

## Inductors

## MDMK4040T100MMV



## ■ Features

- Item Summary  
10uH±20%, 1.4A, 4.0x4.0x1.2mm
- Lifecycle Stage  
New PN available
- AEC-Q200 qualified
- Standard packaging quantity (minimum)  
Taping Embossed 1000pcs

## ■ Products characteristics table

|   |   |
|---|---|
| Inductance  | 10 uH ± 20 %                                      |
| Case Size (mm)                                    | 4.0x4.0   |
| Rated Current (max)                               | 1.4 A   |
| Saturation Current (max)                          | 1.7 A (ΔL=30%)                                    |
| Saturation Current (typ)                          | 2 A (ΔL=30%)                                      |
| Temperature Rise Current (max)                    | 1.4 A (ΔT=40°C)                                   |
| Temperature Rise Current (typ)                    | 1.6 A (ΔT=40°C)                                   |
| DC Resistance (max)                               | 0.33 Ω  |
| DC Resistance (typ)                               | 0.28 Ω  |
| LQ Measuring Frequency                            | 1 MHz   |
| Operating Temp. Range                             | -40 to +125 °C<br>(Including-self-generated heat) |
| Temperature characteristic<br>(Inductance change) | ± 10 %  |
| RoHS Compliance (10 subst.)                       | Yes   |
| REACH Compliance (223 subst.)                     | Yes   |
| Halogen Free                                      | Yes   |
| Soldering   | Reflow  |

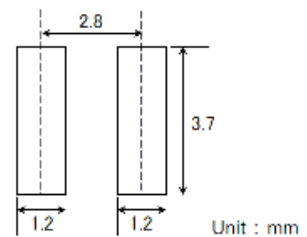
## ■ External Dimensions

|             |             |
|-------------|-------------|
| 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

【推奨のランドパターン】  
 両面テープ  
 ・両面テープは、必ずしも両面に貼る必要はありません。  
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【Recommended Land Pattern】  
 Surface Mounting  
 ・If a reflow soldering method is used, the reflow temperature should be 260°C or lower.  
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Metal Core SMD Power Inductors for Automotive / Industrial Applications  
(MCOIL™, MD series)

MCOIL™

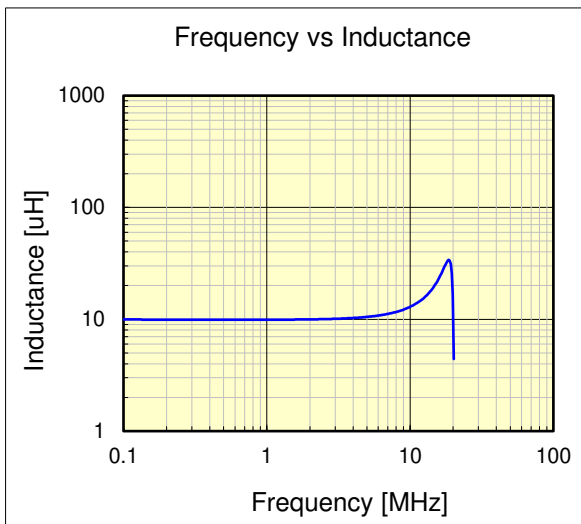
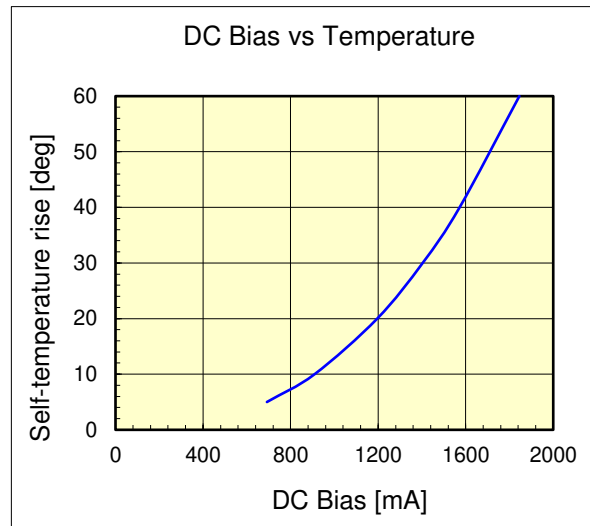
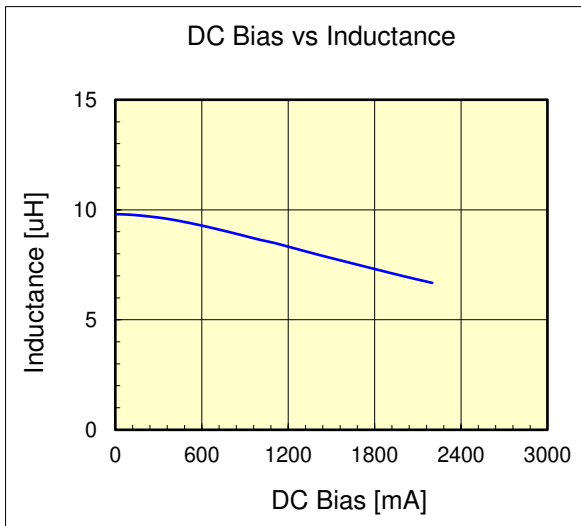
MDMK4040T100MMV



**AEC-Q200 qualified**

| 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 :   | 10            | uH  | ( test freq at 1MHz ) |
| DC Resistance :  | 0.28 / 0.33   | ohm | ( typ / max )         |
| Saturation Current :   | 2,000 / 1,700 | mA  | ( typ / max )         |
| Temp. rise Current :   | 1,600 / 1,400 | mA  | ( typ / max )         |
| Saturation current typical : 30% reduction from initial L value. |               |     |                       |
| Temp rise Current typical : Temperature will rise by 40 deg C    |               |     |                       |
| Absolute maximum voltage : 25VDC                                 |               |     |                       |



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

The products are tested based on the test conditions and methods defined in AEC-Q200. Please consult with TAIYO YUDEN for the details of the product specification and AEC-Q200 test results, etc., and please review and approve TAIYO YUDEN's product specification before ordering.

Please read this notice before using the TAIYO YUDEN products.



## REMINDERS

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Please do not incorporate our products into any equipment requiring high levels of safety and/or reliability (e.g., aerospace equipment, aviation equipment, medical equipment classified as Class IV by IMDRF, nuclear control equipment, undersea equipment, military equipment).  
When our products are used even for high safety and/or reliability-required devices or circuits of general electronic equipment, it is strongly recommended to perform a thorough safety evaluation prior to use of our products and to install a protection circuit as necessary.  
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