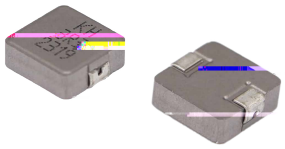
MDSA Series

SMD Low Profile High Current Molded Inductor
Size 1040



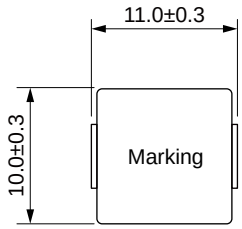
FEATURES

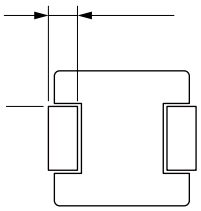
- Shielded construc on
- Capable of corresponding high frequency .
- Low loss realized with low DCR.
- High performance (Isat) realized by metal dust core.
- Ultra low buzz noise, due to composite construc on.
- 100% Lead(Pb)-Free and RoHS compliant.
- AEC-Q200 qualified
- Opera ng temperature: -55 to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

APPLICATION

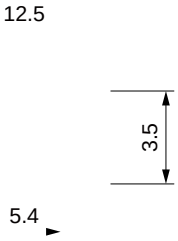
- Noise filter for various drive circuitry requiring high temp. opera on and peak current handing capability.
- Boost-Converter
- Buck-Converter DC/DC

Dimensions: [mm]





Land Pattern: [mm]



Electrical Properties:

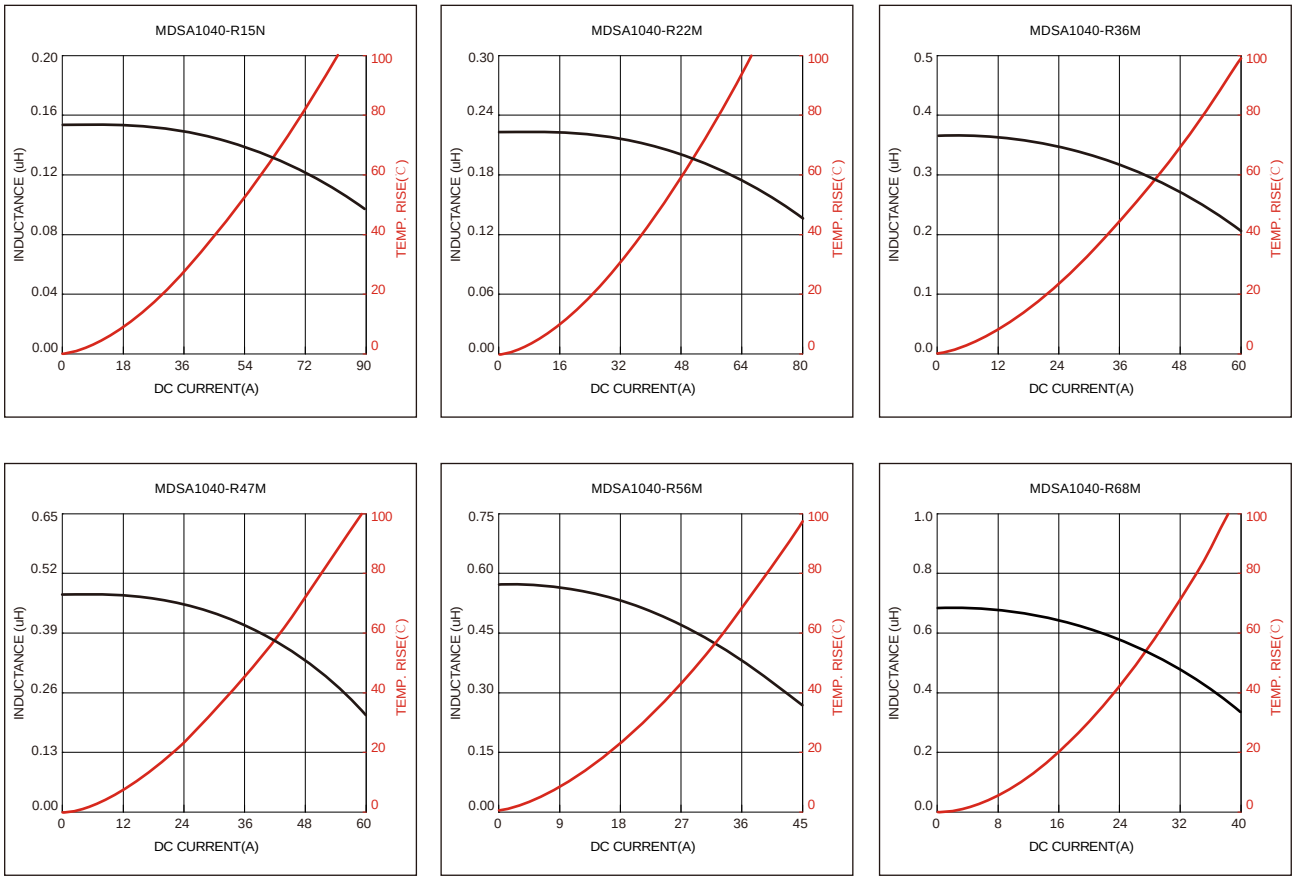
Part No		DC Resistance (mΩ)	Saturation Current Typ. (A)				
MDSA1040-R15N		0.61	82.0				
MDSA1040-R22M		0.84	70.0				
MDSA1040-R36M		1.20	51.0				
MDSA1040-R47M		1.52	46.0				
MDSA1040-R56M		1.82	34.0				
MDSA1040-R68M		2.22	31.0				
MDSA1040-1R0		3.28	29.0				
		4.25	26.0				
		5.75	23.0				

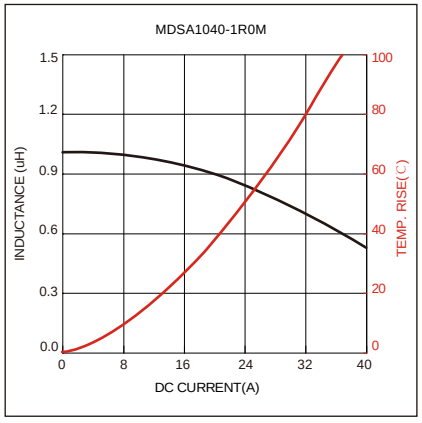
Rise Current Max (A)	Saturation Current Max. (A)	E (mm)
36.5	72.0	3.0±0.3
31.7	57.6	3.0±0.3
27.9	43.2	3.0±0.3
26.9	38.4	3.0±0.3
22.1	27.9	2.5±0.3
19.2	26.0	2.5±0.3

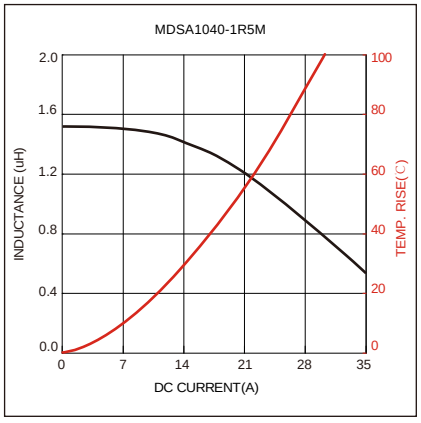
Tolerance	
±20%	5.85
±20%	10.6
±20%	16.0
±20%	19.2
±20%	22.2
±20%	
±20%	
±20%	
±20%	
±20%	
±20%	
±20%	

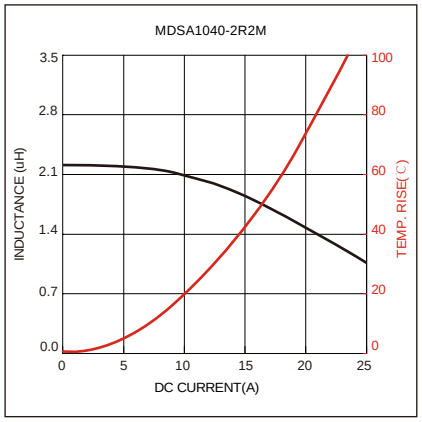
Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is △T=40°C

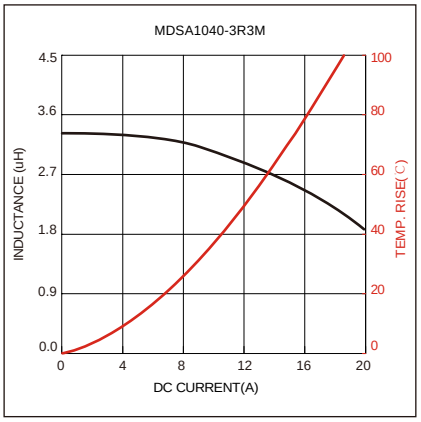
Typical Electrical Characteristics:

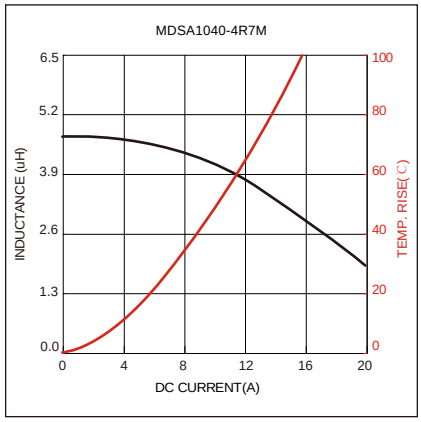


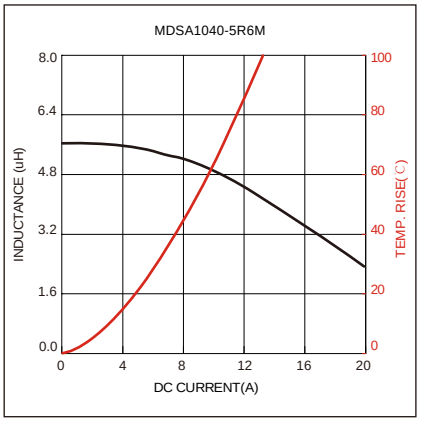

MDSA1040-1R0M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
1.5
1.2
0.9
0.6
0.3
0.0
100
80
60
40
20
0
0
8
16
24
32
40

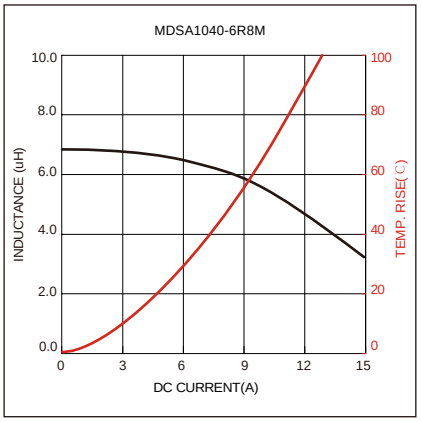

MDSA1040-1R5M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
2.0
1.6
1.2
0.8
0.4
0.0
100
80
60
40
20
0
0
7
14
21
28
35

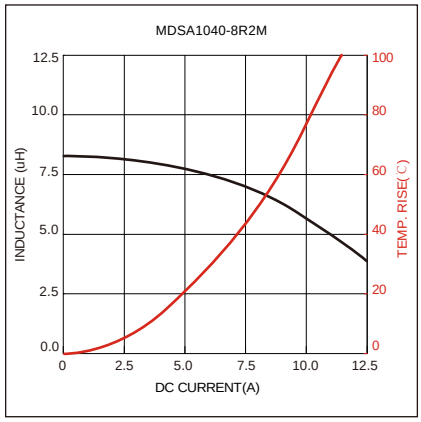

MDSA1040-2R2M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
3.5
2.8
2.1
1.4
0.7
0.0
100
80
60
40
20
0
0
5
10
15
20
25

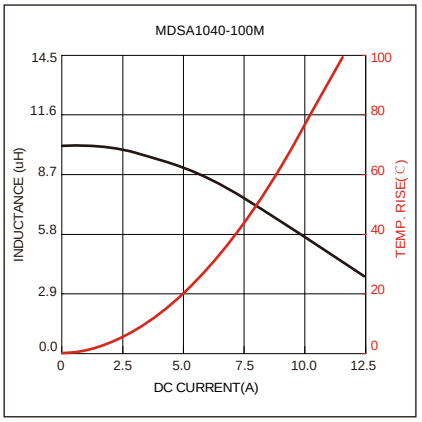

MDSA1040-3R3M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
4.5
3.6
2.7
1.8
0.9
0.0
100
80
60
40
20
0
0
4
8
12
16
20

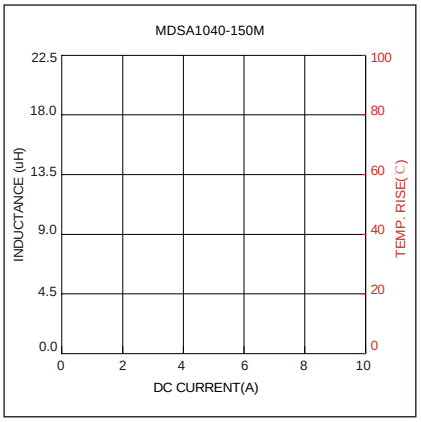

MDSA1040-4R7M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
6.5
5.2
3.9
2.6
1.3
0.0
100
80
60
40
20
0
0
4
8
12
16
20


MDSA1040-5R6M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
8.0
6.4
4.8
3.2
1.6
0.0
100
80
60
40
20
0
0
4
8
12
16
20

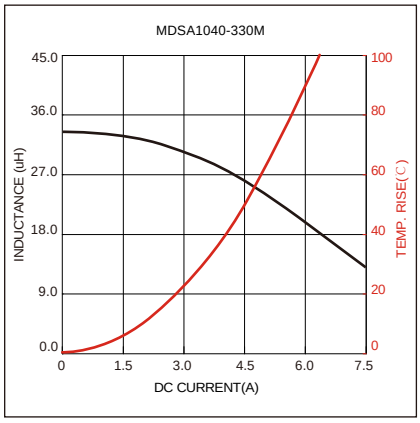

MDSA1040-6R8M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
10.0
8.0
6.0
4.0
2.0
0.0
100
80
60
40
20
0
0
3
6
9
12
15

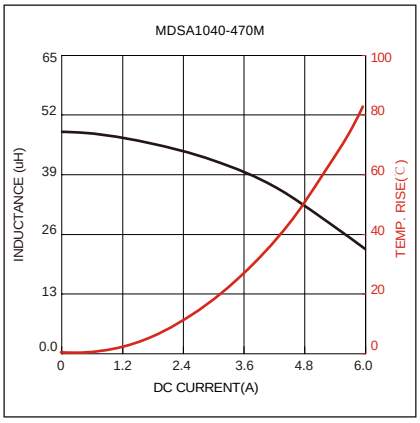

MDSA1040-8R2M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
12.5
10.0
7.5
5.0
2.5
0.0
100
80
60
40
20
0
0
2.5
5.0
7.5
10.0
12.5

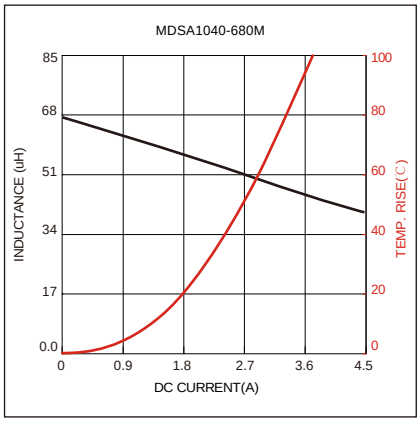

MDSA1040-100M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
14.5
11.6
8.7
5.8
2.9
0.0
100
80
60
40
20
0
0
2.5
5.0
7.5
10.0
12.5


MDSA1040-150M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
22.5
18.0
13.5
9.0
4.5
0.0
100
80
60
40
20
0
0
2
4
6
8
10

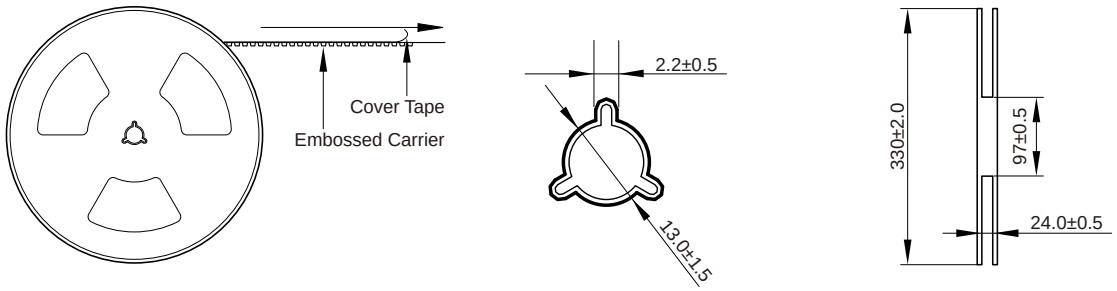
Typical Electrical Characteristics:



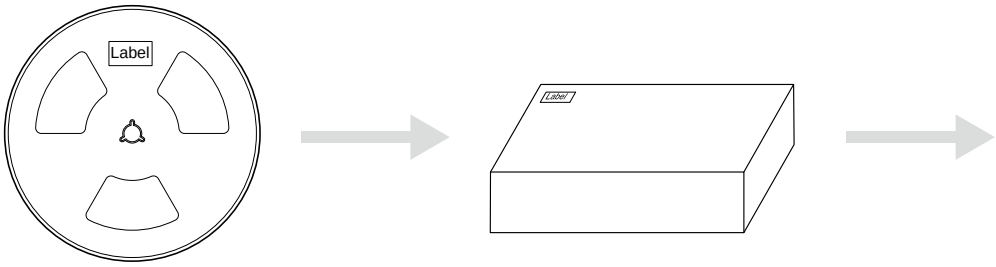




Reel Dimension：[mm]



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.