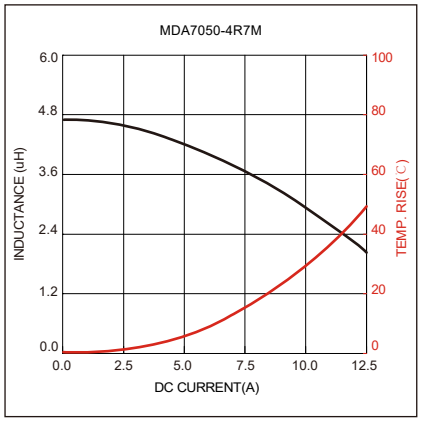
Typical Electrical Characteristics:

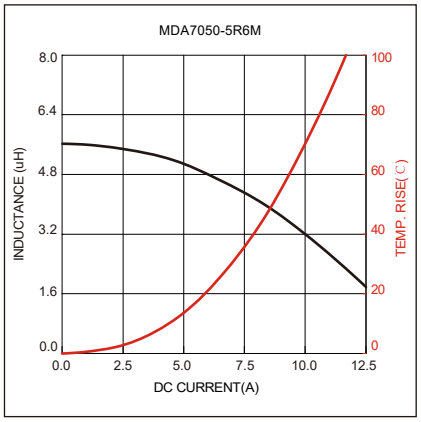


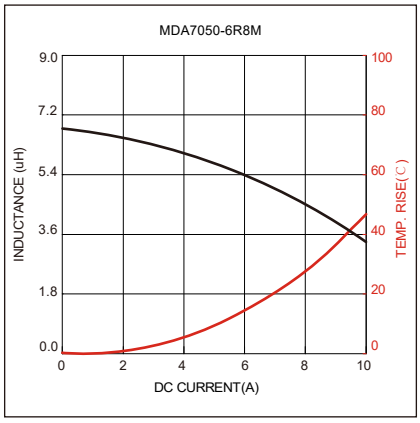


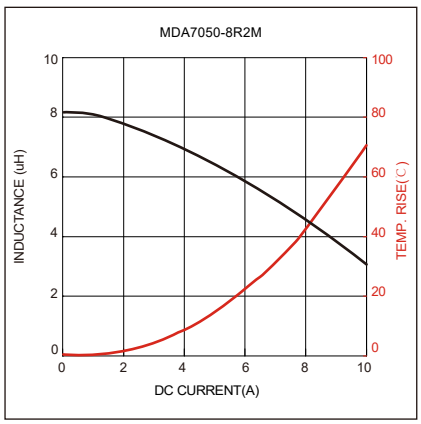


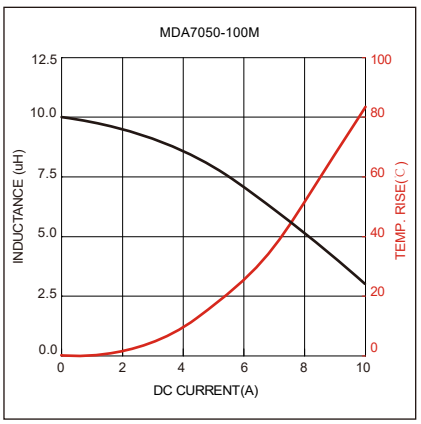


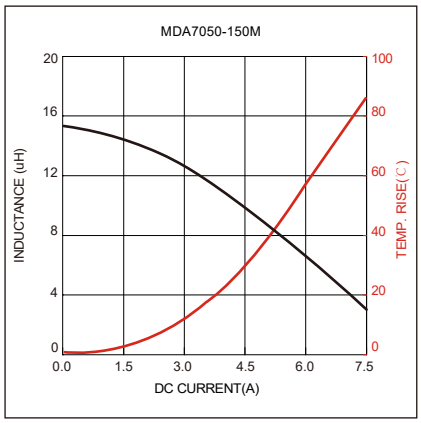


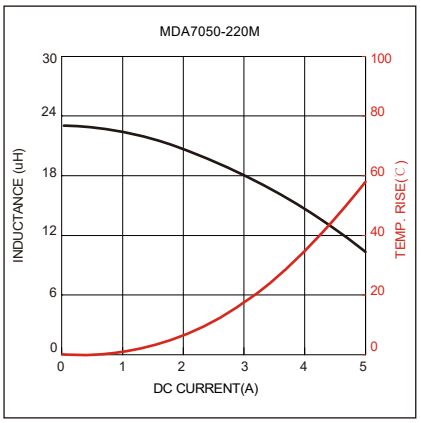


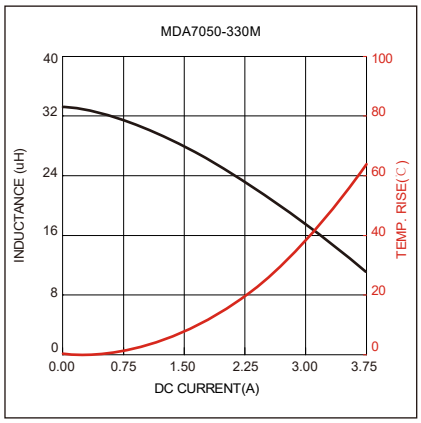


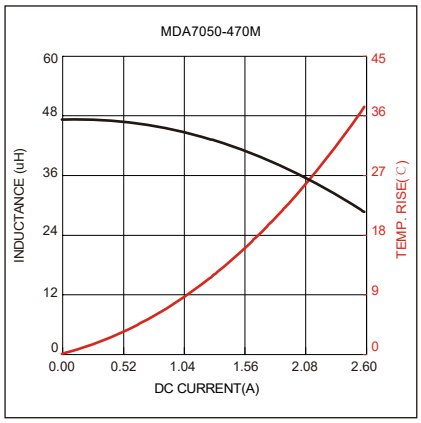




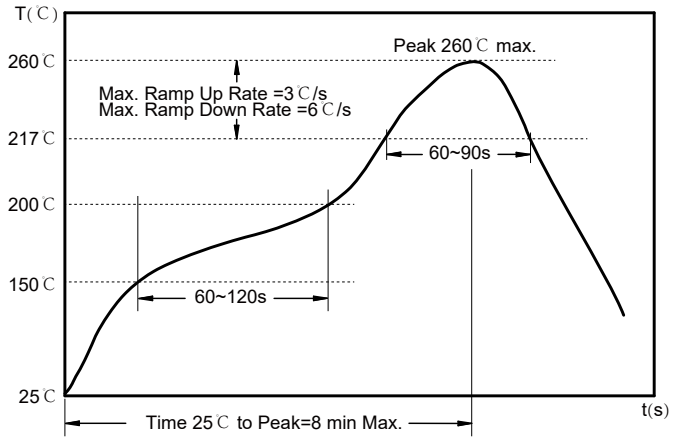

MDA7050-150M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0
4
8
12
16
20
0
20
40
60
80
100
0.0
1.5
3.0
4.5
6.0
7.5


MDA7050-220M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0
6
12
18
24
30
0
20
40
60
80
100
0
1
2
3
4
5


MDA7050-330M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0
8
16
24
32
40
0
20
40
60
80
100
0.00
0.75
1.50
2.25
3.00
3.75


MDA7050-470M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0
12
24
36
48
60
0
9
18
27
36
45
0.00
0.52
1.04
1.56
2.08
2.60

Soldering Reflow:



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

Allowed time above 217℃: 60~90 sec.

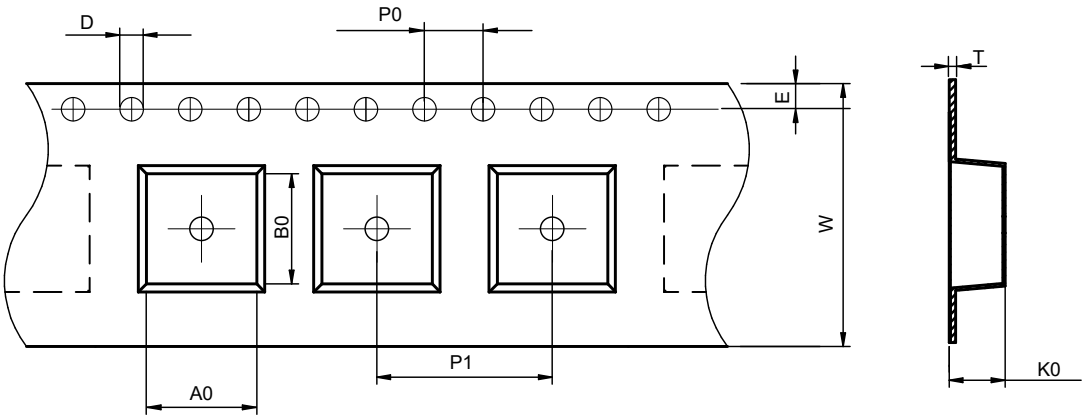
Max temperature: 260℃.

Max time at max temperature: 10 sec.

Allowed Reflow time: 2x max.

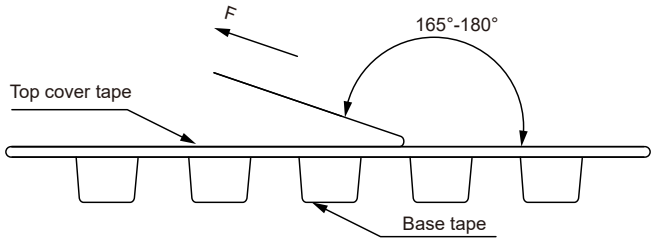
Packaging Information:

Tape Dimension:



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDA7050	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:

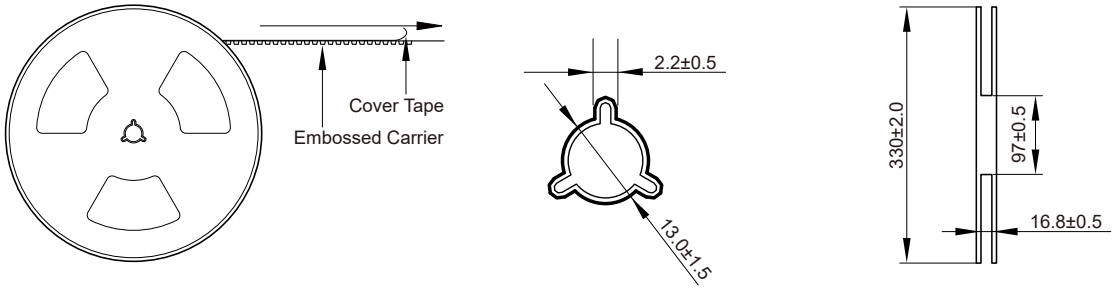


The peel force of top cover tape shall be between 0.1 to 1.3 N

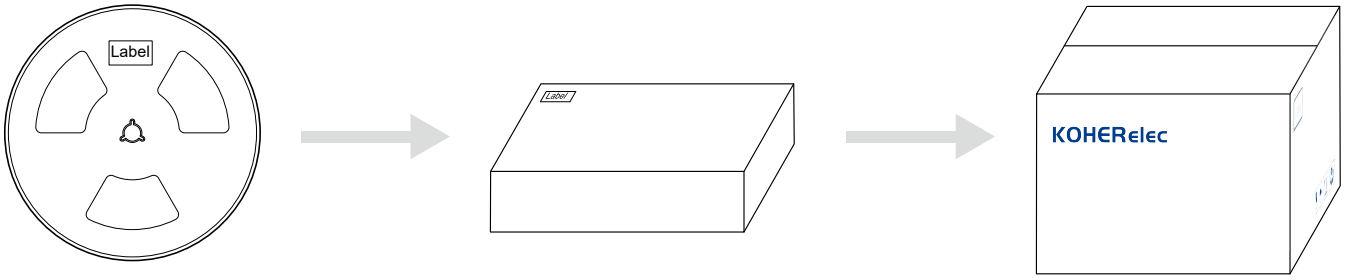
Product Marking:

Marking	K+Printing (Inductance+period)

Reel Dimension： [mm]



Packaging Quantity:



800 Pcs/Reel

2 Reel /Inner box(1600 Pcs)

3 Inner box/Carton box(4.8K 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.

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- Shortage Management
- Alternative Solution
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