

## MHCC、MHCI Series



MHCC series is designed for low profile type with low RDC and ultra large current. Its molded magnetic shielded type is suitable for high-density mounting and ultra low buzz noise. Soldering conditions can be easily confirmed when mounting onto the board. This series also provides customers with embossed carrier type packaging for automatic mounting machine.

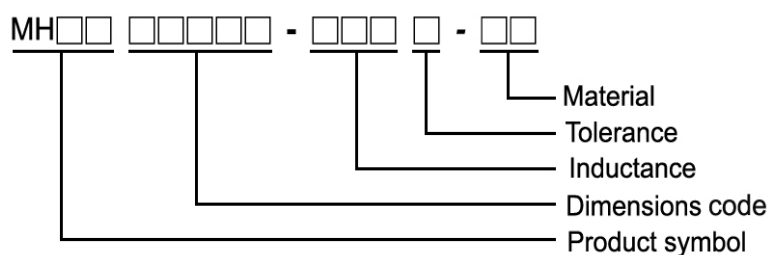
### Features

- RoHS compliant
- Low profile type
- Shielded construction
- Ultra low buzz noise, due to un-assembly structure

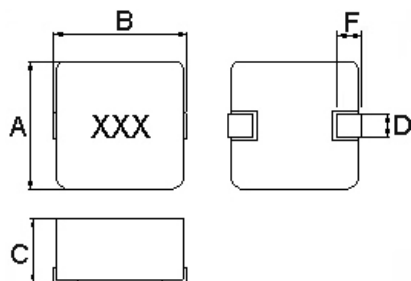
### Applications

- High density DC/DC converters
- POL converters
- High current VRM/VRD for notebook / Server / desktop CPUs
- High speed charger
- For thickness less than 1.2mm, suitable for low profile applications e.g., for Ultra thin NB/Monitor/TV/Tablet

### Product Identification



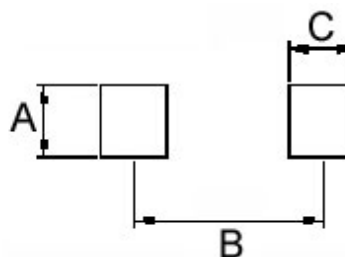
### Shapes and Dimensions



Dimensions in mm

| TYPE  | A        | B Max   | C Max   | D       | F       |
|-------|----------|---------|---------|---------|---------|
| 04012 | 4.1±0.2  | 4.6±0.2 | 1.2     | 1.5±0.3 | 1.0±0.5 |
| 04015 | 4.1±0.2  | 4.6±0.2 | 1.5     | 1.5±0.3 | 1.0±0.5 |
| 04020 | 4.1±0.2  | 4.6±0.2 | 2.0     | 1.5±0.3 | 1.0±0.5 |
| 05012 | 5.4±0.35 | 5.7±0.2 | 1.2     | 2.0±0.3 | 1.5±0.3 |
| 05015 | 5.4±0.35 | 5.7±0.2 | 1.5     | 2.0±0.3 | 1.5±0.3 |
| 05020 | 5.4±0.35 | 5.7±0.2 | 1.8±0.2 | 2.0±0.3 | 1.5±0.3 |
| 05030 | 5.4±0.35 | 5.7±0.2 | 3.0     | 2.0±0.3 | 1.5±0.3 |
| 06012 | 6.6±0.2  | 7.3     | 1.2±0.2 | 2.9     | 1.6±0.5 |
| 06015 | 6.6±0.2  | 7.3     | 1.3±0.2 | 2.9     | 1.6±0.5 |
| 06018 | 6.6±0.2  | 7.3     | 1.6±0.2 | 2.9     | 1.6±0.5 |
| 06024 | 6.6±0.2  | 7.3     | 2.4     | 2.9     | 1.6±0.5 |
| 06030 | 6.6±0.2  | 7.3     | 3.0     | 2.9     | 1.6±0.5 |
| 10030 | 10.1±0.3 | 11.6    | 3.0     | 3.0     | 2.5±0.5 |
| 10040 | 10.1±0.3 | 11.6    | 4.0     | 3.0     | 2.5±0.5 |
| 12035 | 12.6±0.2 | 13.8    | 3.5     | 3.7     | 2.7±0.7 |
| 12050 | 12.6±0.2 | 13.8    | 5.0     | 3.7     | 2.7±0.7 |
| 12060 | 12.6±0.2 | 13.8    | 6.0     | 3.7     | 2.7±0.7 |

### Recommended Pattern



Dimensions in mm

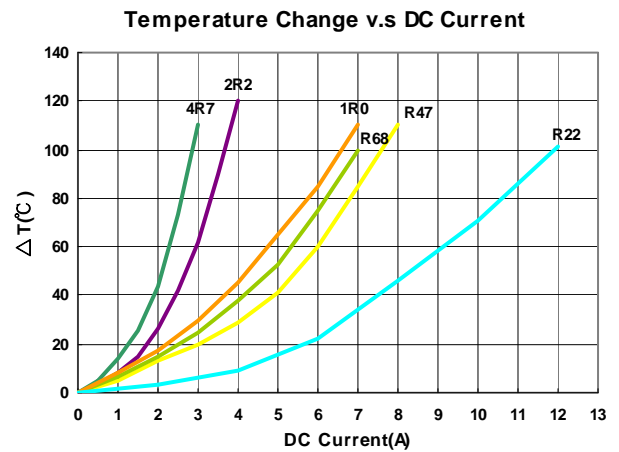
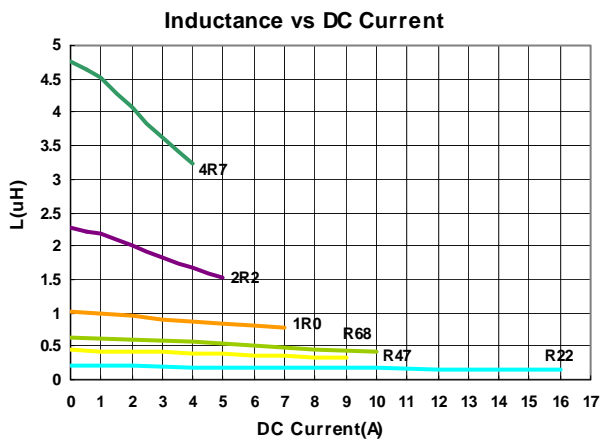
| TYPE  | A   | B    | C    |
|-------|-----|------|------|
| 04012 | 2.5 | 3.7  | 1.5  |
| 04015 | 2.5 | 3.7  | 1.5  |
| 04020 | 2.5 | 3.7  | 1.5  |
| 05012 | 2.5 | 4.1  | 1.9  |
| 05015 | 2.5 | 4.1  | 1.9  |
| 05020 | 2.5 | 4.1  | 1.9  |
| 05030 | 2.5 | 4.1  | 1.9  |
| 06012 | 3.5 | 6.05 | 2.35 |
| 06015 | 3.5 | 6.05 | 2.35 |
| 06018 | 3.5 | 6.05 | 2.35 |
| 06024 | 3.5 | 6.05 | 2.35 |
| 06030 | 3.5 | 6.05 | 2.35 |
| 10030 | 4.0 | 9.5  | 3.5  |
| 10040 | 4.0 | 9.5  | 3.5  |
| 12035 | 5.0 | 10.5 | 4.0  |
| 12050 | 5.0 | 10.5 | 4.0  |
| 12060 | 5.0 | 10.5 | 4.0  |

## Electrical Characteristics

| Part Number       | Inductance | Tolerance | Test Frequency (KHz) | Irms   | Isat   | RDC         |
|-------------------|------------|-----------|----------------------|--------|--------|-------------|
|                   | (uH)       | (±%)      |                      | (A)Typ | (A)Typ | (mΩ)Max.    |
| MHCI04012-R22M-R8 | 0.22       | 20        | 100KHz,0.5V          | 8.5    | 11.5   | 12(11typ)   |
| MHCI04012-R47M-R8 | 0.47       | 20        | 100KHz,0.5V          | 5.0    | 7.0    | 25(20typ)   |
| MHCI04012-R68M-R8 | 0.68       | 20        | 100KHz,0.5V          | 4.0    | 6.0    | 37(34typ)   |
| MHCI04012-1R0M-R8 | 1.0        | 20        | 100KHz,0.5V          | 4.0    | 5.2    | 46(38typ)   |
| MHCI04012-2R2M-R8 | 2.2        | 20        | 100KHz,0.5V          | 2.2    | 3.5    | 114(95typ)  |
| MHCI04012-4R7M-R8 | 4.7        | 20        | 100KHz,0.5V          | 1.8    | 2.8    | 195(175typ) |

- **Irms** DC current (A) that will cause an approximate  $\Delta T$  of 40°C.
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance : M= ±20%
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from -55°C to 125°C. (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

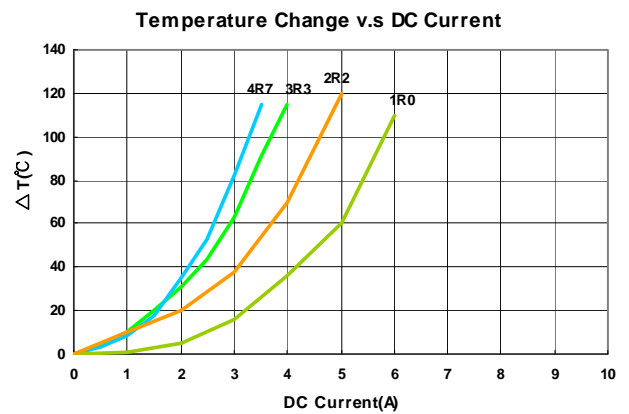
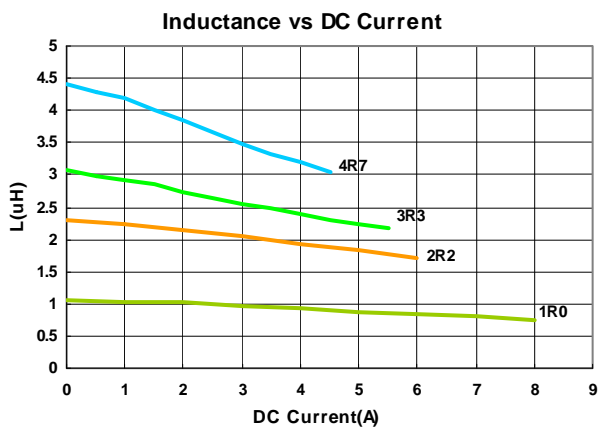


## Electrical Characteristics

| Part Number       | Inductance | Tolerance   | Test Frequency (KHz) | Irms   | Isat   | RDC               |
|-------------------|------------|-------------|----------------------|--------|--------|-------------------|
|                   | ( $\mu$ H) | ( $\pm\%$ ) |                      | (A)Typ | (A)Typ | ( $m\Omega$ )Max. |
| MHCI04015-1R0M-R8 | 1.0        | 20          | 100KHz,0.5V          | 4      | 7      | 46(38typ)         |
| MHCI04015-2R2M-R8 | 2.2        | 20          | 100KHz,0.5V          | 3      | 5      | 86(72typ)         |
| MHCI04015-3R3M-R8 | 3.3        | 20          | 100KHz,0.5V          | 2.3    | 4.5    | 138(115typ)       |
| MHCI04015-4R7M-R8 | 4.7        | 20          | 100KHz,0.5V          | 2      | 4      | 146(112typ)       |

- **Irms** DC current (A) that will cause an approximate  $\Delta T$  of  $40^\circ\text{C}$ .
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from  $-55^\circ\text{C}$  to  $125^\circ\text{C}$ . (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

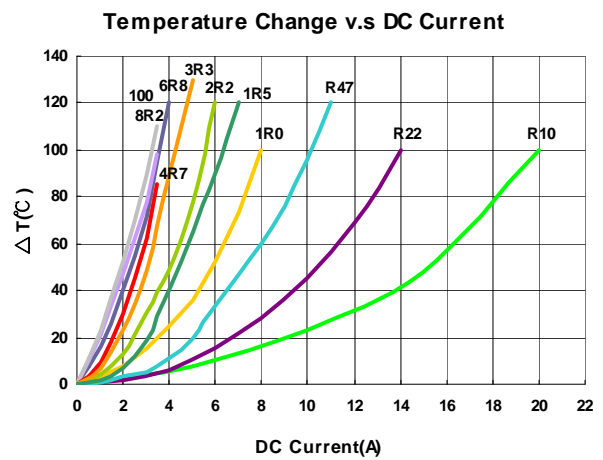
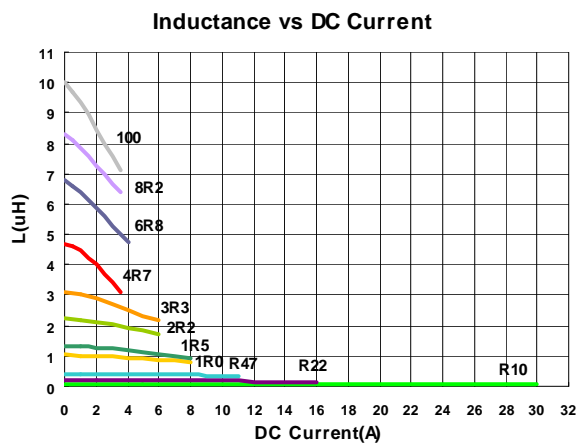


## Electrical Characteristics

| Part Number       | Inductance | Tolerance   | Test Frequency | Irms   | Isat   | RDC               |
|-------------------|------------|-------------|----------------|--------|--------|-------------------|
|                   | ( $\mu$ H) | ( $\pm\%$ ) | (KHz)          | (A)Typ | (A)Typ | ( $m\Omega$ )Max. |
| MHCI04020-R10M-R8 | 0.10       | 20          | 100KHz,0.5V    | 12.0   | 25     | 4(3.5typ)         |
| MHCI04020-R22M-R8 | 0.22       | 20          | 100KHz,0.5V    | 9.0    | 12.5   | 6.6(6typ)         |
| MHCI04020-R47M-R8 | 0.47       | 20          | 100KHz,0.5V    | 7.0    | 9.5    | 14(12.5typ)       |
| MHCI04020-1R5M-R8 | 1.5        | 20          | 100KHz,0.5V    | 4.0    | 6.0    | 46(38typ)         |
| MHCI04020-2R2M-R8 | 2.2        | 20          | 100KHz,0.5V    | 3.0    | 5.0    | 58(52typ)         |
| MHCI04020-3R3M-R8 | 3.3        | 20          | 100KHz,0.5V    | 2.5    | 4.0    | 87(74typ)         |
| MHCI04020-4R7M-R8 | 4.7        | 20          | 100KHz,0.5V    | 2.2    | 3.0    | 105(92typ)        |
| MHCI04020-6R8M-R8 | 6.8        | 20          | 100KHz,0.5V    | 2.0    | 2.5    | 150(125typ)       |
| MHCI04020-8R2M-R8 | 8.2        | 20          | 100KHz,0.5V    | 1.8    | 2.5    | 180(150typ)       |
| MHCI04020-100M-R8 | 10         | 20          | 100KHz,0.5V    | 1.6    | 2.0    | 270(225typ)       |

- **Irms** DC current (A) that will cause an approximate  $\Delta T$  of  $40^\circ\text{C}$ .
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance :  $M = \pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from  $-55^\circ\text{C}$  to  $125^\circ\text{C}$ . (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

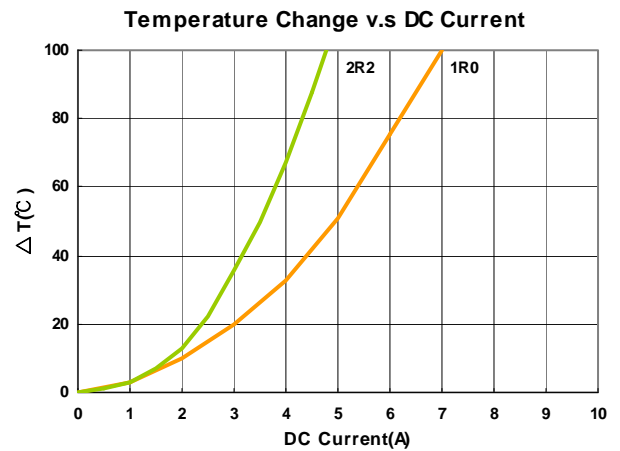
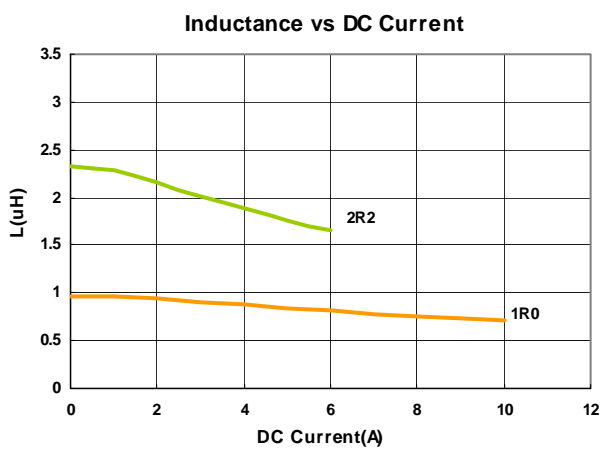


## Electrical Characteristics

| Part Number       | Inductance | Tolerance | Test Frequency (KHz) | I <sub>rms</sub> | I <sub>sat</sub> | RDC       |
|-------------------|------------|-----------|----------------------|------------------|------------------|-----------|
|                   | (uH)       | (±%)      |                      | (A)Typ           | (A)Typ           | (mΩ)Max.  |
| MHCI05012-1R0M-R8 | 1.0        | 20        | 100KHz,0.5V          | 4.5              | 8                | 38(32typ) |
| MHCI05012-2R2M-R8 | 2.2        | 20        | 100KHz,0.5V          | 3.0              | 4                | 88(73typ) |

- I<sub>rms</sub> current (A) that will cause an approximate ΔT of 40°C.
- I<sub>sat</sub> current (A) that will cause L to drop approximately 30%
- Tolerance : M= ±20%
- L : WK 3260B
- R<sub>dc</sub> : CHEN HWA502
- Operating temperature range from -55°C to 125°C. (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

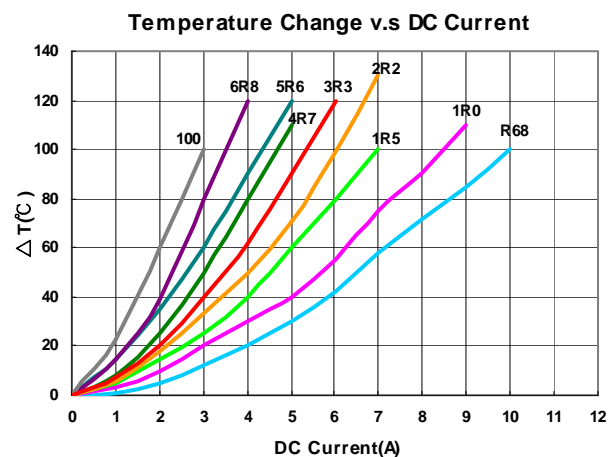
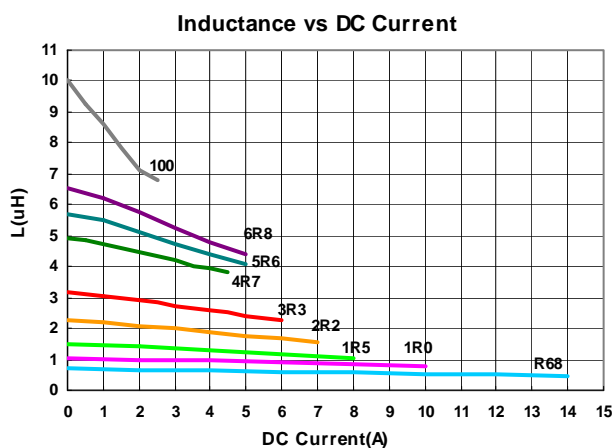


## Electrical Characteristics

| Part Number       | Inductance | Tolerance   | Test Frequency | I <sub>rms</sub> | I <sub>sat</sub> | RDC               |
|-------------------|------------|-------------|----------------|------------------|------------------|-------------------|
|                   | ( $\mu$ H) | ( $\pm\%$ ) | (KHz)          | (A)Typ           | (A)Typ           | (m $\Omega$ )Max. |
| MHCI05015-R68M-R8 | 0.68       | 20          | 100KHz,0.5V    | 6.0              | 10               | 23(19typ)         |
| MHCI05015-1R0M-R8 | 1.0        | 20          | 100KHz,0.5V    | 5.0              | 8.0              | 33(27typ)         |
| MHCI05015-1R5M-R8 | 1.5        | 20          | 100KHz,0.5V    | 4.0              | 6.0              | 50(41typ)         |
| MHCI05015-2R2M-R8 | 2.2        | 20          | 100KHz,0.5V    | 3.3              | 6.0              | 68(57typ)         |
| MHCI05015-3R3M-R8 | 3.3        | 20          | 100KHz,0.5V    | 3.0              | 5.0              | 84(70typ)         |
| MHCI05015-4R7M-R8 | 4.7        | 20          | 100KHz,0.5V    | 2.5              | 4.0              | 135(128typ)       |
| MHCI05015-5R6M-R8 | 5.6        | 20          | 100KHz,0.5V    | 2.2              | 3.5              | 175(146typ)       |
| MHCI05015-6R8M-R8 | 6.8        | 20          | 100KHz,0.5V    | 2.0              | 3.0              | 192(160typ)       |
| MHCI05015-100M-R8 | 10         | 20          | 100KHz,0.5V    | 1.5              | 2.0              | 195(175typ)       |

- I<sub>rms</sub> DC current (A) that will cause an approximate  $\Delta T$  of 40°C.
- I<sub>sat</sub> DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from -55°C to 125°C. (Including self - temperature rise)

Test Instruments : WK3260B Impedance / Material Analyzer



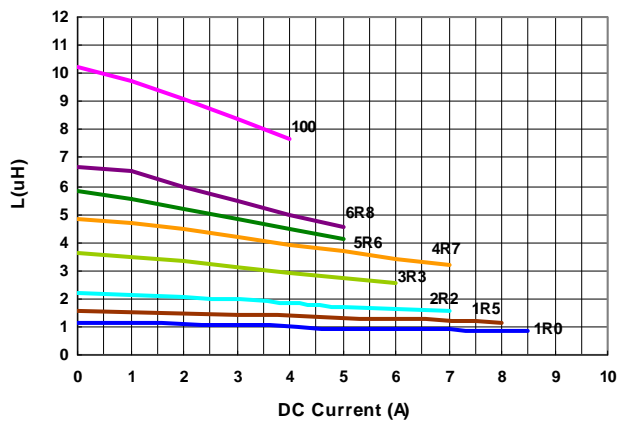
## Electrical Characteristics

| Part Number       | Inductance | Tolerance | Test Frequency (KHz) | I <sub>rms</sub> | I <sub>sat</sub> | RDC         |
|-------------------|------------|-----------|----------------------|------------------|------------------|-------------|
|                   | (uH)       | (±%)      |                      | (A)Typ           | (A)Typ           | (mΩ)Max.    |
| MHCI05020-1R0M-R8 | 1.0        | 20        | 100KHz,0.5V          | 6.0              | 7.0              | 30(27typ)   |
| MHCI05020-1R5M-R8 | 1.5        | 20        | 100KHz,0.5V          | 5.5              | 6.5              | 35(30typ)   |
| MHCI05020-2R2M-R8 | 2.2        | 20        | 100KHz,0.5V          | 4.0              | 6.0              | 45(40typ)   |
| MHCI05020-3R3M-R8 | 3.3        | 20        | 100KHz,0.5V          | 3.5              | 5.5              | 60(55typ)   |
| MHCI05020-4R7M-R8 | 4.7        | 20        | 100KHz,0.5V          | 3.0              | 5.0              | 90(75typ)   |
| MHCI05020-5R6M-R8 | 5.6        | 20        | 100KHz,0.5V          | 2.8              | 4.5              | 120(100typ) |
| MHCI05020-6R8M-R8 | 6.8        | 20        | 100KHz,0.5V          | 2.8              | 4.5              | 125(115typ) |
| MHCI05020-100M-R8 | 10         | 20        | 100KHz,0.5V          | 2.3              | 4.0              | 180(163typ) |

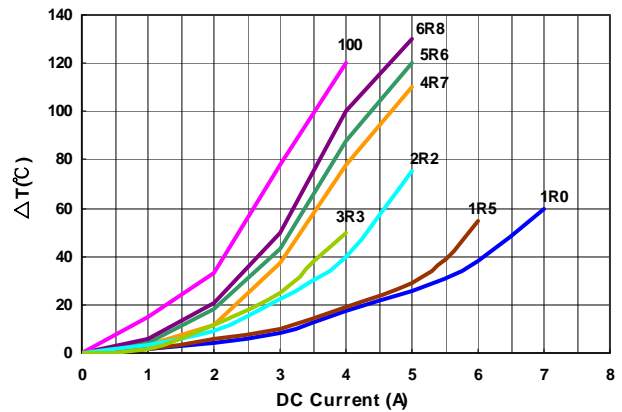
- I<sub>rms</sub> DC current (A) that will cause an approximate ΔT of 40°C.
- I<sub>sat</sub> DC current (A) that will cause L to drop approximately 30%
- Tolerance : M= ±20%
- L : WK 3260B
- R<sub>dc</sub> : CHEN HWA502
- Operating temperature range from -55°C to 125°C. (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

**Inductance v.s DC Current**



**Temperature Change v.s DC Current**

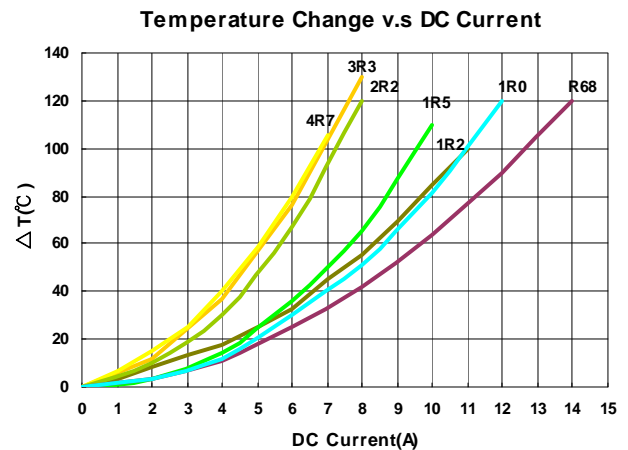
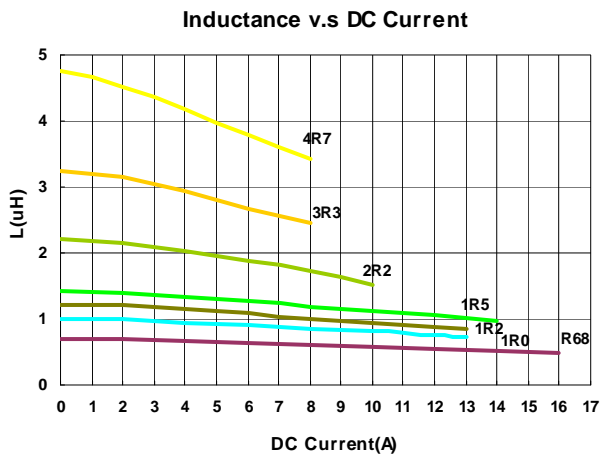


## Electrical Characteristics

| Part Number       | Inductance | Tolerance  | Test Frequency (KHz) | I <sub>rms</sub> | I <sub>sat</sub> | RDC               |
|-------------------|------------|------------|----------------------|------------------|------------------|-------------------|
|                   | ( $\mu$ H) | ( $\pm$ %) |                      | (A)Typ           | (A)Typ           | (m $\Omega$ )Max. |
| MHCI05030-R68M-R8 | 0.68       | 20         | 100KHz,0.5V          | 8.0              | 14               | 12(11typ)         |
| MHCI05030-1R0M-R8 | 1.0        | 20         | 100KHz,0.5V          | 7.0              | 11               | 15(14typ)         |
| MHCI05030-1R2M-R8 | 1.2        | 20         | 100KHz,0.5V          | 6.5              | 11               | 15(14typ)         |
| MHCI05030-1R5M-R8 | 1.5        | 20         | 100KHz,0.5V          | 6.0              | 10               | 25(20typ)         |
| MHCI05030-2R2M-R8 | 2.2        | 20         | 100KHz,0.5V          | 5.0              | 8                | 35(29typ)         |
| MHCI05030-3R3M-R8 | 3.3        | 20         | 100KHz,0.5V          | 4.5              | 7                | 46(38typ)         |
| MHCI05030-4R7M-R8 | 4.7        | 20         | 100KHz,0.5V          | 4.0              | 6                | 60(50typ)         |

- I<sub>rms</sub> DC current (A) that will cause an approximate  $\Delta T$  of 40°C.
- I<sub>sat</sub> DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm$ 20%
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from -55°C to 125°C . (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

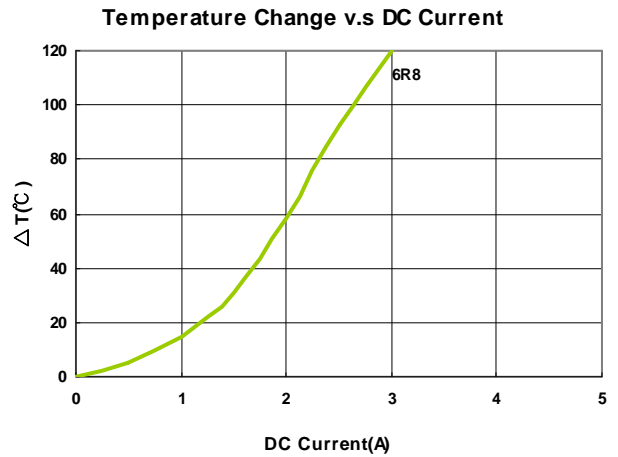
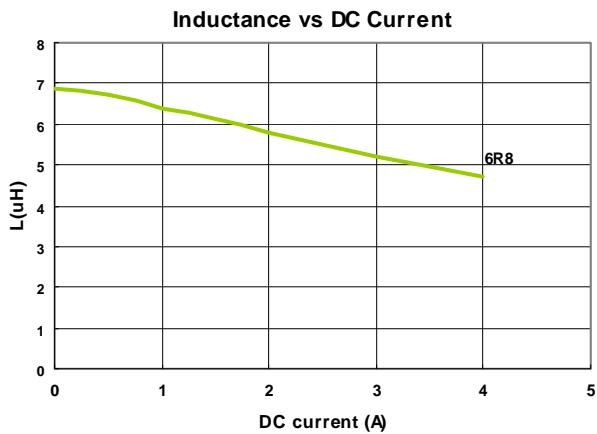


## Electrical Characteristics

| Part Number       | Inductance | Tolerance   | Test Frequency (KHz) | I <sub>rms</sub> | I <sub>sat</sub> | RDC               |
|-------------------|------------|-------------|----------------------|------------------|------------------|-------------------|
|                   | ( $\mu$ H) | ( $\pm\%$ ) |                      | (A)Typ           | (A)Typ           | ( $m\Omega$ )Max. |
| MHCI06012-6R8M-R8 | 6.8        | 20          | 100KHz,0.5V          | 1.5              | 3                | 210(175typ)       |

- I<sub>rms</sub> DC current (A) that will cause an approximate  $\Delta T$  of 40°C.
- I<sub>sat</sub> DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from -55°C to 125°C. (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

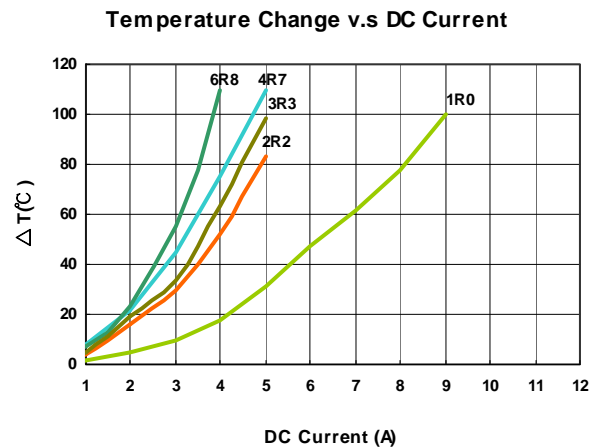
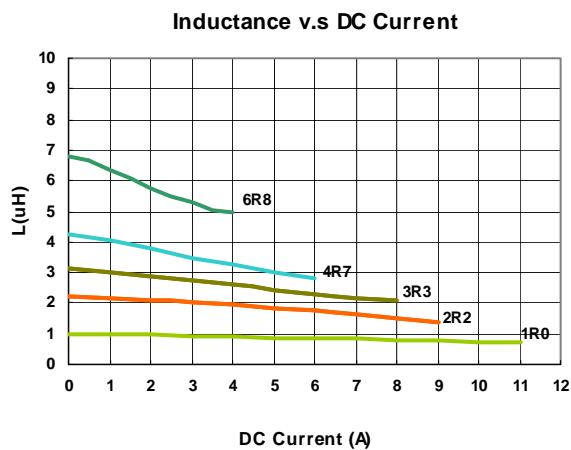


## Electrical Characteristics

| Part Number       | Inductance | Tolerance   | Test Frequency (KHz) | Irms   | Isat   | RDC               |
|-------------------|------------|-------------|----------------------|--------|--------|-------------------|
|                   | ( $\mu$ H) | ( $\pm\%$ ) |                      | (A)Typ | (A)Typ | ( $m\Omega$ )Max. |
| MHCI06015-1R0M-R8 | 1.0        | 20          | 100KHz,0.5V          | 5.5    | 9.0    | 25(21typ)         |
| MHCI06015-2R2M-R8 | 2.2        | 20          | 100KHz,0.5V          | 3.5    | 6.0    | 54(46typ)         |
| MHCI06015-3R3M-R8 | 3.3        | 20          | 100KHz,0.5V          | 3.3    | 5.5    | 63(54typ)         |
| MHCI06015-4R7M-R8 | 4.7        | 20          | 100KHz,0.5V          | 3.2    | 4.5    | 105(95typ)        |
| MHCI06015-6R8M-R8 | 6.8        | 20          | 100KHz,0.5V          | 2.5    | 4.0    | 140(128typ)       |

- **Irms** DC current (A) that will cause an approximate  $\Delta T$  of  $40^\circ\text{C}$ .
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from  $-55^\circ\text{C}$  to  $125^\circ\text{C}$ . (Including self - temperature rise)

**Test Instruments** : WK3260B Impedance / Material Analyzer



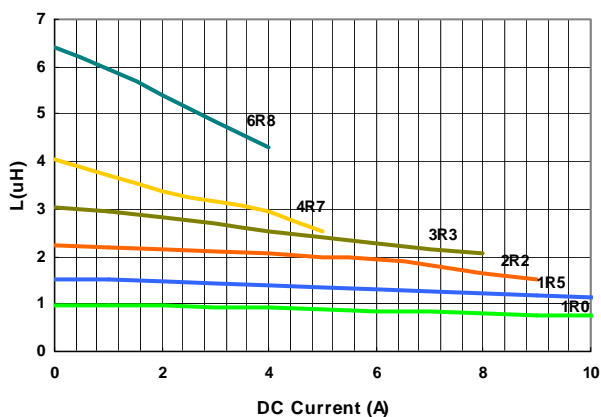
## Electrical Characteristics

| Part Number       | Inductance | Tolerance   | Test Frequency (KHz) | Irms   | Isat   | RDC               |
|-------------------|------------|-------------|----------------------|--------|--------|-------------------|
|                   | ( $\mu$ H) | ( $\pm\%$ ) |                      | (A)Typ | (A)Typ | ( $m\Omega$ )Max. |
| MHCI06018-1R0M-R8 | 1.0        | 20          | 100KHz,0.5V          | 7.0    | 12.0   | 18.5(17typ)       |
| MHCI06018-1R5M-R8 | 1.5        | 20          | 100KHz,0.5V          | 5.0    | 10.5   | 28(24typ)         |
| MHCI06018-2R2M-R8 | 2.2        | 20          | 100KHz,0.5V          | 5.0    | 8.0    | 35(31typ)         |
| MHCI06018-3R3M-R8 | 3.3        | 20          | 100KHz,0.5V          | 3.5    | 8.0    | 60(56typ)         |
| MHCI06018-4R7M-R8 | 4.7        | 20          | 100KHz,0.5V          | 3.5    | 5.0    | 72(65typ)         |
| MHCI06018-6R8M-R8 | 6.8        | 20          | 100KHz,0.5V          | 2.8    | 3.5    | 110(98typ)        |

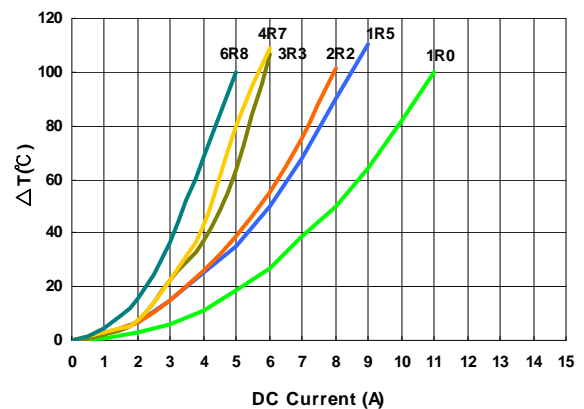
- **Irms** DC current (A) that will cause an approximate  $\Delta T$  of  $40^\circ\text{C}$ .
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from  $-55^\circ\text{C}$  to  $125^\circ\text{C}$ . (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

Inductance v.s DC Current



Temperature Change v.s DC Current

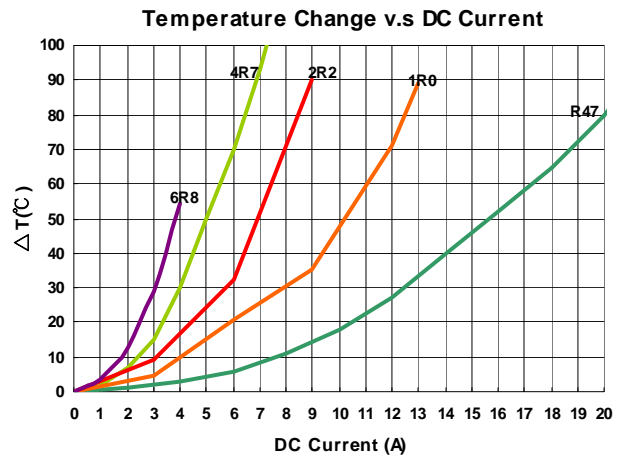
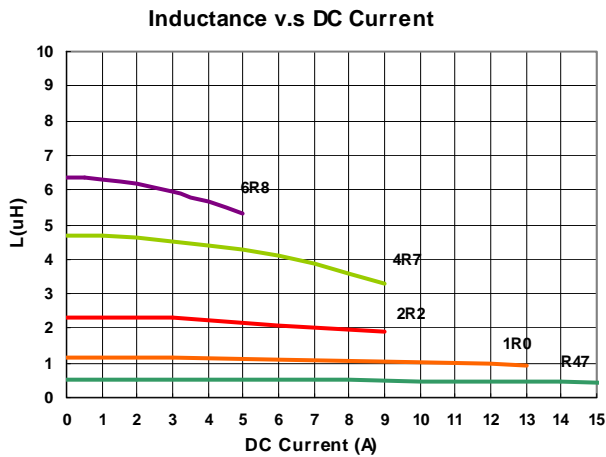


## Electrical Characteristics

| Part Number       | Inductance | Tolerance   | Test Frequency (MHz) | Irms   | Isat   | RDC               |
|-------------------|------------|-------------|----------------------|--------|--------|-------------------|
|                   | ( $\mu$ H) | ( $\pm\%$ ) |                      | (A)Typ | (A)Typ | ( $m\Omega$ )Max. |
| MHCI06024-R47M-R8 | 0.47       | 20          | 100KHz,0.5V          | 13.5   | 21     | 6.5(6.0typ)       |
| MHCI06024-1R0M-R8 | 1.0        | 20          | 100KHz,0.5V          | 9.0    | 16     | 13.5(11.2typ)     |
| MHCI06024-2R2M-R8 | 2.2        | 20          | 100KHz,0.5V          | 6.0    | 12     | 28(23typ)         |
| MHCI06024-4R7M-R8 | 4.7        | 20          | 100KHz,0.5V          | 4.5    | 8      | 50(41typ)         |
| MHCI06024-6R8M-R8 | 6.8        | 20          | 1MHz,1V              | 3.5    | 4      | 66(62.5typ)       |

- **Irms** DC current (A) that will cause an approximate  $\Delta T$  of  $40^\circ\text{C}$ .
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from  $-55^\circ\text{C}$  to  $125^\circ\text{C}$ . (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

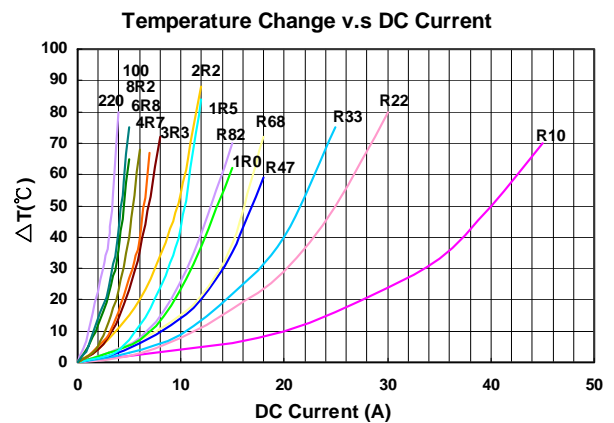
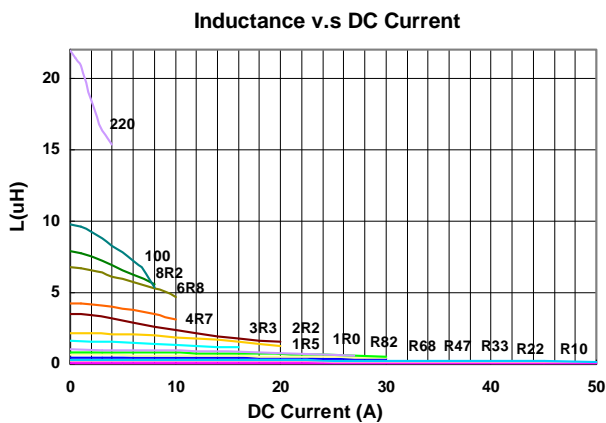


## Electrical Characteristics

| Part Number       | Inductance<br>( $\mu\text{H}$ ) | Tolerance<br>( $\pm\%$ ) | Test Frequency<br>(KHz) | Irms<br>(A)Typ | Isat<br>(A)Typ | RDC<br>( $\text{m}\Omega$ )Max. |
|-------------------|---------------------------------|--------------------------|-------------------------|----------------|----------------|---------------------------------|
| MHCI06030-R10M-R8 | 0.10                            | 20                       | 100KHz,0.5V             | 37             | 45             | 1.5(1.3typ)                     |
| MHCI06030-R22M-R8 | 0.22                            | 20                       | 100KHz,0.5V             | 23             | 40             | 2.8(2.5typ)                     |
| MHCI06030-R33M-R8 | 0.33                            | 20                       | 100KHz,0.5V             | 20             | 33             | 4.2(4.0typ)                     |
| MHCI06030-R47M-R8 | 0.47                            | 20                       | 100KHz,0.5V             | 16.5           | 27             | 5.5(5.0typ)                     |
| MHCI06030-R68M-R8 | 0.68                            | 20                       | 100KHz,0.5V             | 15             | 24             | 6.3(5.7typ)                     |
| MHCI06030-R82M-R8 | 0.82                            | 20                       | 100KHz,0.5V             | 13             | 23             | 8.0(7.5typ)                     |
| MHCI06030-1R0M-R8 | 1.0                             | 20                       | 100KHz,0.5V             | 12             | 22             | 10(9.0typ)                      |
| MHCI06030-1R5M-R8 | 1.5                             | 20                       | 100KHz,0.5V             | 9.5            | 18             | 15(13.5typ)                     |
| MHCI06030-2R2M-R8 | 2.2                             | 20                       | 100KHz,0.5V             | 8.5            | 14             | 20(17.0typ)                     |
| MHCI06030-3R3M-R8 | 3.3                             | 20                       | 100KHz,0.5V             | 6.0            | 12             | 35(32.0typ)                     |
| MHCI06030-4R7M-R8 | 4.7                             | 20                       | 100KHz,0.5V             | 5.5            | 9              | 40(35.0typ)                     |
| MHCI06030-6R8M-R8 | 6.8                             | 20                       | 100KHz,0.5V             | 4.5            | 8              | 60(54.0typ)                     |
| MHCC06030-8R2M-R7 | 8.2                             | 20                       | 100KHz,0.5V             | 4.5            | 6              | 60(54.0typ)                     |
| MHCC06030-100M-R7 | 10                              | 20                       | 100KHz,0.5V             | 4.0            | 5.5            | 68(62.0typ)                     |
| MHCC06030-220M-R1 | 22                              | 20                       | 100KHz,0.5V             | 3.0            | 3.2            | 145(130.0typ)                   |

- **Irms** DC current (A) that will cause an approximate  $\Delta T$  of 40°C.
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from -55°C to 125°C. (Including self - temperature rise)

## Test Instruments : WK3260B Impedance / Material Analyzer

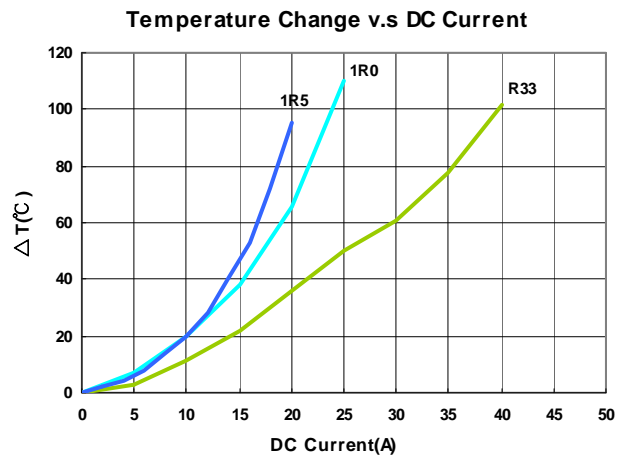
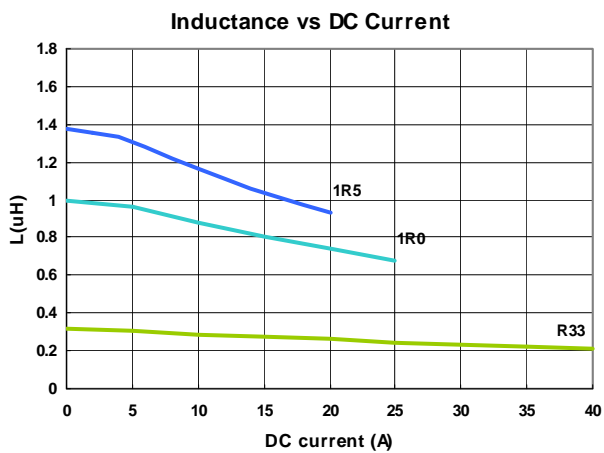


## Electrical Characteristics

| Part Number       | Inductance | Tolerance | Test Frequency<br>(KHz) | Irms   | Isat   | RDC      |
|-------------------|------------|-----------|-------------------------|--------|--------|----------|
|                   | (uH)       | (±%)      |                         | (A)Typ | (A)Typ | (mΩ)Max. |
| MHCC10030-R33M-R7 | 0.33       | 20        | 100KHz,0.5V             | 23     | 32     | 1.6      |
| MHCC10030-1R0M-R7 | 1.0        | 20        | 100KHz,0.5V             | 15     | 21     | 6.0      |
| MHCC10030-1R5M-R7 | 1.5        | 20        | 100KHz,0.5V             | 13.5   | 18     | 7.5      |

- Irms current (A) that will cause an approximate  $\Delta T$  of 40°C.
- Isat current (A) that will cause L to drop approximately 30%
- Tolerance : M= ±20%
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from -55°C to 125°C. (Including self - temperature rise)

## Test Instruments : WK3260B Impedance / Material Analyzer



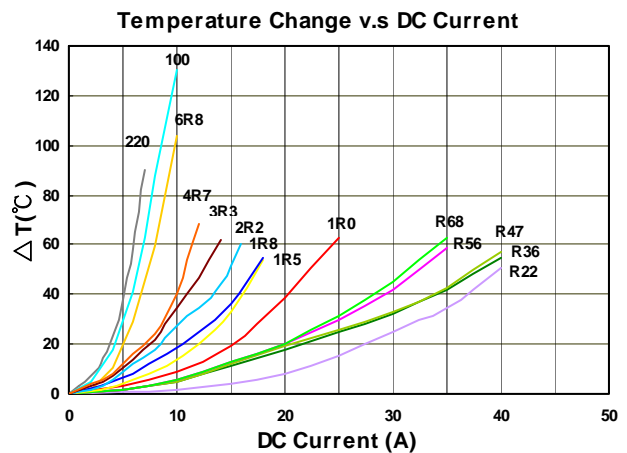
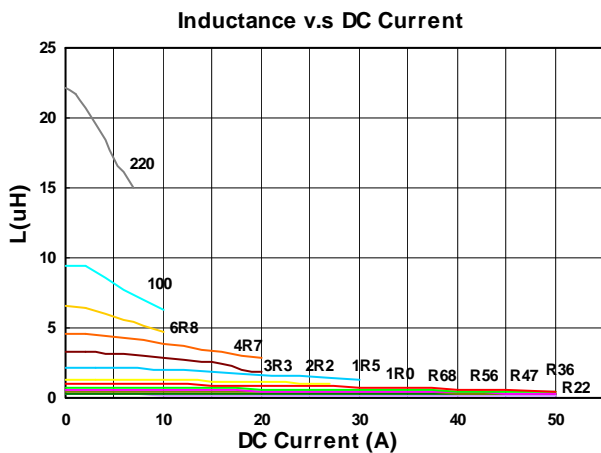
# Molding Power Choke – MHCC/MHCI Series

## Electrical Characteristics

| Part Number       | Inductance | Tolerance | Test Frequency<br>(KHz) | Irms   | Isat   | RDC      |
|-------------------|------------|-----------|-------------------------|--------|--------|----------|
|                   | (uH)       | (±%)      |                         | (A)Typ | (A)Typ | (mΩ)Max. |
| MHCC10040-R22M-R7 | 0.22       | 20        | 100KHz,0.5V             | 35     | 45     | 0.6      |
| MHCC10040-R36M-R7 | 0.36       | 20        | 100KHz,0.5V             | 34     | 42     | 1.2      |
| MHCC10040-R47M-R7 | 0.47       | 20        | 100KHz,0.5V             | 33     | 38     | 1.2      |
| MHCC10040-R56M-R7 | 0.56       | 20        | 100KHz,0.5V             | 27     | 32     | 1.55     |
| MHCC10040-R68M-R7 | 0.68       | 20        | 100KHz,0.5V             | 27     | 30     | 1.55     |
| MHCC10040-1R0M-R7 | 1.0        | 20        | 100KHz,0.5V             | 20     | 26     | 3.1      |
| MHCC10040-1R5M-R7 | 1.5        | 20        | 100KHz,0.5V             | 16     | 22     | 4.2      |
| MHCC10040-1R8M-R7 | 1.8        | 20        | 100KHz,0.5V             | 15.3   | 16     | 5        |
| MHCC10040-2R2M-R7 | 2.2        | 20        | 100KHz,0.5V             | 14     | 16     | 7        |
| MHCC10040-3R3M-R7 | 3.3        | 20        | 100KHz,0.5V             | 11     | 12     | 13.2     |
| MHCI10040-4R7M-R8 | 4.7        | 20        | 100KHz,0.5V             | 10     | 13     | 16.5     |
| MHCC10040-6R8M-R7 | 6.8        | 20        | 100KHz,0.5V             | 6      | 10     | 25       |
| MHCC10040-8R2M-R7 | 8.2        | 20        | 100KHz,0.5V             | 6      | 9      | 30       |
| MHCC10040-100M-R7 | 10         | 20        | 100KHz,0.5V             | 6.5    | 7      | 30       |
| MHCC10040-150M-R7 | 15         | 20        | 100KHz,0.5V             | 5      | 6      | 53       |
| MHCC10040-220M-R7 | 22         | 20        | 100KHz,0.5V             | 4.5    | 4.5    | 64       |

- Irms DC current (A) that will cause an approximate  $\Delta T$  of 40°C.
- Isat DC current (A) that will cause L to drop approximately 30%
- Tolerance : M= ±20%
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from -55°C to 125°C. (Including self - temperature rise)

Test Instruments : WK3260B Impedance / Material Analyzer

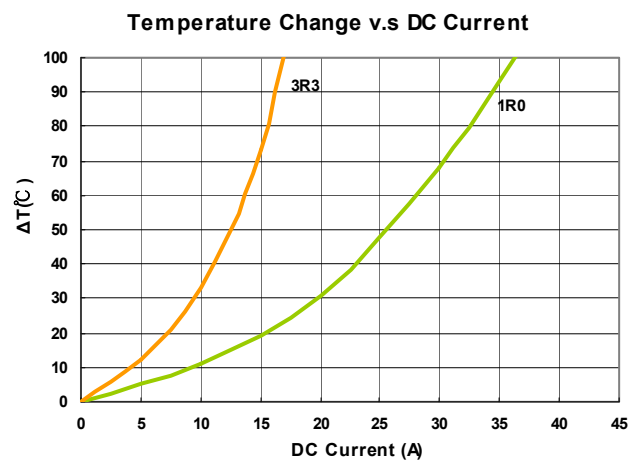
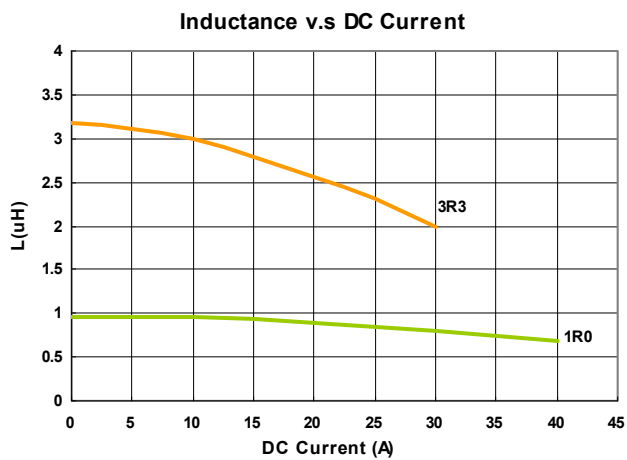


## Electrical Characteristics

| Part Number       | Inductance | Tolerance | Test Frequency<br>(KHz) | I <sub>rms</sub> | I <sub>sat</sub> | RDC      |
|-------------------|------------|-----------|-------------------------|------------------|------------------|----------|
|                   | (uH)       | (±%)      |                         | (A)Typ           | (A)Typ           | (mΩ)Max. |
| MHCC12035-1R0M-R7 | 1.0        | 20        | 100KHz,0.5V             | 27               | 28               | 2.5      |
| MHCC12035-1R0M-R7 | 3.3        | 20        | 100KHz,0.5V             | 12               | 25               | 12.5     |

- **Heat Rating** DC current (A) that will cause an approximate  $\Delta T$  of 40°C.
- **Saturation** DC current (A) that will cause L to drop approximately 20%
- Tolerance : M= ±20%
- L : WK 3260B
- R<sub>dc</sub> : CHEN HWA502
- Operating temperature range from -55°C to 125°C.

**Test Instruments** : WK3260B Impedance / Material Analyzer

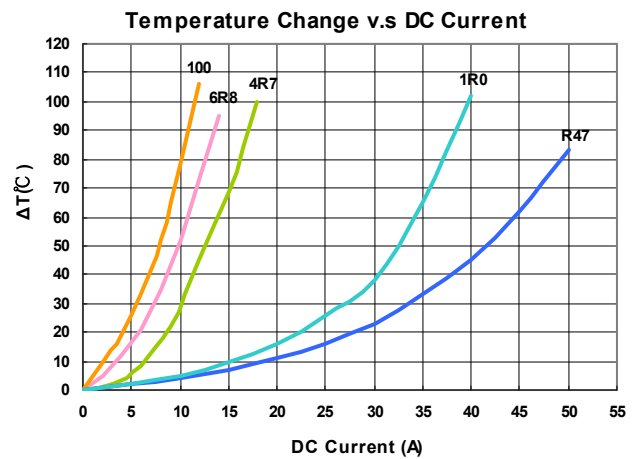
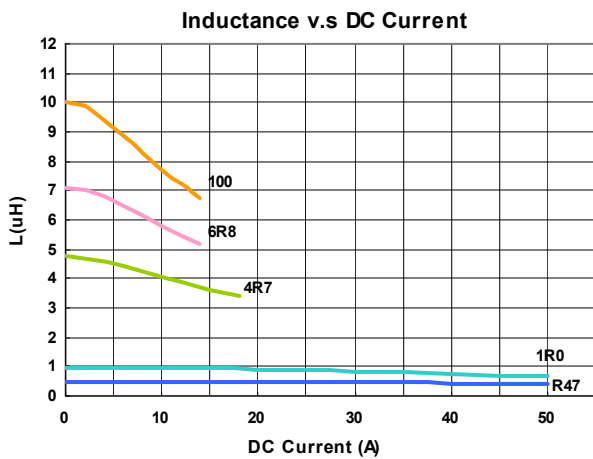


## Electrical Characteristics

| Part Number       | Inductance | Tolerance   | Test Frequency (KHz) | I <sub>rms</sub> | I <sub>sat</sub> | RDC               |
|-------------------|------------|-------------|----------------------|------------------|------------------|-------------------|
|                   | ( $\mu$ H) | ( $\pm\%$ ) |                      | (A)Typ           | (A)Typ           | (m $\Omega$ )Max. |
| MHCC12050-R47M-R7 | 0.47       | 20          | 100KHz,0.5V          | 37               | 46               | 1.2               |
| MHCC12050-1R0M-R7 | 1.0        | 20          | 100KHz,0.5V          | 29               | 37               | 2.5               |
| MHCC12050-4R7M-R7 | 4.7        | 20          | 100KHz,0.5V          | 11               | 16               | 11.5              |
| MHCC12050-6R8M-R7 | 6.8        | 20          | 100KHz,0.5V          | 9                | 14               | 22                |
| MHCC12050-100M-R7 | 10         | 20          | 100KHz,0.5V          | 7                | 13               | 35                |

- I<sub>rms</sub> current (A) that will cause an approximate  $\Delta T$  of 40°C.
- I<sub>sat</sub> current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from -55°C to 125°C. (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

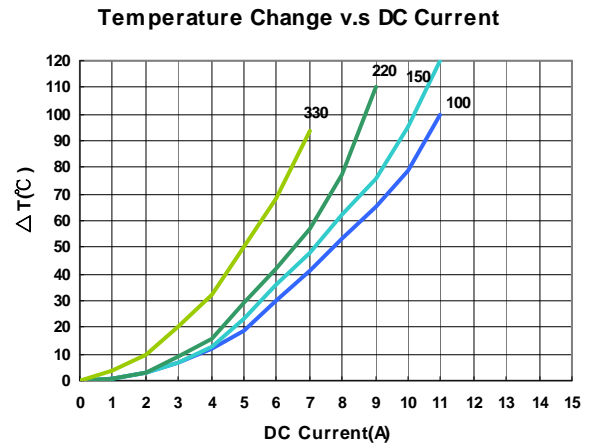
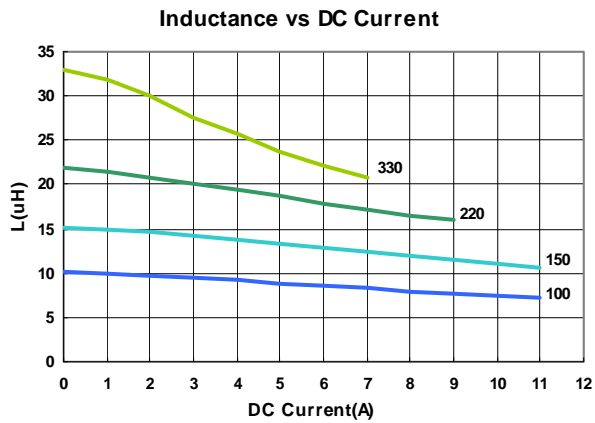


## Electrical Characteristics

| Part Number       | Inductance | Tolerance | Test Frequency<br>(KHz) | I <sub>rms</sub> | I <sub>sat</sub> | RDC      |
|-------------------|------------|-----------|-------------------------|------------------|------------------|----------|
|                   | (uH)       | (±%)      |                         | (A)Typ           | (A)Typ           | (mΩ)Max. |
| MHCC12060-100M-R7 | 10         | 20        | 100KHz,0.5V             | 7                | 10               | 26       |
| MHCC12060-150M-R7 | 15         | 20        | 100KHz,0.5V             | 6                | 9                | 37       |
| MHCC12060-220M-R7 | 22         | 20        | 100KHz,0.5V             | 5                | 7.5              | 39.5     |
| MHCC12060-330M-R7 | 33         | 20        | 100KHz,0.5V             | 4                | 5                | 65       |

- I<sub>rms</sub> current (A) that will cause an approximate ΔT of 40°C .
- I<sub>sat</sub> current (A) that will cause L to drop approximately 30%
- Tolerance : M= ±20%
- L : WK 3260B
- R<sub>dc</sub> : CHEN HWA502
- Operating temperature range from -55°C to 125°C . (Including self - temperature rise)

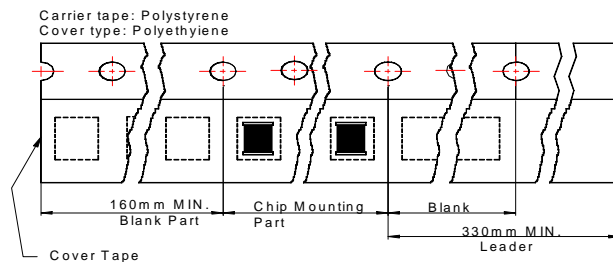
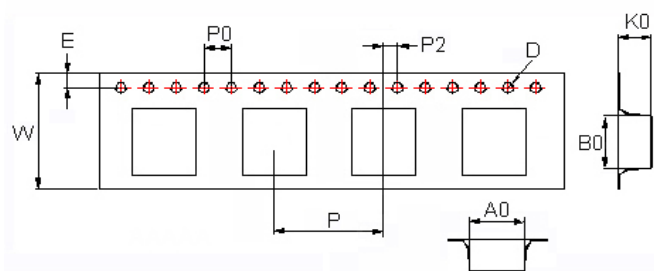
**Test Instruments :** WK3260B Impedance / Material Analyzer



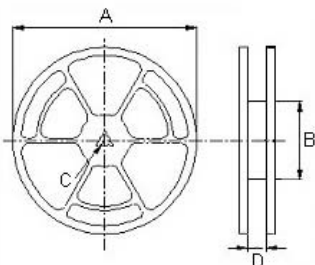
## Packaging Specifications

### Tape Dimensions

### Tape Material



### Reel Dimensions



### Dimensions in mm

| TYPE  | Tape Dimensions |      |      |      |      |    |    |    |    | Reel Dimensions |     |    |      | Quantity   |
|-------|-----------------|------|------|------|------|----|----|----|----|-----------------|-----|----|------|------------|
|       | A0              | B0   | K0   | D    | E    | W  | P  | P0 | P2 | A               | B   | C  | D    | PCS / REEL |
| 04012 | 4.6             | 5.0  | 1.5  | 1.55 | 1.75 | 12 | 8  | 4  | 2  | 330             | 100 | 13 | 13.4 | 2000       |
| 04015 | 4.6             | 5.0  | 1.8  | 1.55 | 1.75 | 12 | 8  | 4  | 2  | 330             | 100 | 13 | 13.4 | 2000       |
| 04020 | 4.6             | 5.0  | 2.4  | 1.55 | 1.75 | 12 | 8  | 4  | 2  | 330             | 100 | 13 | 13.4 | 2000       |
| 05012 | 5.9             | 6.2  | 1.5  | 1.55 | 1.75 | 16 | 12 | 4  | 2  | 330             | 100 | 13 | 17.4 | 1000       |
| 05015 | 5.9             | 6.2  | 1.9  | 1.55 | 1.75 | 16 | 12 | 4  | 2  | 330             | 100 | 13 | 17.4 | 1000       |
| 05020 | 5.9             | 6.2  | 2.4  | 1.55 | 1.75 | 16 | 12 | 4  | 2  | 330             | 100 | 13 | 17.4 | 1000       |
| 05030 | 5.9             | 6.2  | 3.4  | 1.55 | 1.75 | 16 | 12 | 4  | 2  | 330             | 100 | 13 | 17.4 | 1000       |
| 06012 | 6.9             | 7.6  | 1.6  | 1.55 | 1.75 | 16 | 12 | 4  | 2  | 330             | 100 | 13 | 17.4 | 1000       |
| 06015 | 6.9             | 7.6  | 1.9  | 1.55 | 1.75 | 16 | 12 | 4  | 2  | 330             | 100 | 13 | 17.4 | 1000       |
| 06018 | 6.9             | 7.6  | 2.2  | 1.55 | 1.75 | 16 | 12 | 4  | 2  | 330             | 100 | 13 | 17.4 | 1000       |
| 06024 | 6.9             | 7.6  | 2.9  | 1.55 | 1.75 | 16 | 12 | 4  | 2  | 330             | 100 | 13 | 17.4 | 1000       |
| 06030 | 6.9             | 7.6  | 3.4  | 1.55 | 1.75 | 16 | 12 | 4  | 2  | 330             | 100 | 13 | 17.4 | 1000       |
| 10030 | 10.6            | 11.7 | 3.25 | 1.55 | 1.75 | 24 | 16 | 4  | 2  | 330             | 100 | 13 | 24.4 | 500        |
| 10040 | 10.6            | 11.7 | 4.25 | 1.55 | 1.75 | 24 | 16 | 4  | 2  | 330             | 100 | 13 | 24.4 | 500        |
| 12035 | 13              | 14   | 3.7  | 1.55 | 1.75 | 24 | 16 | 4  | 2  | 330             | 100 | 13 | 24.4 | 500        |
| 12050 | 13              | 14   | 5.25 | 1.55 | 1.75 | 24 | 16 | 4  | 2  | 330             | 100 | 13 | 24.4 | 500        |
| 12060 | 13              | 14   | 6.25 | 1.55 | 1.75 | 24 | 16 | 4  | 2  | 330             | 100 | 13 | 24.4 | 500        |