

Metal Core SMD Power Inductors (MCOIL™, MD series)

MDMK4040T2R2MF



■ Features

- Item Summary  
2.2uH±20%, 2.5A, 4.0x4.0x1.2mm
- Lifecycle Stage  
Mass Production
- Standard packaging quantity (minimum)  
Taping Embossed 1000pcs

■ Products characteristics table

|   |   |
|---|---|
| Inductance  | 2.2 uH ± 20 %                                     |
| Case Size (mm)                                    | 4.0x4.0   |
| Rated Current (max)                               | 2.5 A   |
| Saturation Current (max)                          | 3.2 A   |
| Saturation Current (typ)                          | 4.5 A   |
| Temperature Rise Current (max)                    | 2.5 A   |
| Temperature Rise Current (typ)                    | 2.9 A   |
| DC Resistance (max)                               | 92 mΩ   |
| DC Resistance (typ)                               | 80 mΩ   |
| LQ Measuring Frequency                            | 100 kHz   |
| Operating Temp. Range                             | -40 to +125 °C<br>(Including-self-generated heat) |
| Temperature characteristic<br>(Inductance change) | ± 10 %  |
| RoHS2 Compliance (10 subst.)                      | Yes   |
| REACH Compliance (173 subst.)                     | Yes   |
| Halogen Free                                      | Yes   |
| Soldering   | Reflow  |

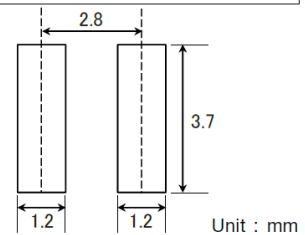
■ External Dimensions

|             |             |
|-------------|-------------|
| Dimension L | 4.0 ±0.2 mm |
| Dimension W | 4.0 ±0.2 mm |
| Dimension H | Max 1.2 mm  |
| Dimension e | 1.1 ±0.2 mm |
| Dimension f | 2.5 ±0.2 mm |

■ Recommended Land Patterns

【推奨ランドパターン】  
 実装上の注意  
 ・実装状態を確認の上ご使用くださいますようお願いいたします。  
 ・本製品のはんだ付けはリフローはんだ工法に限ります。

【Recommended Land Patterns】  
 Surface Mounting  
 ・Mounting and soldering conditions should be checked beforehand.  
 ・Applicable soldering process to these products is reflow soldering only.



The data is reference only. Electrical characteristics vary depending on environment or measurement condition.  
 TAIYO YUDEN reserves the right to make change to the Date at any time without notice.  
 Before making final selection, please check product specification.

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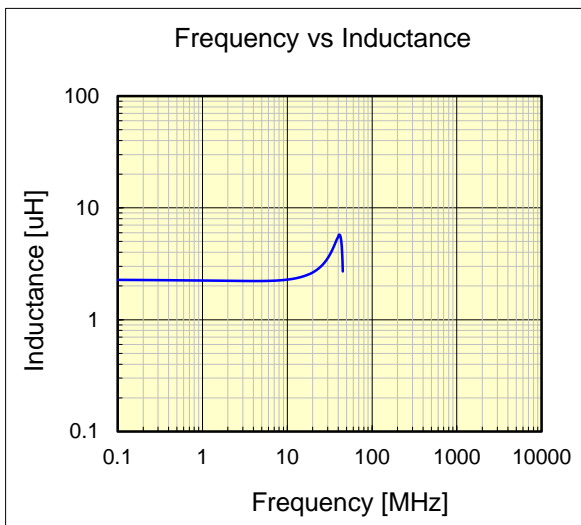
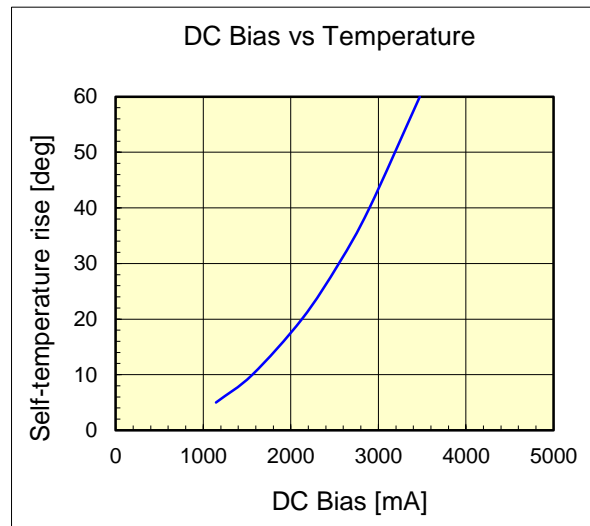
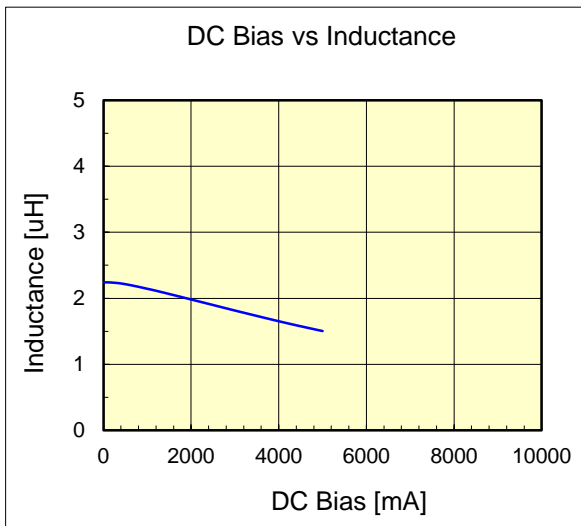
MCOIL™

**MDMK4040T2R2MF**



| Dimension | unit : mm   | unit : inch         |
|-----------|-------------|---------------------|
| Length :  | 4.0 +/- 0.2 | ( 0.157 +/- 0.008 ) |
| Width :   | 4.0 +/- 0.2 | ( 0.157 +/- 0.008 ) |
| Height :  | 1.2 max.    | ( 0.047 max. )      |

|  |               |     |                         |
|--|---------------|-----|-------------------------|
| Inductance :   | 2.2           | uH  | ( test freq at 0.1MHz ) |
| DC Resistance :  | 0.080 / 0.092 | ohm | ( typ / max )           |
| Saturation Current :   | 4,500 / 3,200 | mA  | ( typ / max )           |
| Temp. rise Current :   | 2,900 / 2,500 | mA  | ( typ / max )           |
| Saturation current typical : 30% reduction from initial L value. |               |     |                         |
| Temp rise Current typical : Temperature will rise by 40 deg C    |               |     |                         |
| Maximum rated voltage : DC 25 V                                  |               |     |                         |



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