NRSA Series

SMD Power Inductors for Automotive

Size 5040



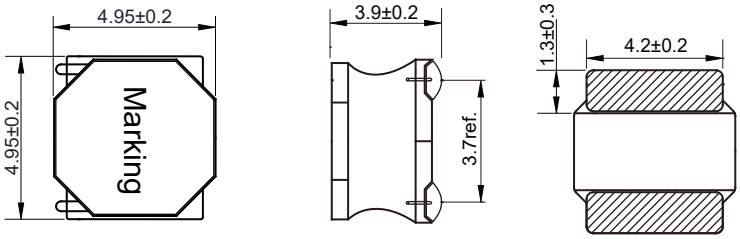
FEATURES

- Magnetic shield type wound inductor for power circuits using a ferrite magnetic material
- High magnetic shield construction and compatible with high-density mounting.
- Larger current and lower Rdc were achieved by optimizing the ferrite core figure.
- Operating temperature: –55 to +125°C(including self-temperature rise)
- AEC-Q200 qualified
- Quantity: 1500pcs

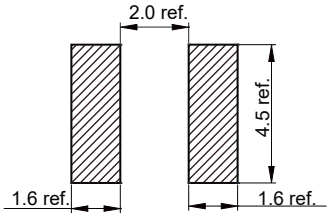
APPLICATION

- Car navigation, car stereo and car accessories only

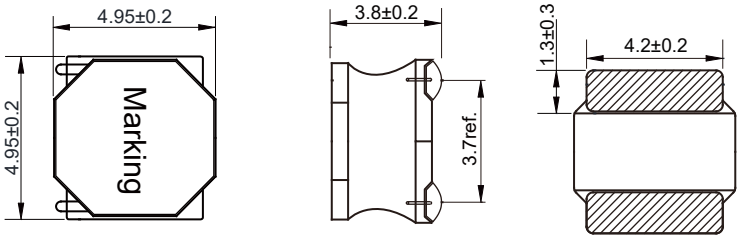
Dimensions: [mm] ≤10μH



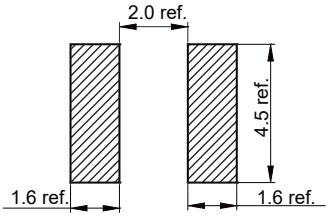
Land Pattern: [mm]



Dimensions: [mm] >10μH



Land Pattern: [mm]



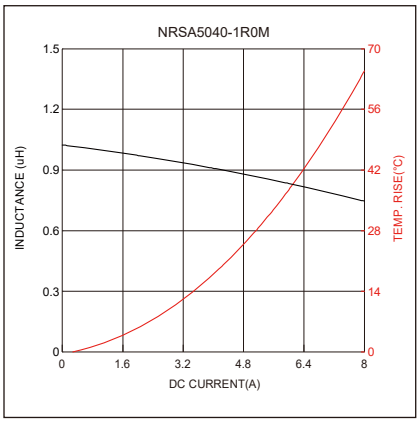
Electrical Properties:

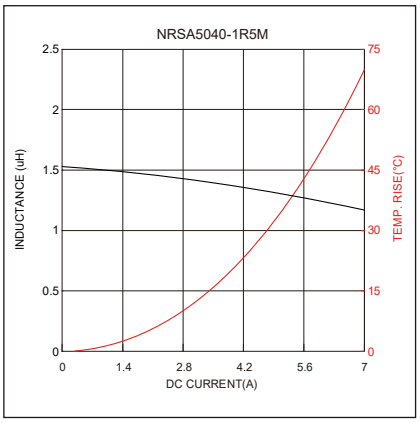
Part No	Inductance @100KHz/1V (μH)	Tolerance	Saturation Current Typ. (A)	Temperature Rise Current Typ. (A)	DCR ±20% (mΩ)
NRSA5040-1R0M	1.0	±20%	7.50	5.00	12
NRSA5040-1R5M	1.5	±20%	6.50	4.50	15
NRSA5040-2R2M	2.2	±20%	5.70	3.80	21
NRSA5040-3R3M	3.3	±20%	4.40	3.50	24
NRSA5040-4R7M	4.7	±20%	3.90	3.20	32
NRSA5040-6R8M	6.8	±20%	3.30	2.50	43
NRSA5040-8R2M	8.2	±20%	2.50	2.10	50
NRSA5040-100M	10	±20%	2.52	2.20	56

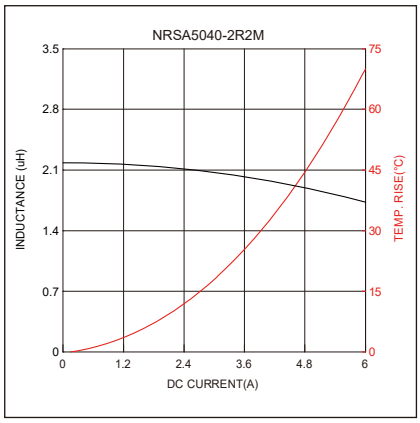
Part No	Inductance @100KHz/1V (μH)	Tolerance	Sacuration Current Typ. (A)	Temperature Rise Current Typ. (A)	DCR ±20% (mΩ)
NRSA5040-150M	15	±20%	2.00	1.80	80
NRSA5040-220M	22	±20%	1.62	1.50	123
NRSA5040-330M	33	±20%	1.30	1.20	180
NRSA5040-470M	47	±20%	1.10	1.00	270
NRSA5040-680M	68	±20%	0.90	0.80	400
NRSA5040-101M	100	±20%	0.75	0.72	560
NRSA5040-221M	220	±20%	0.62	0.55	1500

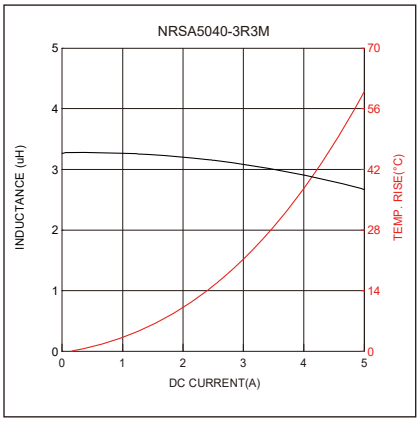
Temperature rising current will cause the coil temperature rise approximately Δt40℃
Saturation current will cause L to drop approximately 30% .

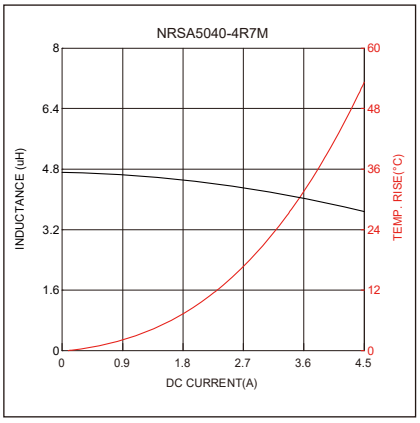
Typical Electrical Characteristics:

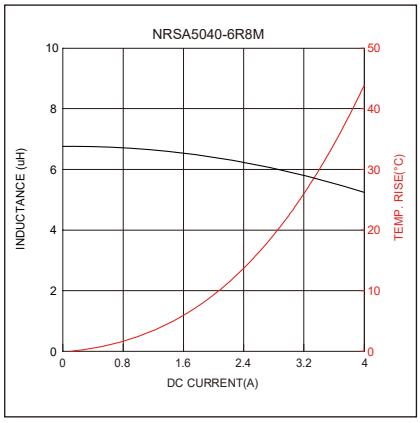


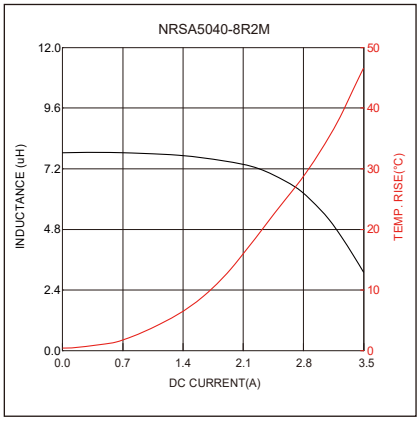


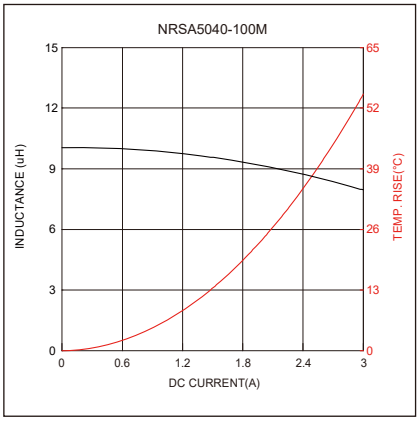


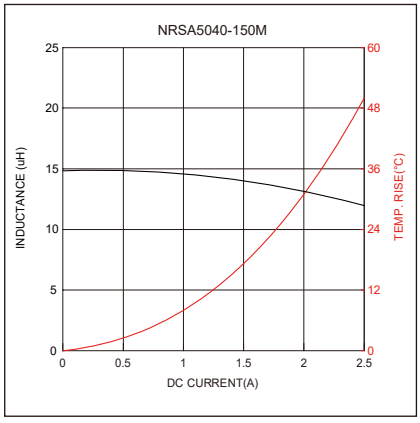


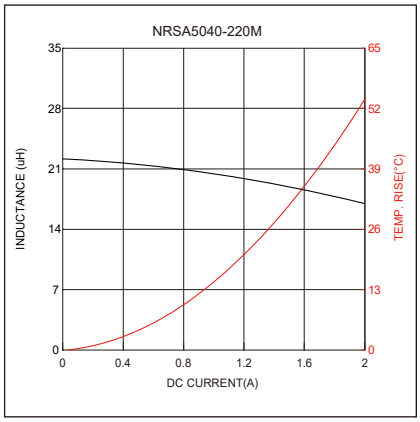


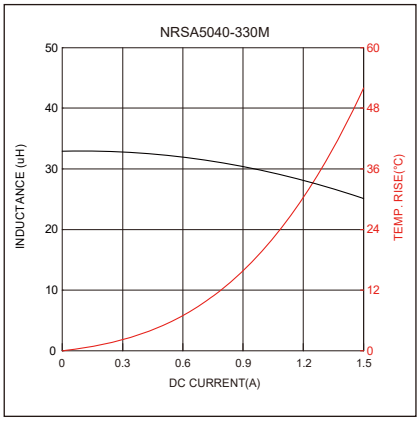


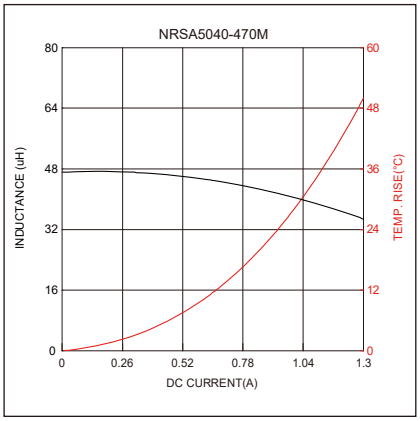


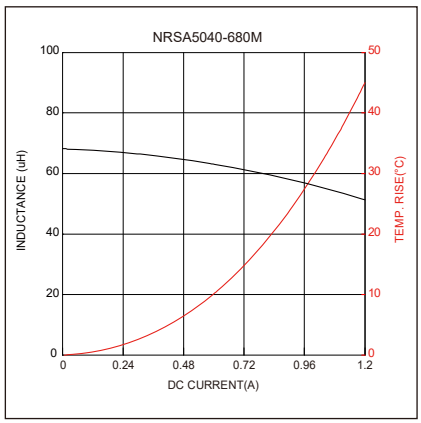


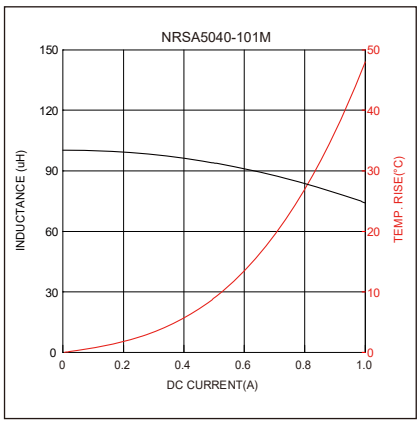


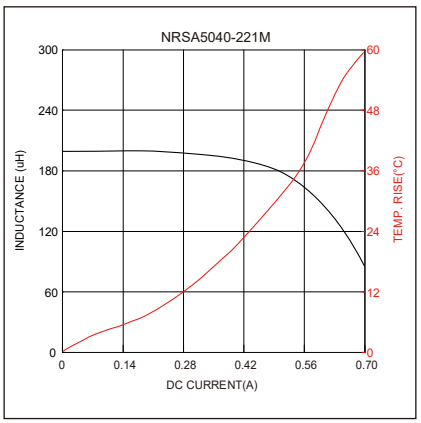

NRSA5040-220M
INDUCTANCE (uH)
TEMP. RISE(°C)
DC CURRENT(A)
35
28
21
14
7
0
65
52
39
26
13
0
0
0.4
0.8
1.2
1.6
2


NRSA5040-330M
INDUCTANCE (uH)
TEMP. RISE(°C)
DC CURRENT(A)
50
40
30
20
10
0
60
48
36
24
12
0
0
0.3
0.6
0.9
1.2
1.5

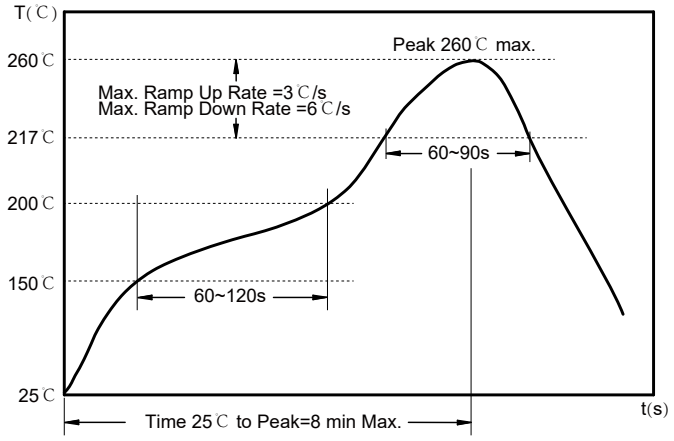

NRSA5040-470M
INDUCTANCE (uH)
TEMP. RISE(°C)
DC CURRENT(A)
80
64
48
32
16
0
60
48
36
24
12
0
0
0.26
0.52
0.78
1.04
1.3


NRSA5040-680M
INDUCTANCE (uH)
TEMP. RISE(°C)
DC CURRENT(A)
100
80
60
40
20
0
50
40
30
20
10
0
0
0.24
0.48
0.72
0.96
1.2


NRSA5040-101M
INDUCTANCE (uH)
TEMP. RISE(°C)
DC CURRENT(A)
150
120
90
60
30
0
50
40
30
20
10
0
0
0.2
0.4
0.6
0.8
1.0


NRSA5040-221M
INDUCTANCE (uH)
TEMP. RISE(°C)
DC CURRENT(A)
300
240
180
120
60
0
60
48
36
24
12
0
0
0.14
0.28
0.42
0.56
0.70

Soldering Reflow:



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

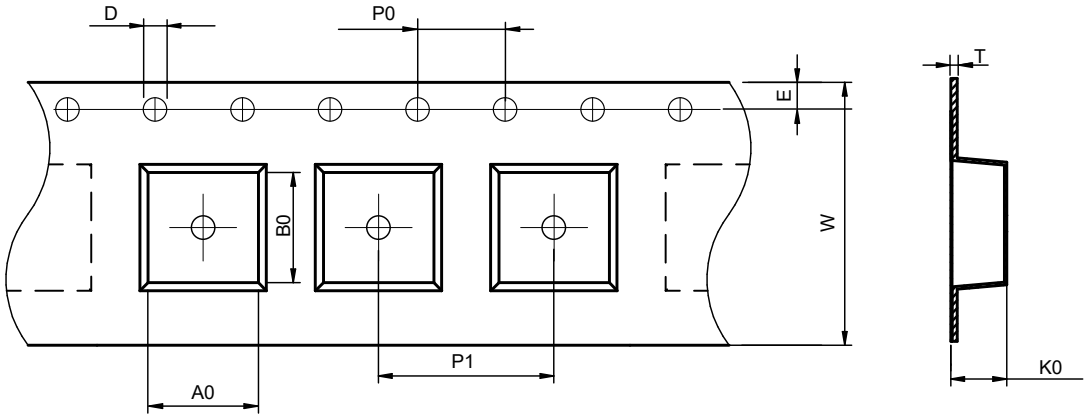
Allowed time above 217℃: 60~90 sec.

Max temperature: 260℃.

Allowed Reflow time: 2x max.

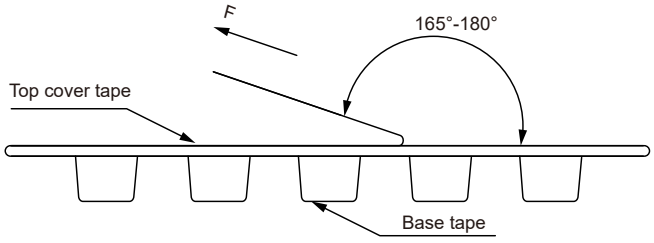
Packaging Information:

Tape Dimension:



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
NRSA5040	5.3±0.1	5.3±0.1	1.5±0.1	4.0±0.1	8.0±0.1	12.0±0.3	4.2±0.1	1.75±0.1	0.40±0.05

Peel force of top cover tape:

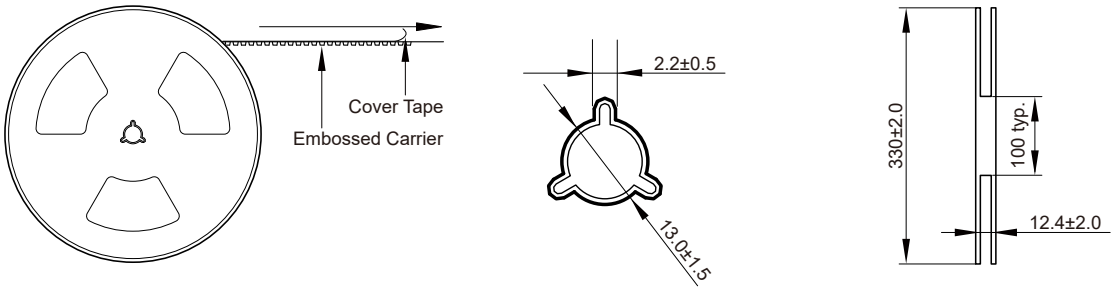


The peel force of top cover tape shall be between 0.3 to 1.17 N

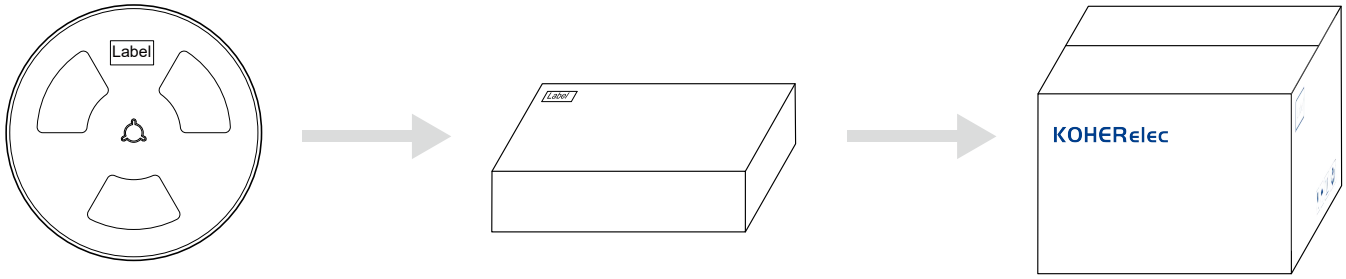
Product Marking:

Marking	Printing (Inductance)

Reel Dimension：[mm]



Packaging Quantity:



1500 Pcs/Reel

3 Reel /Inner box(4.5K Pcs)

3 Inner box/Carton box(13.5K 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.