NRSA Series

SMD Power Inductors For Automotive

Size 6045

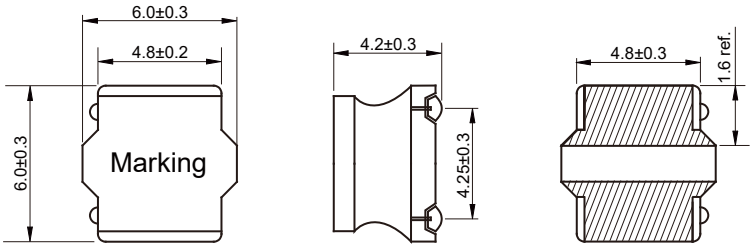
FEATURES

- 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: 1000pcs

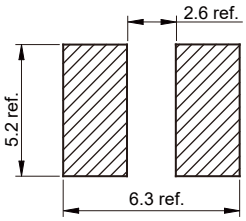
APPLICATION

- Car navigation, car stereo and car accessories only

Dimensions: [mm]



Land Pattern: [mm]



Electrical Properties:

Part No	L@100KHz/1V (μH)	Tolerance	I_{SAT} Typ. (A)	I_{SAT} Max. (A)	I_R Typ. (A)	I_R Max. (A)	R_{DC} ±20% (mΩ)
NRSA6045-R47N	0.47	±30%	17.00	16.00	8.60	8.00	6.80
NRSA6045-R82N	0.82	±30%	14.50	13.50	8.20	7.50	8.50
NRSA6045-1R0M	1.0	±20%	13.50	12.50	8.00	7.30	10.0
NRSA6045-1R2M	1.2	±20%	12.50	11.50	7.50	7.00	10.5
NRSA6045-1R3M	1.3	±20%	12.50	11.50	7.50	7.00	10.5
NRSA6045-1R5M	1.5	±20%	12.00	11.00	7.00	6.60	11.7
NRSA6045-1R8M	1.8	±20%	11.00	10.00	6.80	6.20	12.0
NRSA6045-2R0M	2.0	±20%	10.50	9.50	6.50	5.80	13.5
NRSA6045-2R2M	2.2	±20%	9.50	8.55	6.00	5.30	15.0
NRSA6045-2R3M	2.3	±20%	9.30	8.20	5.80	5.00	16.0
NRSA6045-3R0M	3.0	±20%	8.00	7.50	5.20	4.60	20.0
NRSA6045-3R3M	3.3	±20%	7.80	7.30	5.00	4.50	21.0
NRSA6045-3R6M	3.6	±20%	7.40	6.90	4.90	4.30	22.5
NRSA6045-4R7M	4.7	±20%	6.80	6.20	4.50	4.00	26.0
NRSA6045-5R6M	5.6	±20%	6.40	5.70	4.10	3.70	31.0
NRSA6045-6R3M	6.3	±20%	5.90	5.30	3.80	3.50	33.0
NRSA6045-6R8M	6.8	±20%	5.70	5.15	3.60	3.30	34.0

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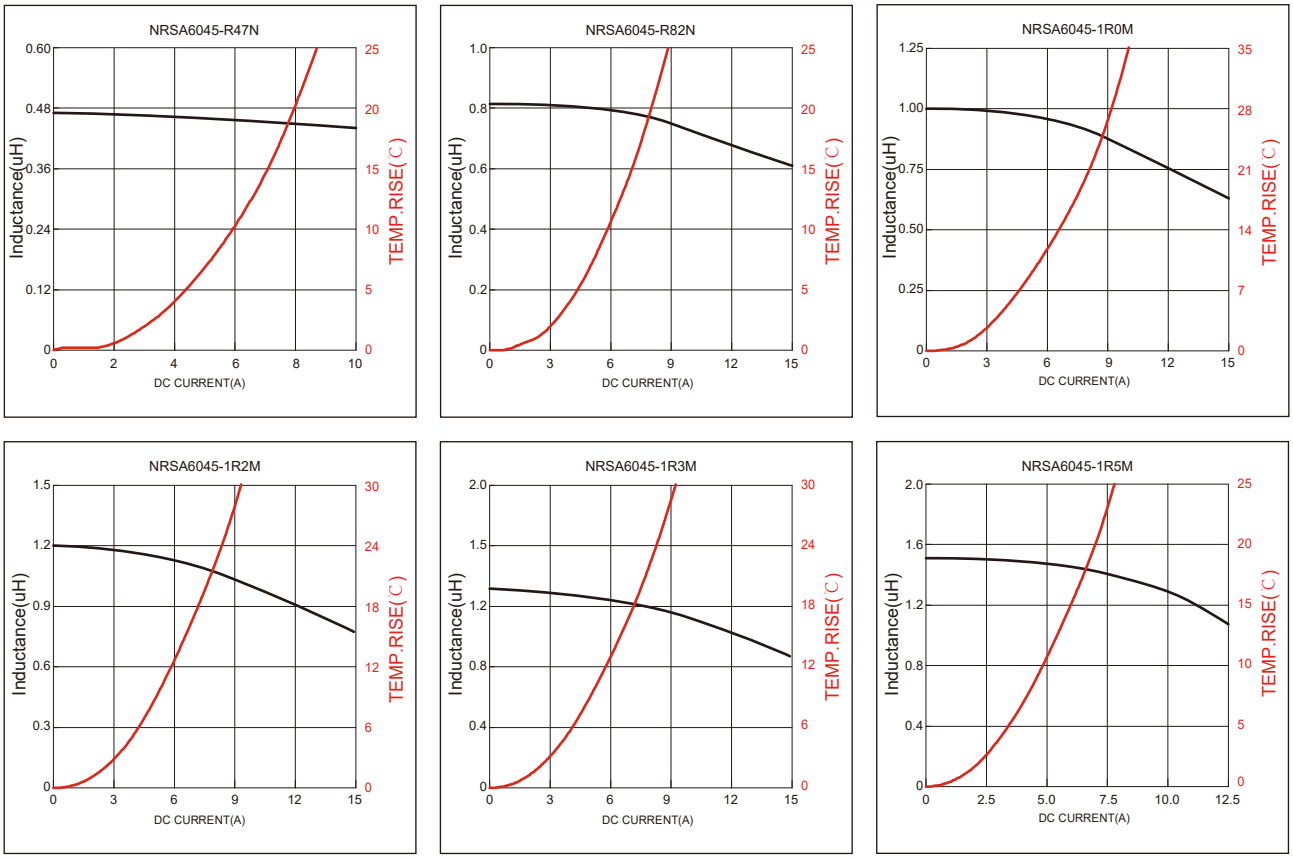
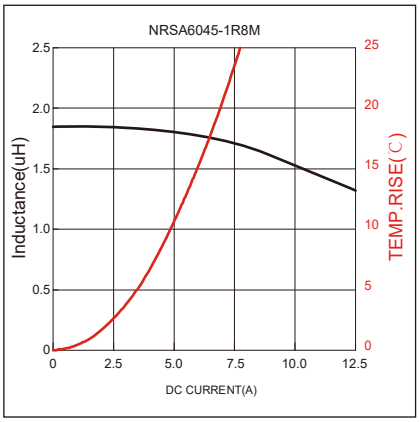
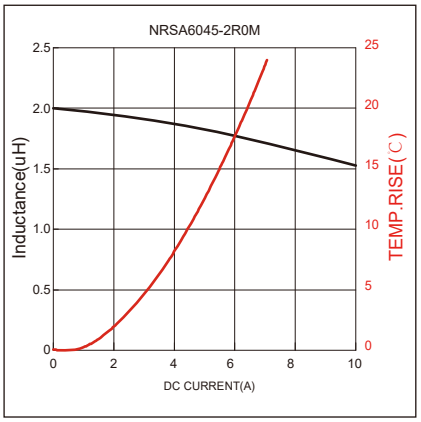
Part No	L@100KHz/1V (μH)	Tolerance	I_{SAT} Typ. (A)	I_{SAT} Max. (A)	I_R Typ. (A)	I_R Max. (A)	R_{DC} ±20% (mΩ)
NRSA6045-8R2M	8.2	±20%	5.10	4.50	3.40	2.90	46.0
NRSA6045-100M	10	±20%	4.60	4.20	3.20	2.60	52.0
NRSA6045-150M	15	±20%	3.80	3.30	2.80	2.20	71.0
NRSA6045-180M	18	±20%	3.40	2.90	2.60	2.10	80.0
NRSA6045-220M	22	±20%	3.30	2.70	2.30	1.90	96.0
NRSA6045-330M	33	±20%	2.50	2.10	1.80	1.50	145
NRSA6045-470M	47	±20%	2.00	1.75	1.60	1.20	200
NRSA6045-560M	56	±20%	1.80	1.65	1.40	1.00	230
NRSA6045-680M	68	±20%	1.60	1.52	1.10	0.92	305
NRSA6045-820M	82	±20%	1.50	1.40	0.98	0.88	365
NRSA6045-101M	100	±20%	1.33	1.25	0.92	0.82	456
NRSA6045-121M	120	±20%	1.20	1.10	0.85	0.79	500
NRSA6045-181M	180	±20%	1.00	0.90	0.68	0.60	745
NRSA6045-221M	220	±20%	0.88	0.77	0.60	0.50	900

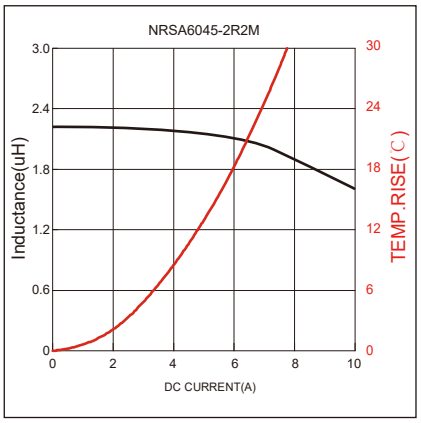
I_R will cause the coil temperature rise approximately Δt40℃
I_{SAT} will cause L to drop approximately 30% .

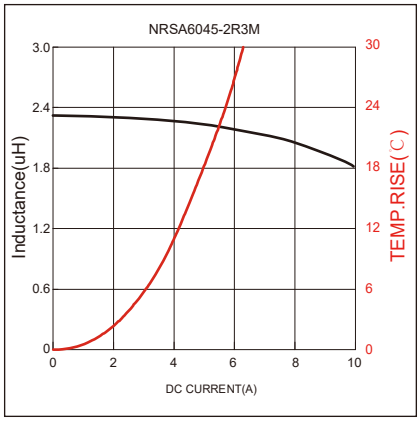
Typical Electrical Characteristics:

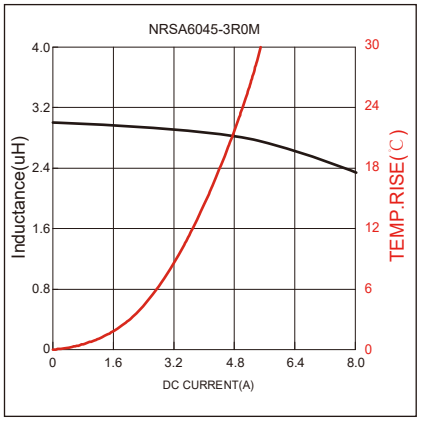


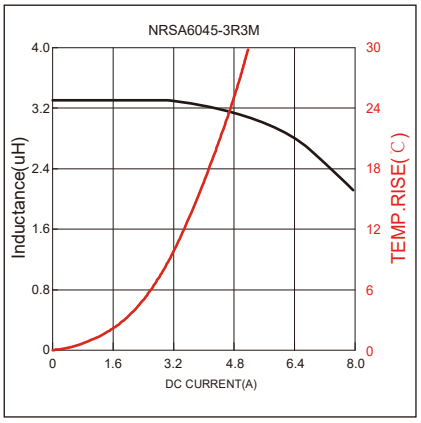

NRSA6045-1R8M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

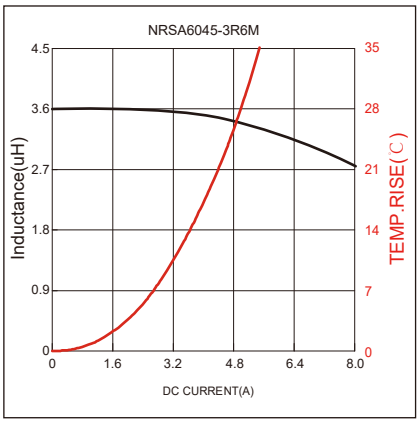

NRSA6045-2R0M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

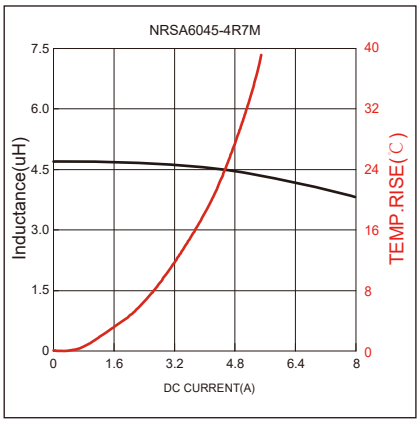

NRSA6045-2R2M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

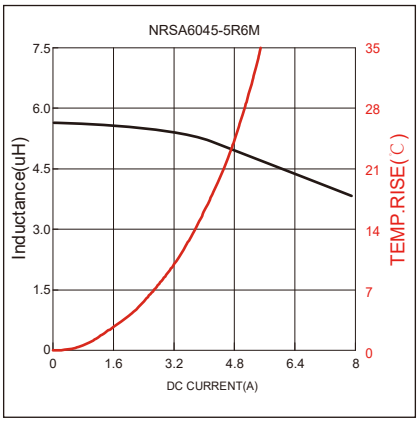

NRSA6045-2R3M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

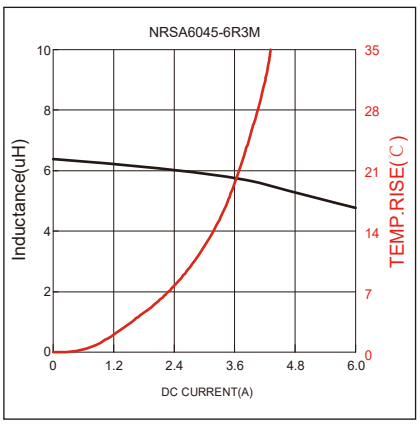

NRSA6045-3R0M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

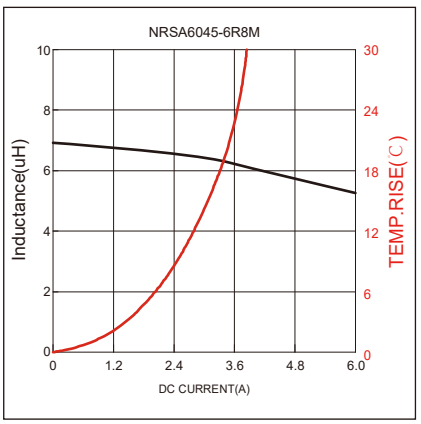

NRSA6045-3R3M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

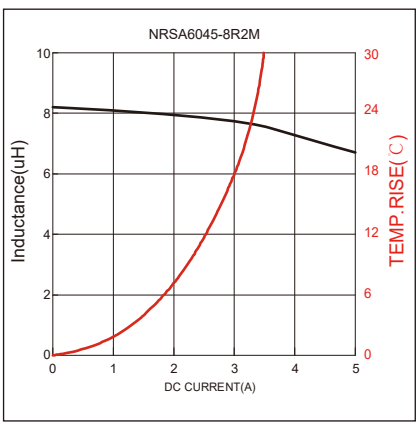

NRSA6045-3R6M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

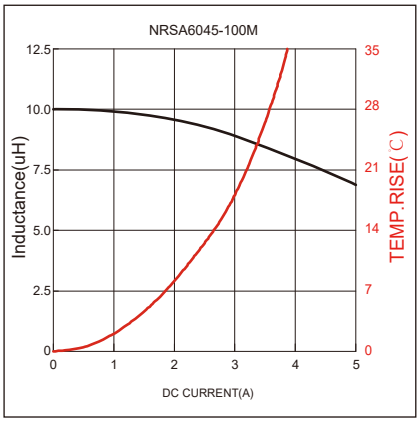

NRSA6045-4R7M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

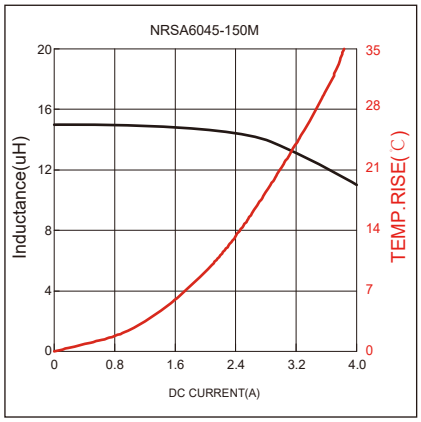

NRSA6045-5R6M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

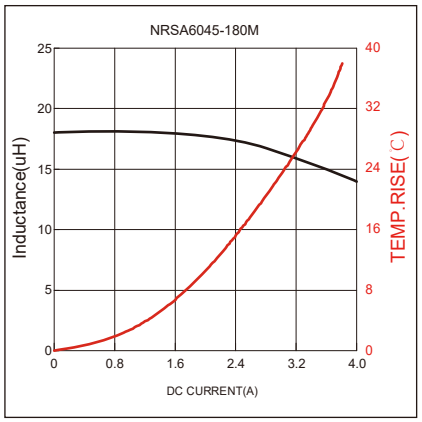

NRSA6045-6R3M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

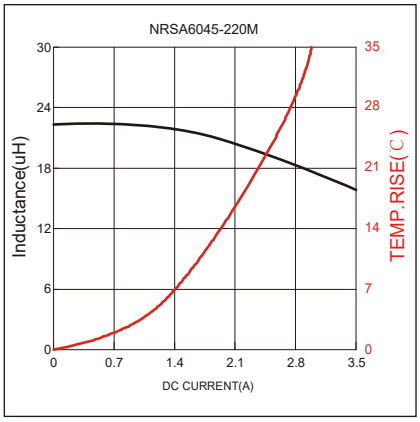

NRSA6045-6R8M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

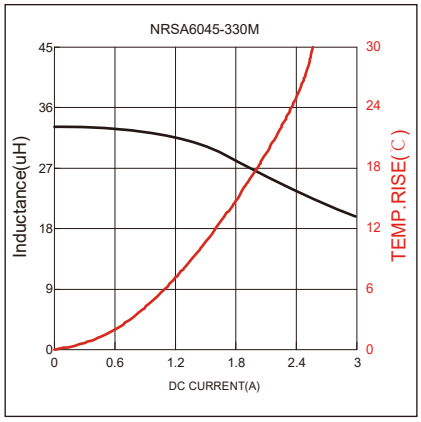

NRSA6045-8R2M
Inductance(uH)
TEMP.RISE(℃)
DC CURRENT(A)

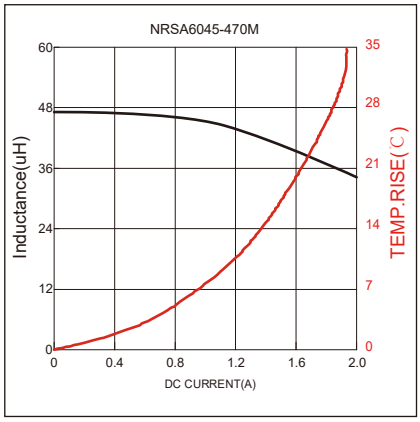


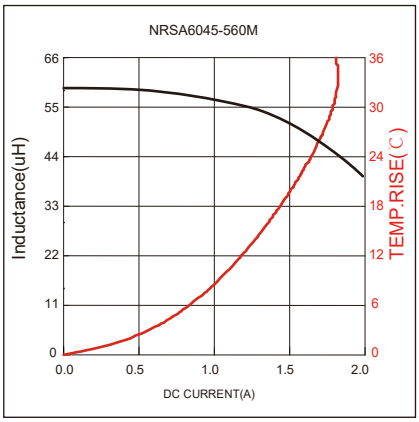


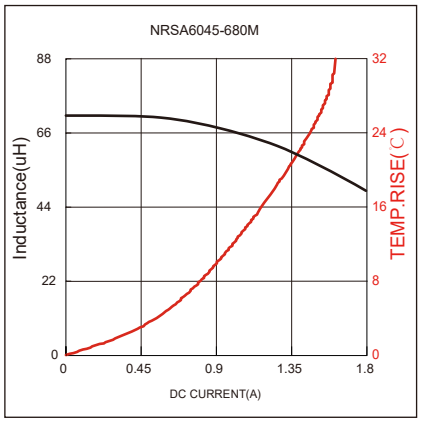


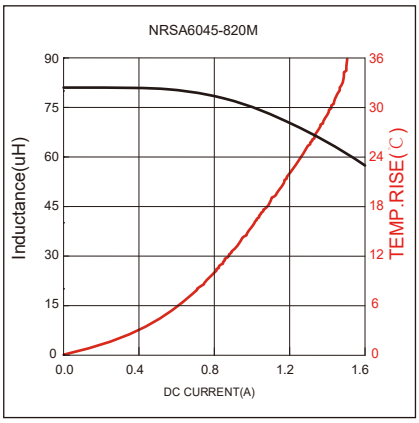


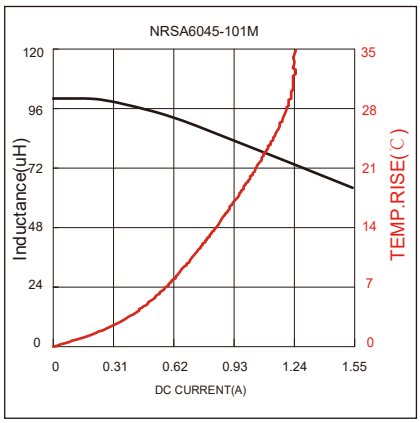


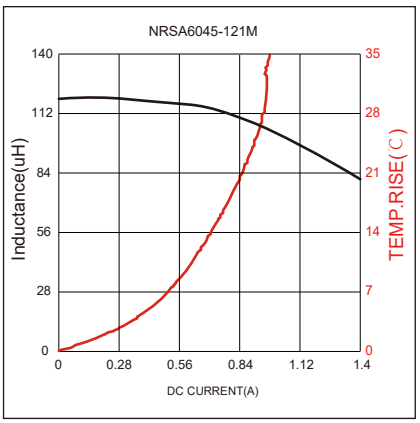


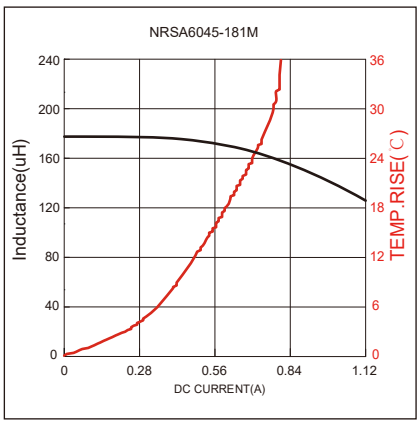












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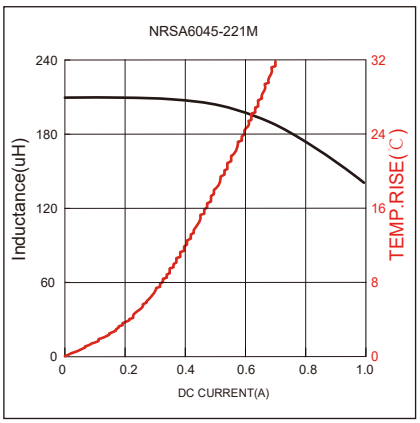
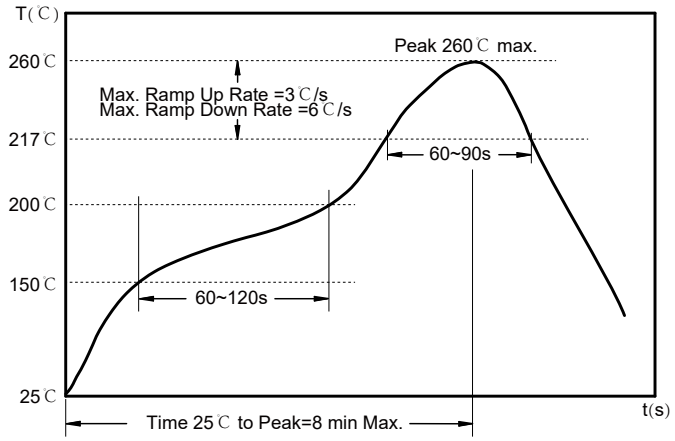

NRSA6045-221M
240
180
120
60
0
Inductance(uH)
32
24
16
8
0
TEMP.RISE(℃)
0
0.2
0.4
0.6
0.8
1.0
DC CURRENT(A)

Soldering Reflow:



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

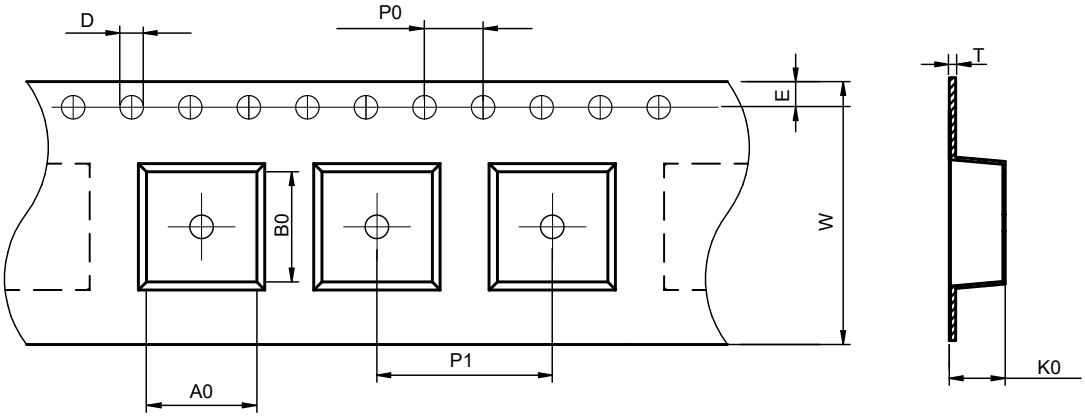
Allowed time above 217℃: 60~90 sec.

Max temperature: 260℃.

Allowed Reflow time: 2x max.

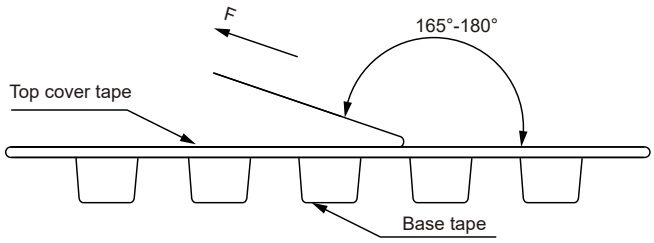
Packaging Information:

Tape Dimension:



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
NRSA6045	6.4±0.1	6.4±0.1	1.5±0.1	4.0±0.1	12.0±0.1	16.0±0.3	4.7±0.1	1.75±0.1	0.40±0.05

Peel force of top cover tape:

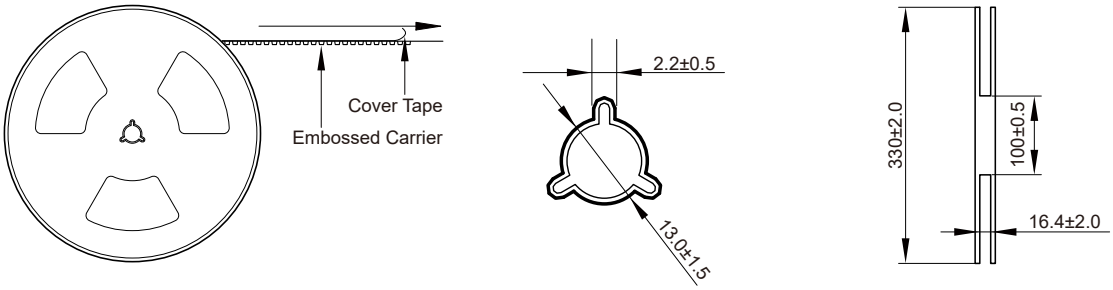


The peel force of top cover tape shall be between 0.3 to 1.17 N

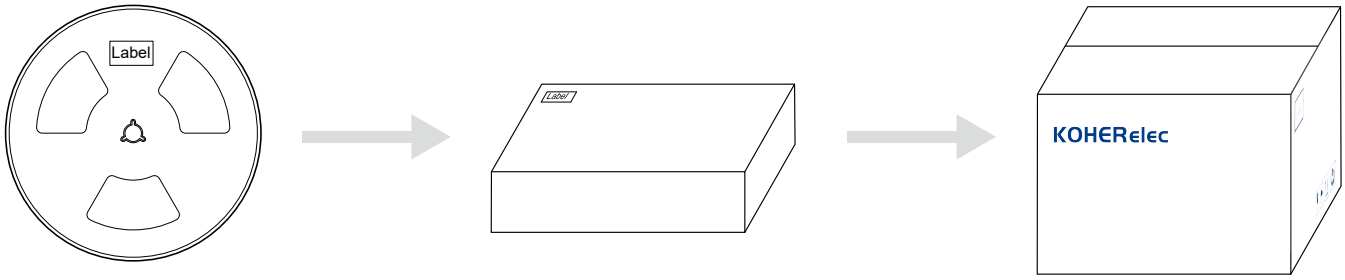
Product Marking:

Marking	Printing (Inductance)

Reel Dimension：[mm]



Packaging Quantity:



1000 Pcs/Reel

2 Reel /Inner box(2K Pcs)

3 Inner box/Carton box(6K 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.