

Inductors

MDMK4040T1R0MFV



■ Features

- Item Summary
1.0uH±20%, 3.5A, 4.0x4.0x1.2mm
- Lifecycle Stage
New PN available
- AEC-Q200 qualified
- Standard packaging quantity (minimum)
Taping Embossed 1000pcs

■ Products characteristics table

Inductance	1.0 uH ± 20 %
Case Size (mm)	4.0x4.0
Rated Current (max)	3.5 A
Saturation Current (max)	5.2 A ($\Delta L=30\%$)
Saturation Current (typ)	7.5 A ($\Delta L=30\%$)
Temperature Rise Current (max)	3.5 A ($\Delta T=40^{\circ}\text{C}$)
Temperature Rise Current (typ)	4.2 A ($\Delta T=40^{\circ}\text{C}$)
DC Resistance (max)	47 m Ω
DC Resistance (typ)	41 m Ω
LQ Measuring Frequency	100 kHz
Operating Temp. Range	-40 to +125 $^{\circ}\text{C}$ (Including-self-generated heat)
Temperature characteristic (Inductance change)	± 10 %
RoHS Compliance (10 subst.)	Yes
REACH Compliance (223 subst.)	Yes
Halogen Free	Yes
Soldering	Reflow

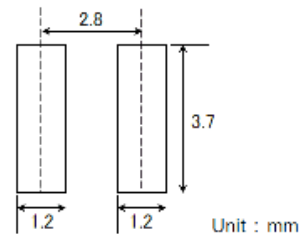
■ External Dimensions

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、必ずしも必要ではありません。
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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)

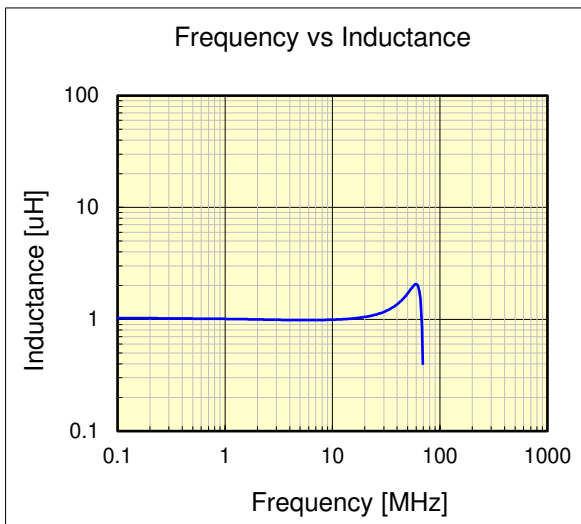
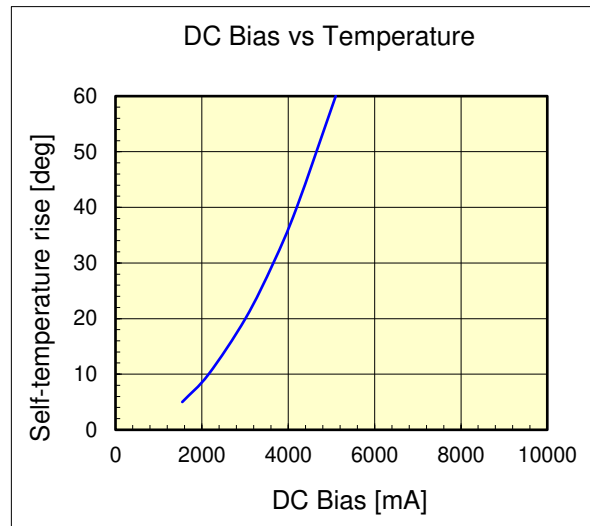
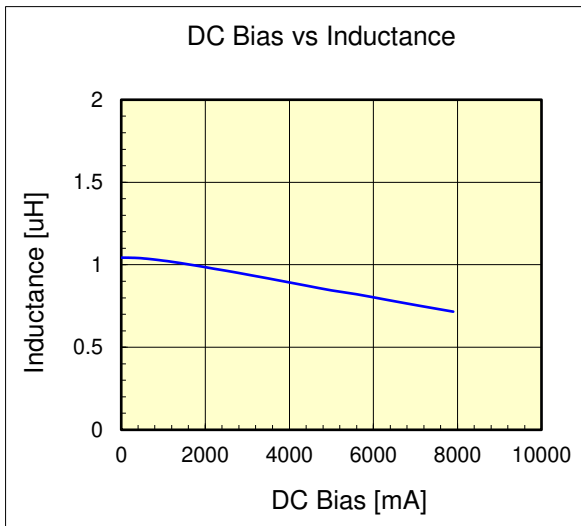
MCOIL™
MDMK4040T1R0MFV



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 :	1.0	uH	(test freq at 0.1MHz)
DC Resistance :	0.041 / 0.047	ohm	(typ / max)
Saturation Current :	7,500 / 5,200	mA	(typ / max)
Temp. rise Current :	4,200 / 3,500	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

- Please conduct validation and verification of our products in actual condition of mounting and operating environment before using our products.
- The product listed in this spec sheet is intended for use in general electronic equipment (e.g., AV equipment, OA equipment, home electric appliances, office equipment, information and communication equipment including, without limitation, mobile phone, and PC). Please be sure to contact TAIYO YUDEN for further information before using the products for any equipment which may directly cause loss of human life or bodily injury (e.g., transportation equipment including, without limitation, automotive powertrain control system, train control system, and ship control system, traffic signal equipment, disaster prevention equipment, medical equipment classified as Class I, II or III by IMDRF, highly public information network equipment including, without limitation, telephone exchange, and base station).
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.
Please note that unless you obtain prior written consent of TAIYO YUDEN, TAIYO YUDEN shall not be in any way responsible for any damages incurred by you or third parties arising from use of the product listed in this spec sheet for any equipment requiring inquiry to TAIYO YUDEN or prohibited for use by TAIYO YUDEN as described above.
- Information contained in this spec sheet is intended to convey examples of typical performances and/or applications of our products and is not intended to make any warranty with respect to the intellectual property rights or any other related rights of TAIYO YUDEN or any third parties nor grant any license under such rights.
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