

## SMD Power Inductor Molding - 0502-Series (Alloy)



2020/1/1

### Features & Application

- Magnetic shielding structure, closed magnetic circuit, strong anti-electromagnetic interference, ultra-low buzzer, high-density installation.
- Small size, high current, range up to 60A, maintain excellent performance in high frequency and high temperature environment
- Low-loss alloy powder die-casting, low resistance, firm structure, high product accuracy.
- The working frequency range is wide, up to 5MHz or more.
- RoHS, halogen-free environmentally friendly products.

PAD/Notebook/Desktop/Server applications

DC/DC converter

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C /85% relative humidity)

85% relative humidity)

★ When ordering, please check part number



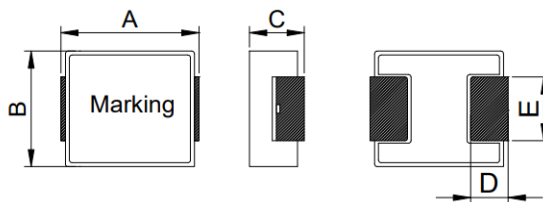
Part Number	Inductance @100KHz,1V (uH)	Rdc (mΩ) @25°C		Heat Rating Current DC Amps. Idc (A)	Saturation Current DC Amps. Isat (A)
		Typical	Maximum	Typical	Typical
MA0502-1R0M9A	1.0±20%	16.00	20.00	6.00	9.00
MA0502-1R5M6.5A	1.5±20%	26.00	35.00	5.50	6.50
MA0502-2R2M6A	2.2±20%	32.00	45.00	4.00	6.00
MA0502-3R3M5A	3.3±20%	72.00	80.00	3.50	5.00
MA0502-4R7M4A	4.7±20%	86.00	95.00	3.00	4.00
MA0502-6R8M3.5A	6.8±20%	116.00	130.00	2.80	3.50
MA0502-100M2.8A	10±20%	152.00	180.00	2.30	2.80

1. All test data is reference to 25°C ambient.

2. Idc : DC current (A) that will cause an approximate  $\Delta T$  of 40°C

3. Isat : DC current (A) that will cause L0 to drop approximately 30% Typ.

4. Operat between temperature range -40°C to +125°C



Dimensions	
A	5.70±0.25
B	5.10±0.35
C	2.00 max
D	1.30±0.3
E	2.30±0.3
unit : mm	

Impedance/Inductance/Q/	LCR Angilent E4991A
Resistance DC	Chroma 16502
Current per winding that causes a 20°C rise from 25°C ambient	
Electrical specifications at 25°C	

Weight 392 – 420 mg.

Packaging 2000/13 # reel; Plastic tape: 12 mm wide.

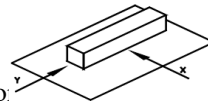
Packaging will different, according to the various chip size.

Contact Us	
US	sales-us@bing-ri.com.tw
Taiwan	sales-tw@bing-ri.com.tw
China	sales-cn@bing-ri.com.tw
Japan	sales-jp@bing-ri.com.tw

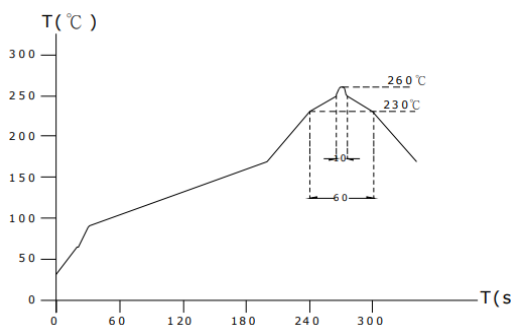
Official Website :	
<a href="https://www.bing-ri.com.tw/">https://www.bing-ri.com.tw/</a>	

## GENERAL CHARACTERISTICS

1. Operating temperature range:  $-40$  TO  $+125^{\circ}\text{C}$  (Includes temperature when the coil is heated)
2. External appearance: On visual inspection, the coil has no external defects.
3. Terminal strength: After soldering. Between copper plate and terminals of coil. Push in two directions of X.Y withstanding at below conditions.  
Terminal should not peel off. (refer to figure at right) 0.8kg Min -0502
4. Insulating resistance: Over  $100\text{M}\Omega$  at  $100\text{V D.C.}$  between coil and coil.
5. Dielectric strength: No dielectric breakdown at  $100\text{V D.C.}$  for 1 minute between coil and core
6. Temperature characteristics: Inductance coefficient  $(0\sim 2,000)\times 10^{-6}/(^{\circ}\text{C } -25\sim +80)$ .  $^{\circ}\text{C}$  , inductance deviation within  $\pm 5.0\%$ , after 96 hours.
7. Humidity characteristics(Moisture Resistance): Inductance deviation within  $\pm 5\%$ , after 96 hours in  $90\sim 95\%$  relative humidity at  $40 \pm 2$  and 1 hour drying under normal condition.
8. Vibration resistance: Inductance deviation within  $\pm 5\%$ , after vibration for 1 hour. In each of three orientations at sweep vibration ( $10\sim 55\sim 10$  Hz) with  $1.5\text{mm P-P}$  amplitudes.
9. Shock resistance: Inductance deviation within  $\pm 5\%$ , after being dropped once with  $981\text{m/s}^2$  ( $100\text{G}$ ) shock attitude upon a rubber block method shock testing machine, in three different
10. Resistance to Soldering Heat: 260 , 10 seconds(See attached recommend reflow)
11. Storage environment: Storage condition: Temperature Range:  $10 \sim 35$  (Generally:  $21 \sim 31$  ) , Humidity Range:  $50\% \sim 80\%$  RH (Generally:  $65\% \sim 75\%$  ) ; Transportation condition: Temperature Range:  $-35 \sim 85$  , Humidity Range:  $50\% \sim 95\%$  RH
12. Use components within 12 months. If 12 months or more have elapsed, check solderability before use.
13. Reflow profile recommend:



**Lead-free heat endurance test**



**Lead-free the recommended reflow condition**

