MDSA Series

SMD Low Profile High Current Molded Inductor

Size 1350

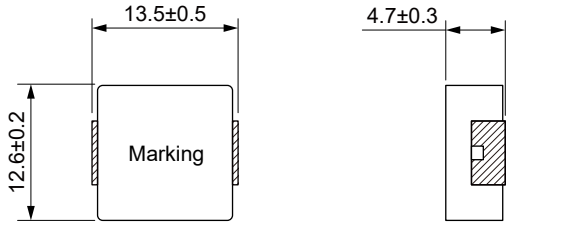
FEATURES

- 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

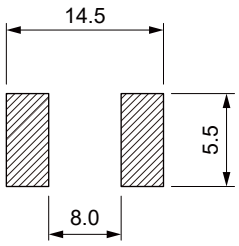
APPLICATION

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

Dimensions: [mm]



Land Pattern: [mm]



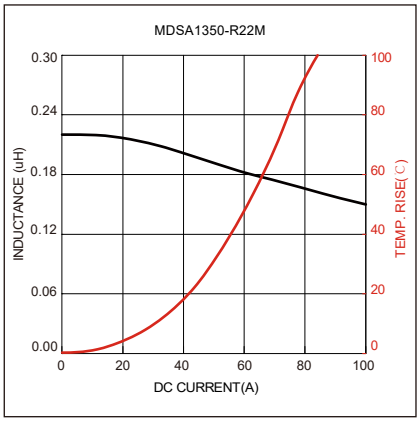
Electrical Properties:

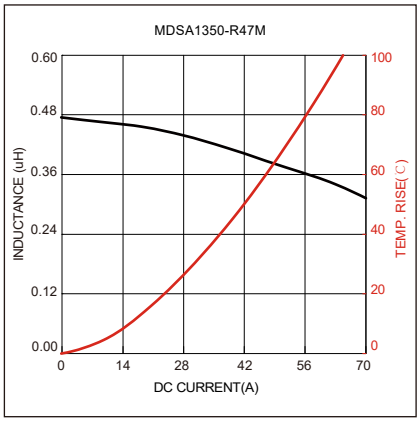
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDSA1350-R22M	0.22	±20%	54.7	64.8	0.50	0.62	4.0±0.3
MDSA1350-R47M	0.47	±20%	38.0	64.8	0.78	0.91	4.0±0.3
MDSA1350-R68M	0.68	±20%	33.8	50.0	1.33	1.58	4.0±0.3
MDSA1350-1R0M	1.00	±20%	29.9	39.8	1.61	1.91	4.0±0.3
MDSA1350-1R5M	1.50	±20%	24.9	30.7	3.22	3.83	4.7±0.3
MDSA1350-2R2M	2.20	±20%	17.0	25.9	4.10	4.82	4.7±0.3
MDSA1350-3R3M	3.30	±20%	15.4	22.8	6.03	7.00	4.7±0.3
MDSA1350-4R7M	4.70	±20%	13.8	18.4	8.82	10.2	4.7±0.3
MDSA1350-6R8M	6.80	±20%	11.7	16.3	13.0	16.0	4.7±0.3
MDSA1350-100M	10.0	±20%	10.0	12.8	19.2	22.2	4.7±0.3
MDSA1350-150M	15.0	±20%	9.38	10.8	30.1	36.3	4.7±0.3

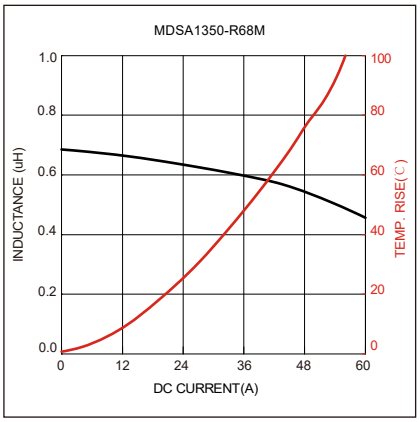
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDSA1350-220M	22.0	±20%	7.96	8.46	42.2	52.3	4.7±0.3
MDSA1350-330M	33.0	±20%	5.99	7.27	66.3	80.0	4.7±0.3
MDSA1350-470M	47.0	±20%	5.18	6.00	78.1	94.1	4.7±0.3
MDSA1350-680M	68.0	±20%	4.27	4.99	95.0	132.2	4.7±0.3

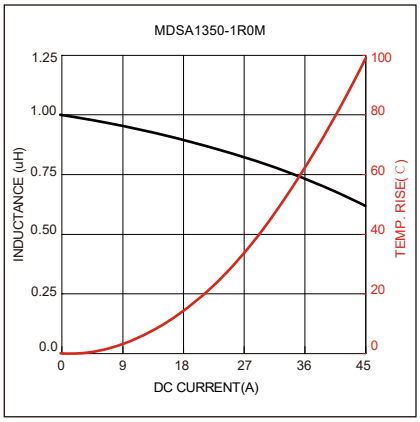
Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is △T=40°C

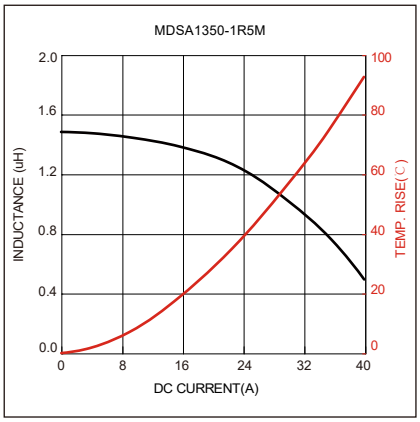
Typical Electrical Characteristics:

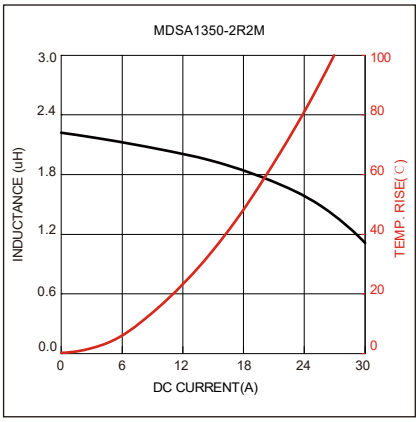


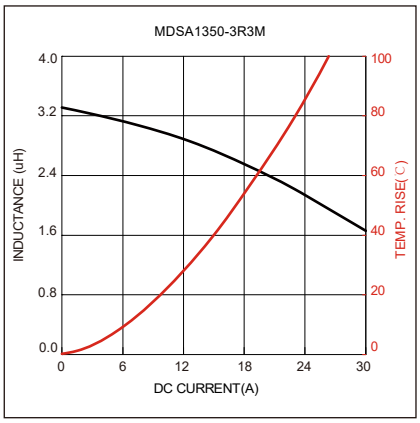


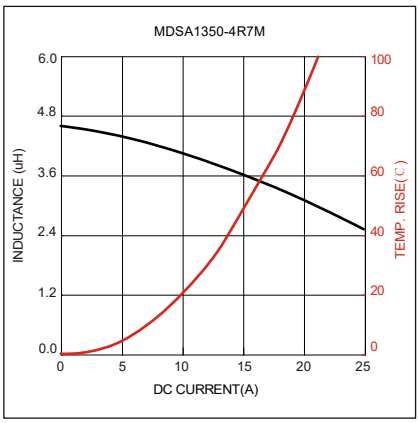


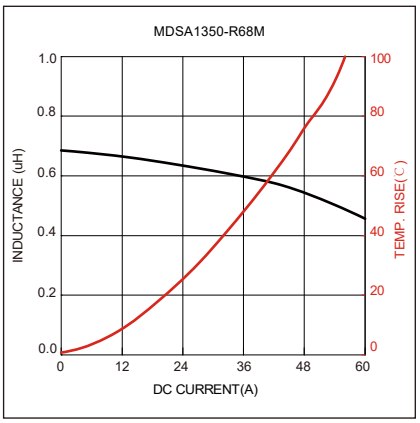












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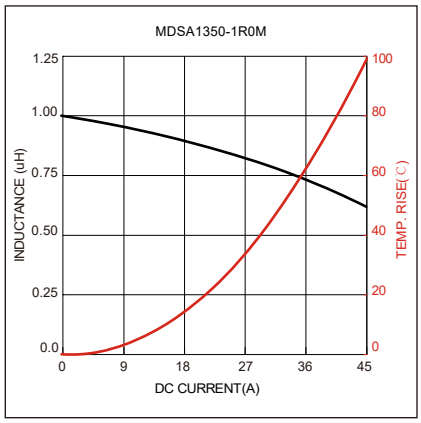
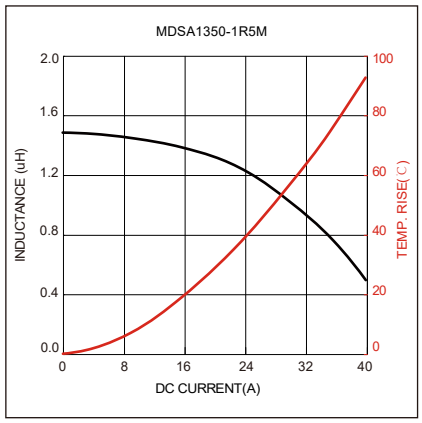
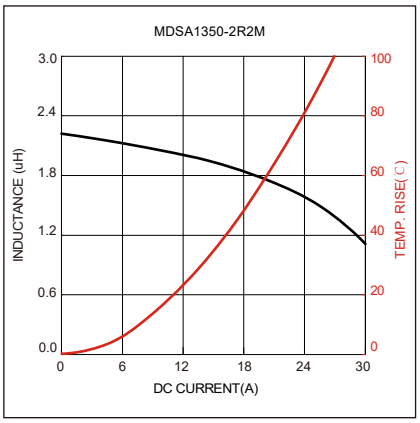
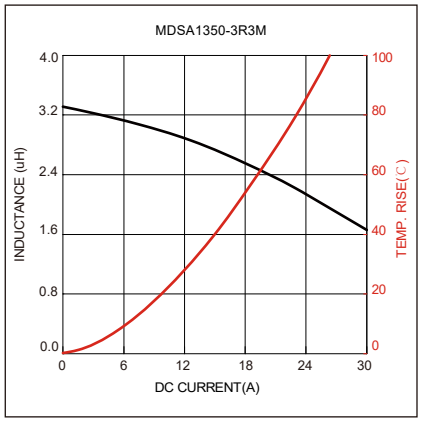
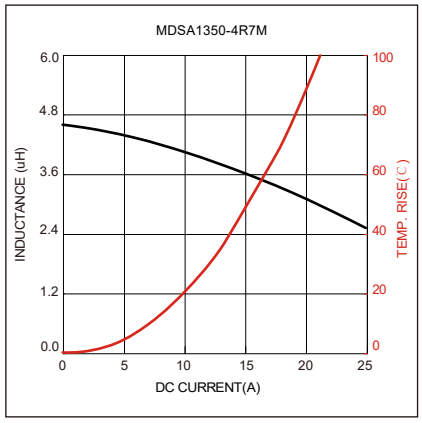
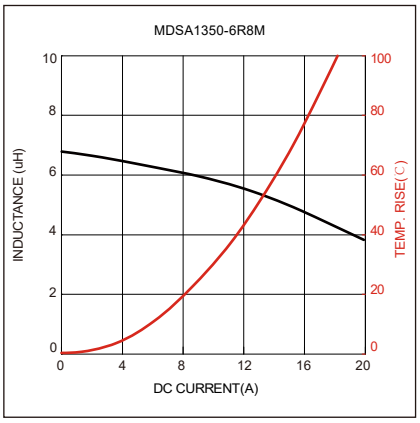


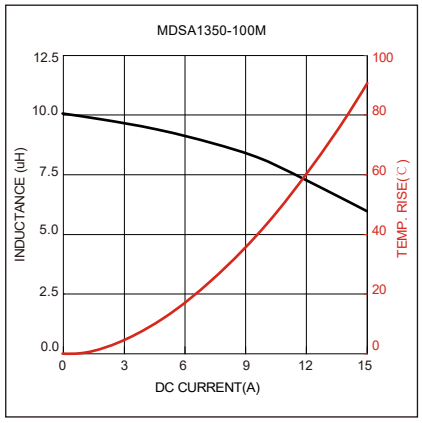


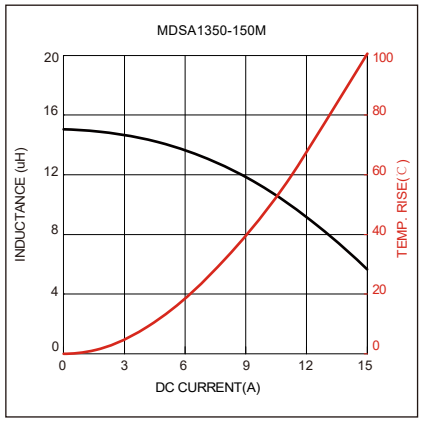


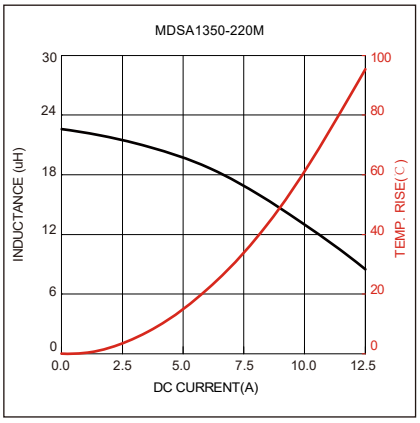


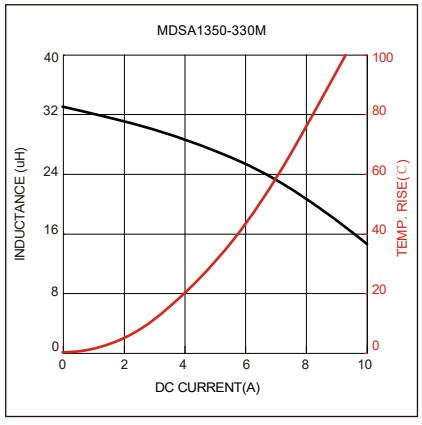


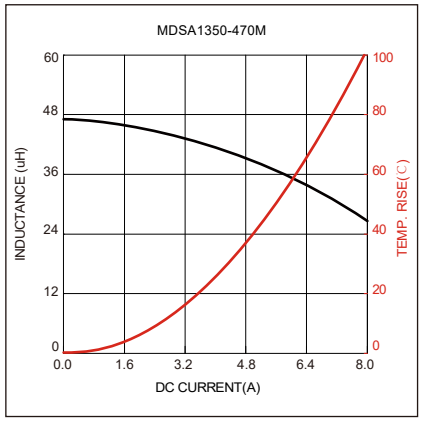


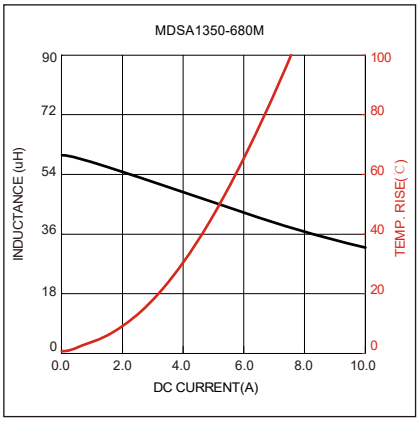




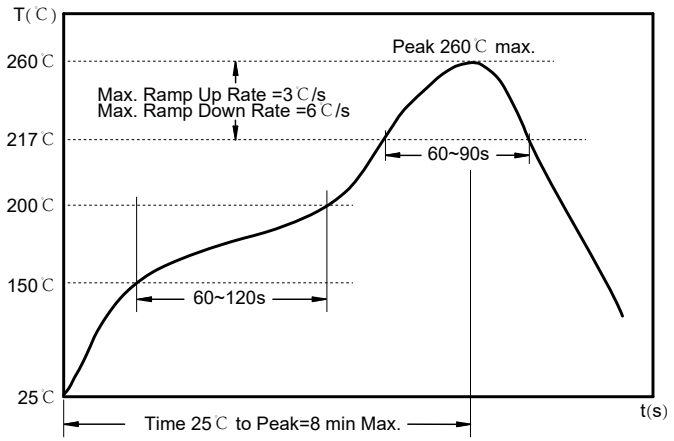








Soldering Reflow:



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

Allowed time above 217℃: 60~90 sec.

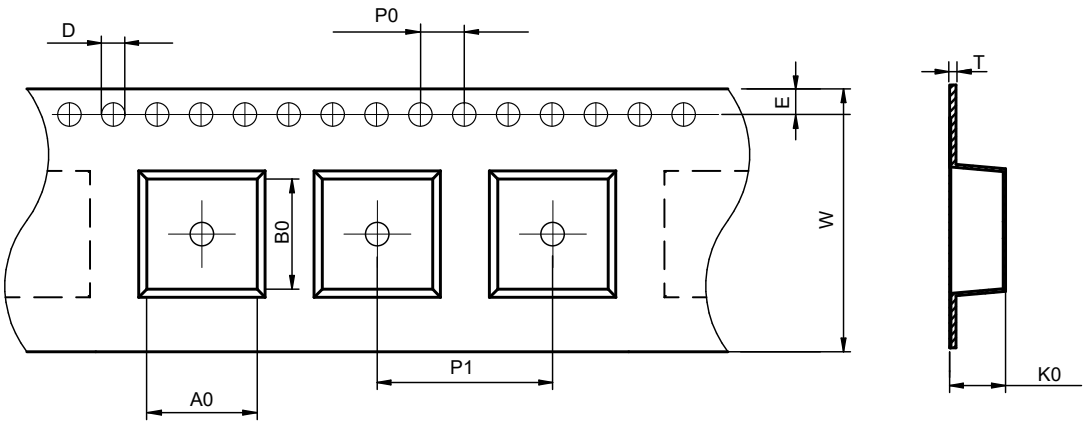
Max temperature: 260℃.

Max time at max temperature: 10 sec.

Allowed Reflow time: 2x max.

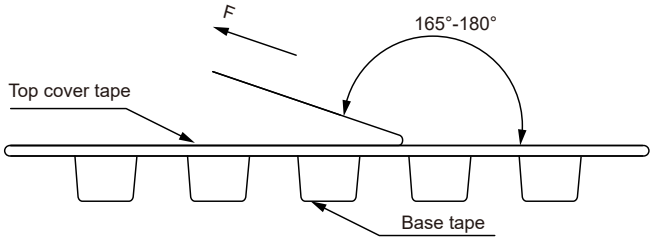
Packaging Information:

Tape Dimension:



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDSA1350	13.1±0.1	14.0±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	0.50±0.05

Peel force of top cover tape:

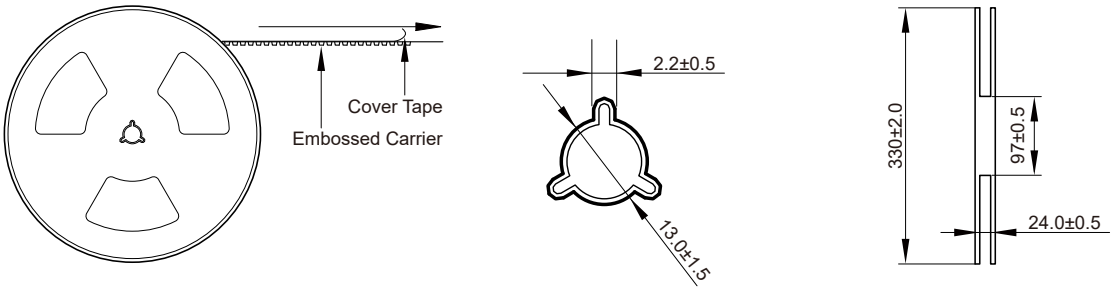


The peel force of top cover tape shall be between 0.1 to 1.3 N

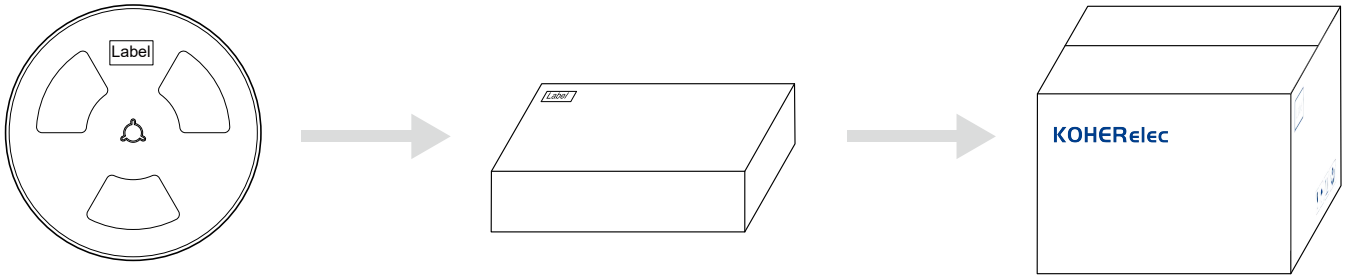
Product Marking:

Marking	KH+Printing (Inductance+period)

Reel Dimension：[mm]



Packaging Quantity:



500 Pcs/Reel

2 Reel /Inner box(1000 Pcs)

2 Inner box/Carton box(2K 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.