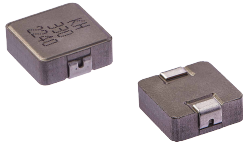


**MDA Series**  
**SMD Low Profile High Current Molded Inductor**  
**Size 1040**



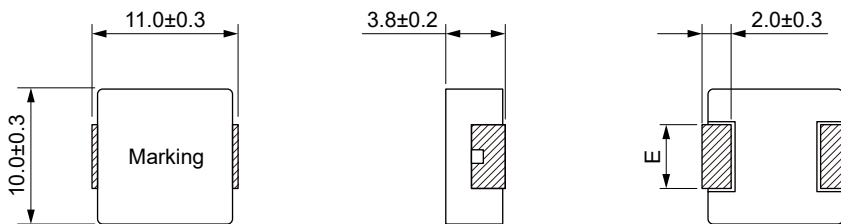
**FEATURES**

- 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

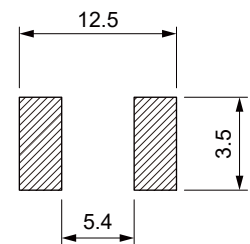
**APPLICATION**

- 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:**

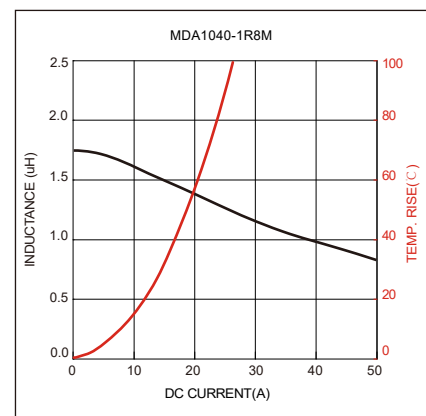
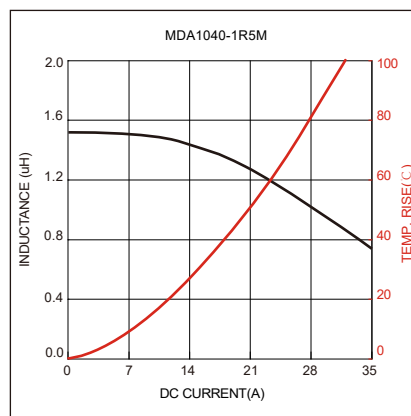
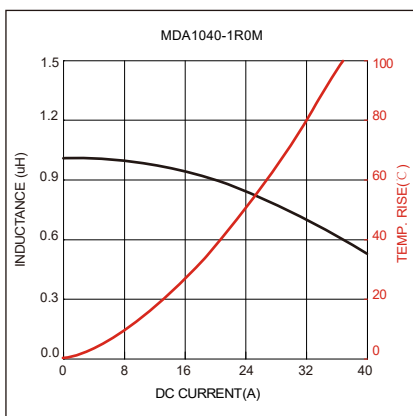
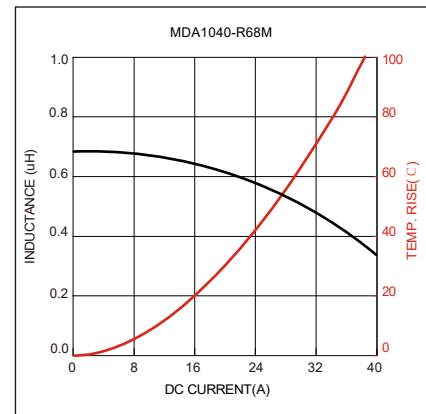
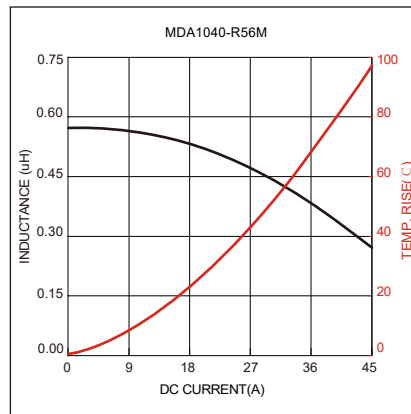
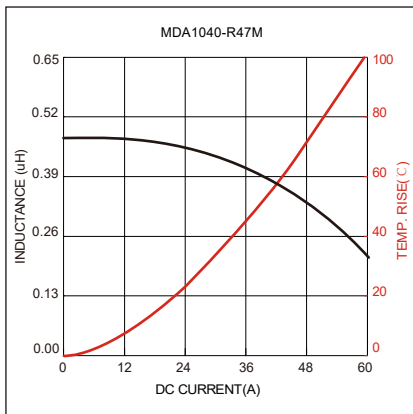
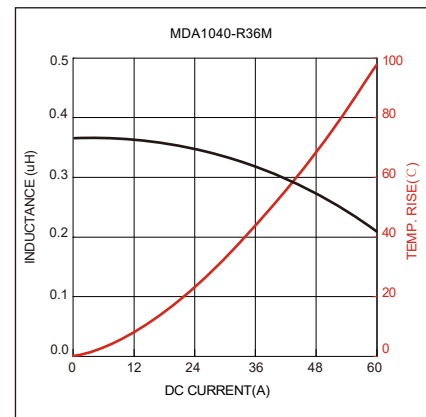
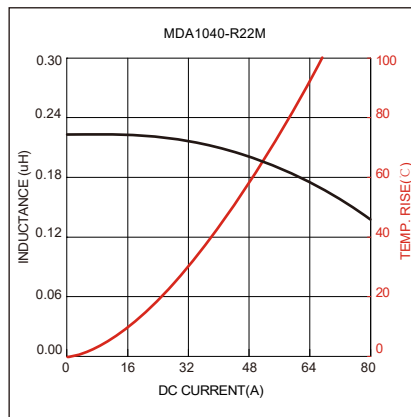
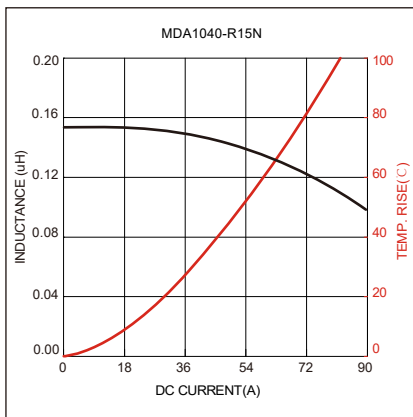
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDA1040-R15N	0.15	±30%	44.0	38.0	82.0	75.0	0.50	0.60	3.0±0.3
MDA1040-R22M	0.22	±20%	36.0	33.0	70.0	60.0	0.72	0.83	3.0±0.3
MDA1040-R36M	0.36	±20%	33.0	29.0	51.0	45.0	1.05	1.18	3.0±0.3
MDA1040-R47M	0.47	±20%	32.0	28.0	46.0	40.0	1.30	1.50	3.0±0.3
MDA1040-R56M	0.56	±20%	25.0	23.0	34.0	29.0	1.60	1.80	2.5±0.3
MDA1040-R68M	0.68	±20%	23.0	20.0	31.0	28.0	1.90	2.20	2.5±0.3
MDA1040-1R0M	1.00	±20%	20.0	18.0	29.0	26.0	2.90	3.25	2.5±0.3
MDA1040-1R5M	1.50	±20%	17.5	16.0	26.0	22.0	3.70	4.20	2.5±0.3
MDA1040-1R8M	1.80	±20%	16.5	15.0	23.0	20.0	5.10	5.70	3.0±0.3
MDA1040-2R2M	2.20	±20%	15.0	13.0	20.0	16.0	5.80	6.70	3.0±0.3
MDA1040-3R3M	3.30	±20%	11.0	10.0	17.5	14.0	10.5	11.8	3.0±0.3
MDA1040-4R7M	4.70	±20%	8.80	8.0	15.2	13.0	15.8	19.0	3.0±0.3
MDA1040-5R6M	5.60	±20%	8.00	7.2	14.1	11.5	19.0	22.8	3.0±0.3
MDA1040-6R8M	6.80	±20%	7.80	6.8	12.2	11.0	22.0	24.5	3.0±0.3

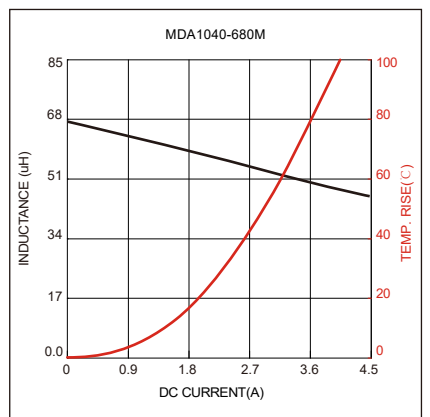
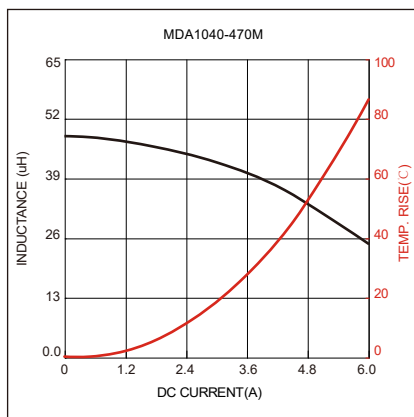
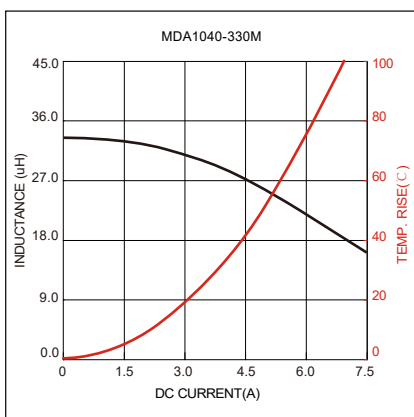
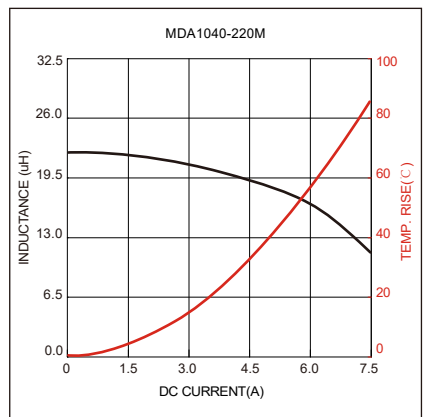
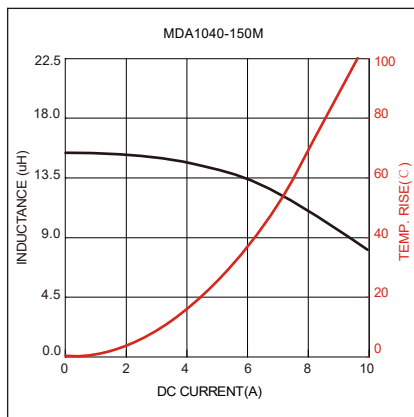
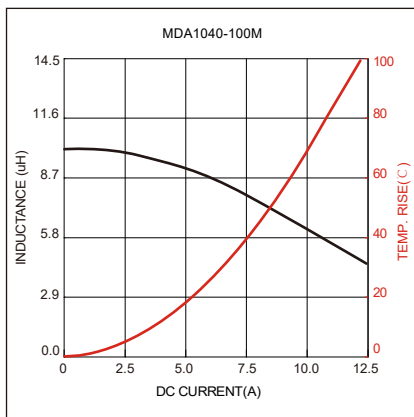
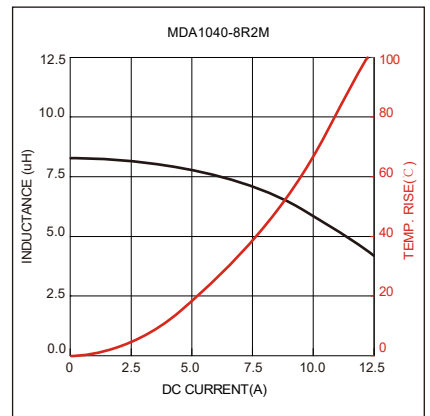
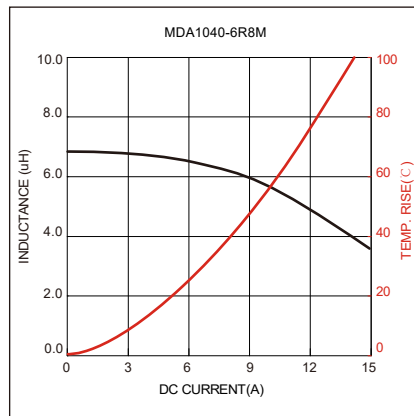
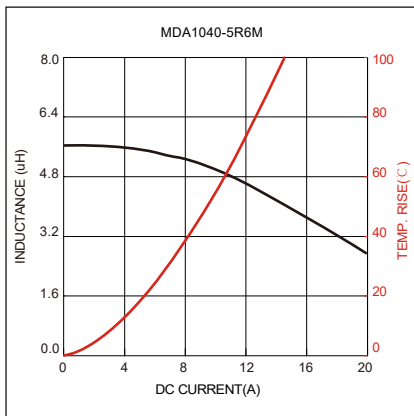
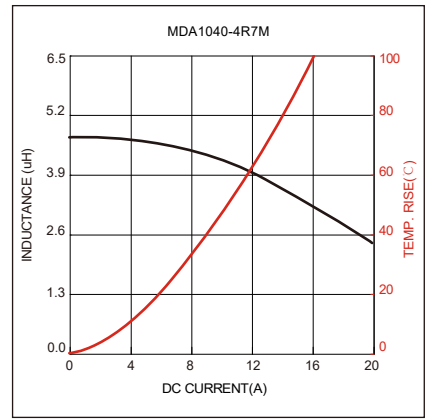
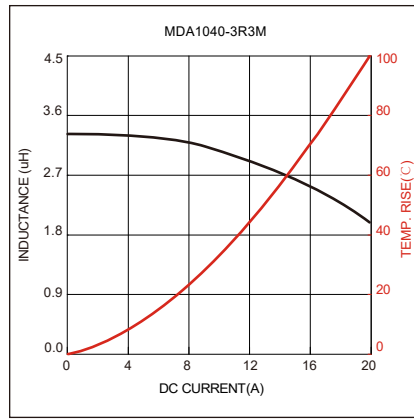
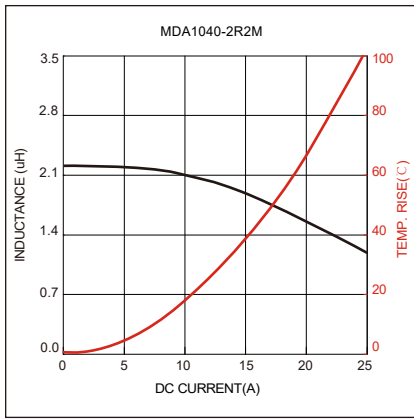
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDA1040-8R2M	8.20	±20%	7.60	6.5	9.50	8.5	25.0	28.0	3.0±0.3
MDA1040-100M	10.0	±20%	7.50	6.1	8.60	7.5	27.0	30.0	3.0±0.3
MDA1040-150M	15.0	±20%	6.25	5.0	7.00	6.0	41.0	45.0	3.0±0.3
MDA1040-220M	22.0	±20%	5.00	4.1	6.20	5.5	58.0	66.0	3.0±0.3
MDA1040-330M	33.0	±20%	4.40	3.5	5.50	5.0	84.0	91.0	3.0±0.3
MDA1040-470M	47.0	±20%	3.50	3.0	4.00	3.7	125	143	3.0±0.3
MDA1040-680M	68.0	±20%	2.60	2.4	3.20	3.0	192	210	3.0±0.3

Saturation Current will cause L to drop approximately 30%

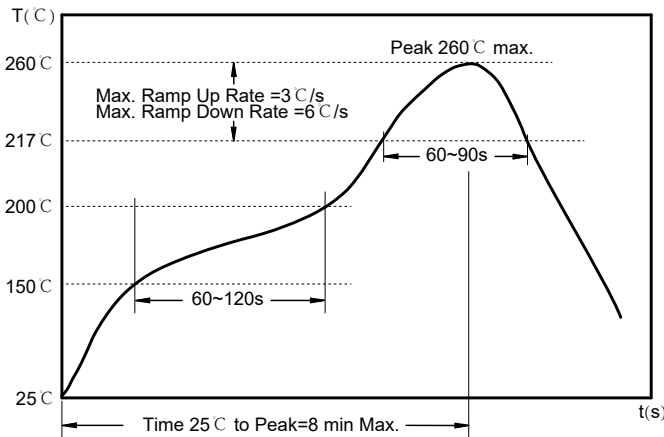
Temperature Rise Current: The actual value of DC current when the temperature rise is  $\Delta T=40^{\circ}\text{C}$

### Typical Electrical Characteristics:





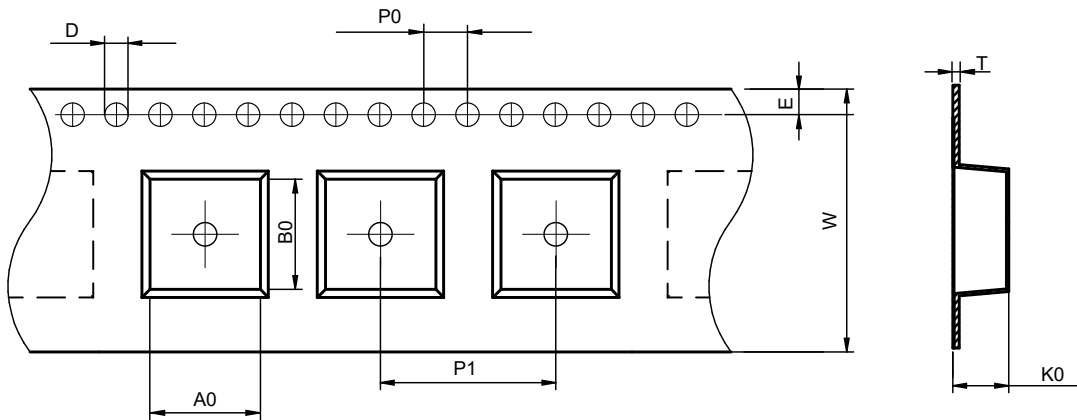
Soldering Reflow:



Preheat condition: 150 ~200 °C / 60~120 sec.  
 Allowed time above 217 °C : 60~90 sec.  
 Max temperature: 260 °C .  
 Max time at max temperature: 10 sec.  
 Allowed Reflow time: 2x max.

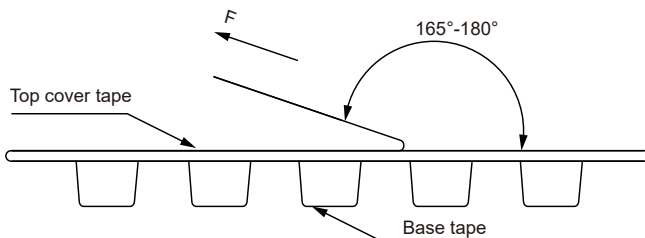
Packaging Information:

Tape Dimension :



Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDA1040	10.4±0.1	11.6±0.1	1.5±0.1	4.0±0.1	16.0±0.1	24.0±0.3	4.3±0.1	1.75±0.1	0.35±0.05

Peel force of top cover tape:

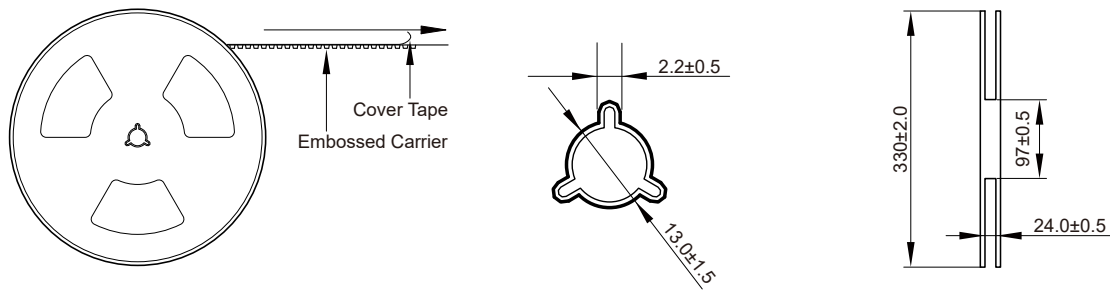


The peel force of top cover tape shall be between 0.1 to 1.3 N

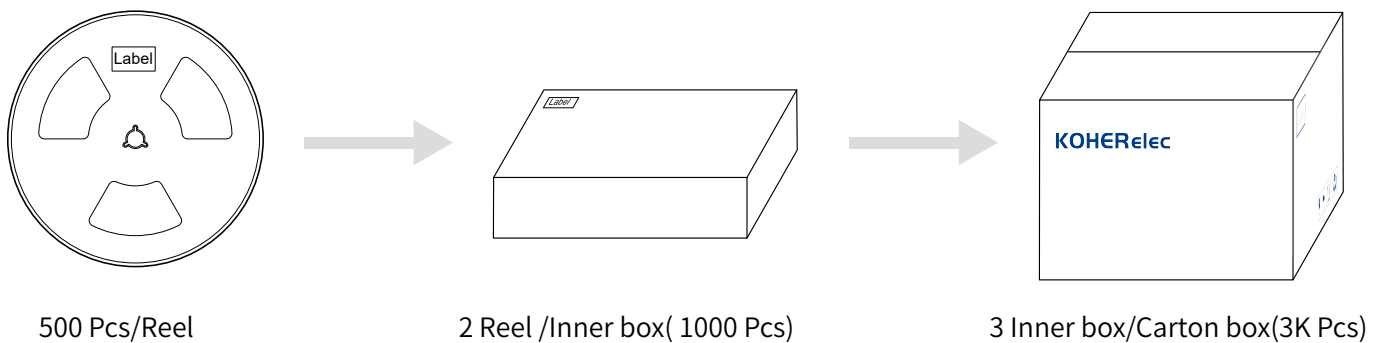
Product Marking:

Marking	KH+Printing (Inductance)
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Reel Dimension: [mm]



Packaging Quantity:



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.