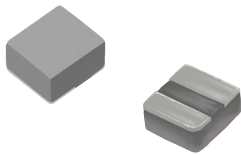


**MDTA Series**  
**SMD Low Profile High Current Molded Inductor**  
**Size 20121A**



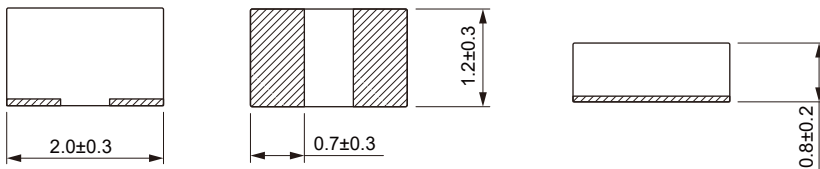
**FEATURES**

- High current, low DCR, high efficiency.
- Very low acoustic noise and very low leakage flux noise.
- AEC-Q200 qualified
- 100% Lead(Pb)-Free and RoHS compliant.
- Operating temperature: -55 to +155 °C (including self-temperature rise)
- Quantity: 3000PCS

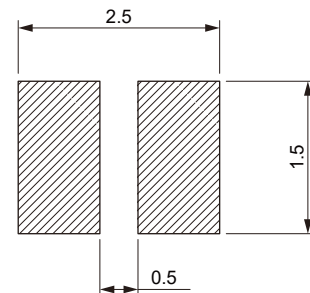
**APPLICATION**

- ADAS
- 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]**



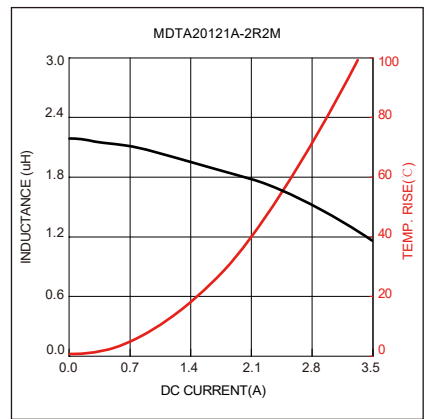
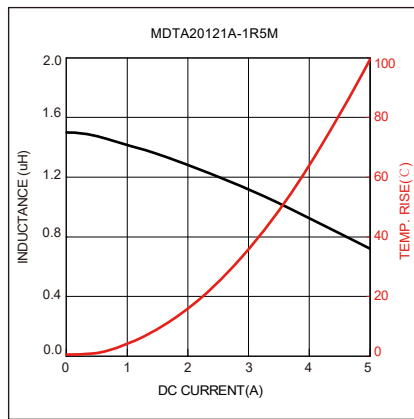
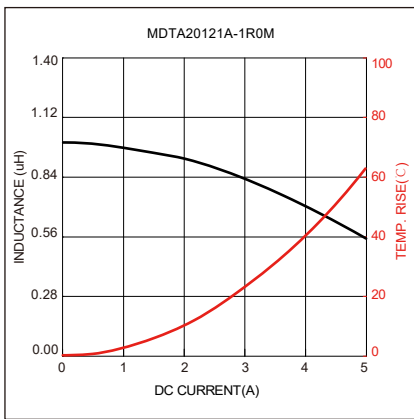
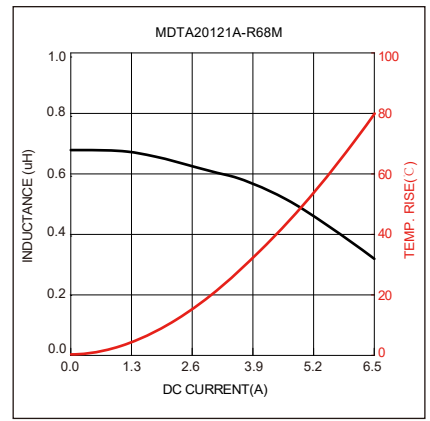
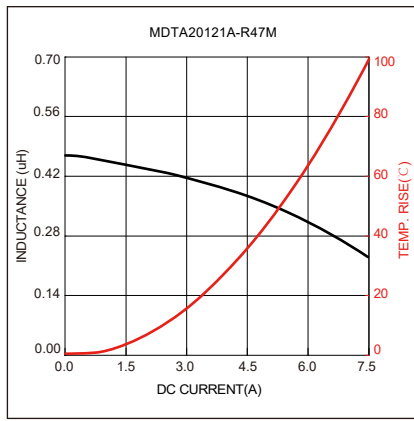
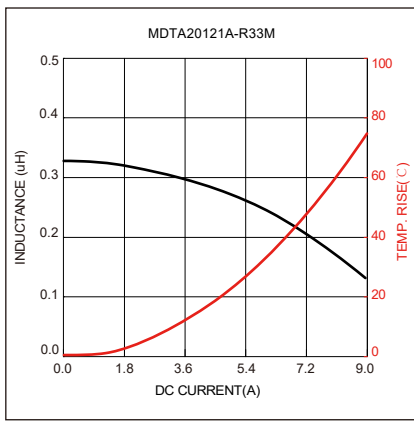
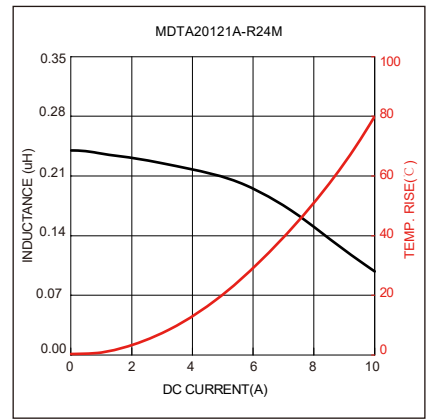
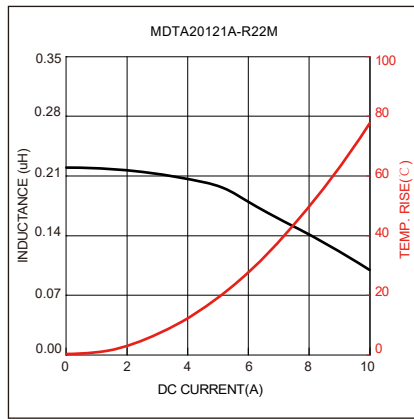
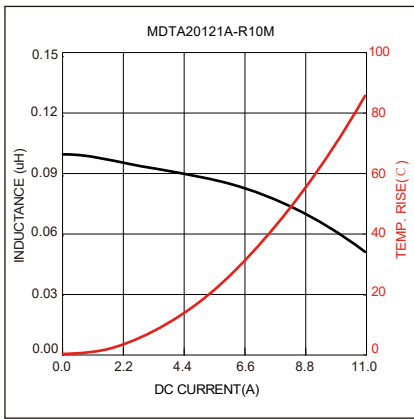
**Electrical Properties:**

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)
MDTA20121A-R10M	0.10	±20%	7.5	7.0	8.5	8.0	8	13
MDTA20121A-R22M	0.22	±20%	7.1	6.5	7.3	6.8	16	22
MDTA20121A-R24M	0.24	±20%	7.0	6.4	7.2	6.7	17	23
MDTA20121A-R33M	0.33	±20%	5.5	5.0	6.5	6.0	24	32
MDTA20121A-R47M	0.47	±20%	4.7	4.3	5.5	5.0	29	36
MDTA20121A-R68M	0.68	±20%	4.3	4.0	5.0	4.5	37	43
MDTA20121A-1R0M	1.00	±20%	3.9	3.5	4.0	3.5	55	63
MDTA20121A-1R5M	1.50	±20%	3.1	2.6	3.2	2.7	76	85
MDTA20121A-2R2M	2.20	±20%	2.0	1.7	2.7	2.4	135	150

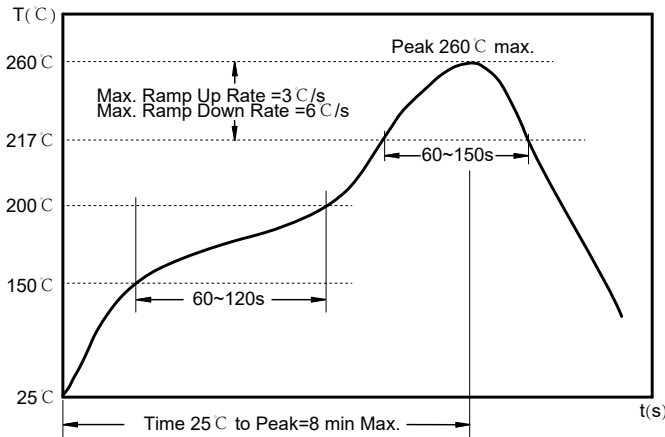
Saturation Current will cause L to drop approximately 30%

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

Typical Electrical Characteristics:



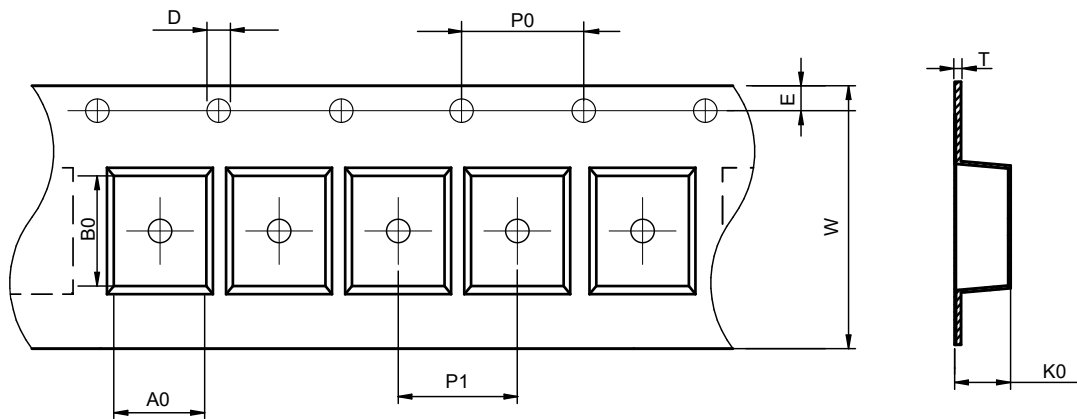
Soldering Reflow:



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

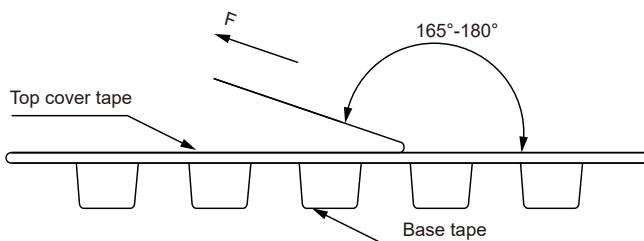
Packaging Information:

Tape Dimension:



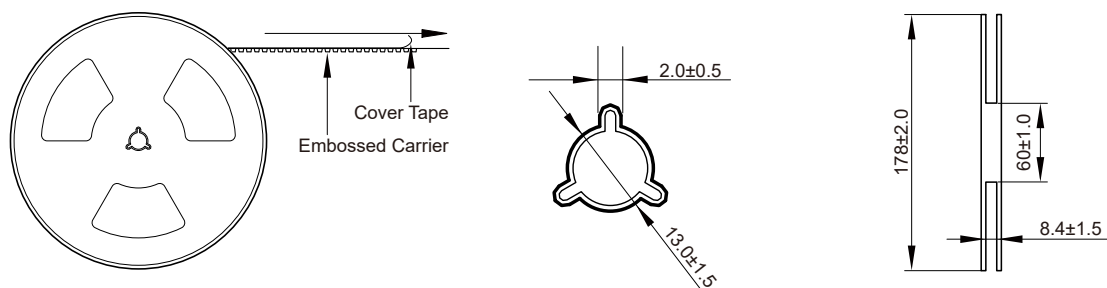
Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDTA20121A	1.5±0.1	2.3±0.1	1.5±0.1	4.0±0.1	4.0±0.1	8.0±0.1	1.2±0.1	1.75±0.1	0.25±0.05

Peel force of top cover tape:

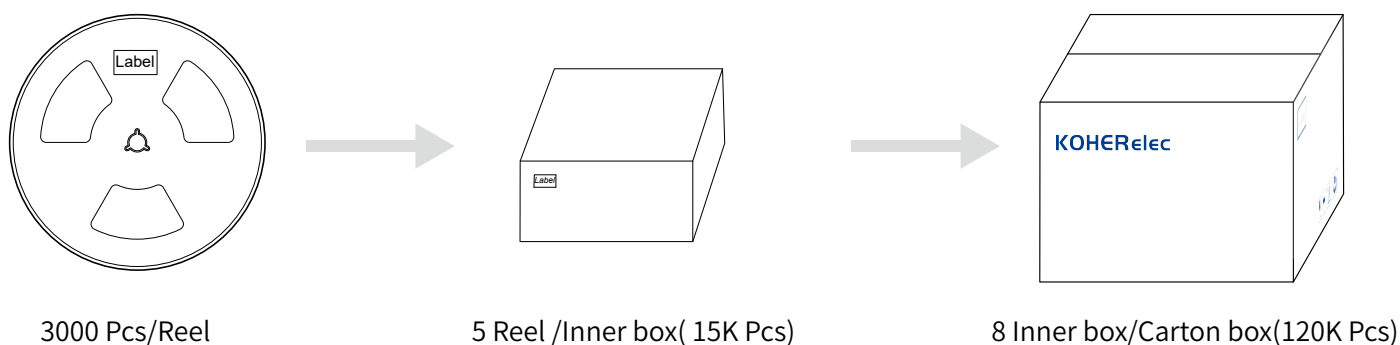


The peel force of top cover tape shall be between 0.1 to 0.98 N

## 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.