

PRODUCT IDENTIFICATION

MQU	322512	H	—	1R0	M
Type	Size	Lead Free		Inductance	Tol.

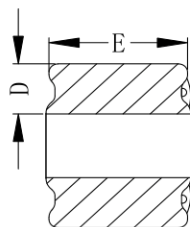
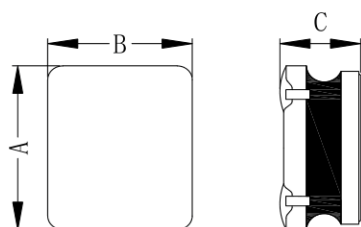
FEATURES

1. This specification applies Low Profile Power Inductors.
2. 100% Lead(Pb) & Halogen-Free and RoHS compliant.
3. Operating temperature : -40~+125°C (Including self - temperature rise)

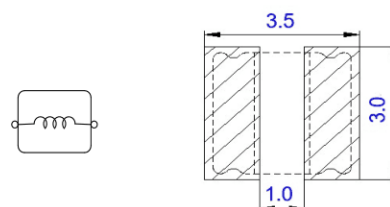
APPLICATIONS

Commercial applications

DIMENSIONS (mm)



Recommended PC Board Pattern



Note :

1. PCB layout is referred to standard IPC-7351B
2. The above PCB layout reference only.
3. Recommend solder paste thickness at 0.12mm and above.

Part No.	Size (mm)				
	A	B	C	D	E
MQU 322512H	3.20 ± 0.20	2.50 ± 0.20	1.00 ± 0.20	1.00 ± 0.30	2.50 ± 0.20

Note:

1. A, B Size may slightly bigger than ferrite core dimension after epoxy sealing, but not exceed 0.1mm.
2. Component height may slight higher than C size and not exceed 0.1mm, and will be lower after reflow soldering.

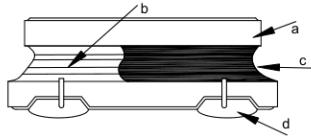
SERIES LIST

No.	Part No.	L	Tol.	RDC		Isat		Irms	
		(μ H)		typ	max	typ	max	typ	max
1	MQU 322512H-R33M	0.33	±20%	19	22.8	4.50	4.20	5.00	4.50
2	MQU 322512H-R47M	0.47	±20%	25	30	4.00	3.80	4.50	4.10
3	MQU 322512H-R68M	0.68	±20%	32	38	3.70	3.40	4.10	3.60
4	MQU 322512H-1R0M	1.00	±20%	39	47	3.00	2.80	3.50	3.20
5	MQU 322512H-1R5M	1.50	±20%	48	58	2.40	2.20	3.20	3.00
6	MQU 322512H-2R2M	2.20	±20%	72	86	2.10	1.90	2.90	2.70
7	MQU 322512H-3R3M	3.30	±20%	105	126	1.80	1.60	2.50	2.20
8	MQU 322512H-4R7M	4.70	±20%	148	177	1.50	1.30	2.20	2.00
9	MQU 322512H-5R6M	5.60	±20%	170	204	1.25	1.15	1.90	1.70
10	MQU 322512H-6R8M	6.80	±20%	200	240	1.15	1.05	1.00	1.40
11	MQU 322512H-8R2M	8.20	±20%	260	312	1.00	0.90	1.50	1.30
12	MQU 322512H-100M	10.0	±20%	350	420	0.92	0.82	1.30	1.10
13	MQU 322512H-150M	15.0	±20%	460	552	0.70	0.65	1.00	0.90
14	MQU 322512H-220M	22.0	±20%	660	792	0.60	0.55	0.80	0.70

Note:

1. Test Frequency : 100KHz /1.0V.
2. All test data referenced to 25°C ambient
3. Saturation Current (Isat) will cause L0 to drop approximately 30%
4. Heat Rated Current (Irms) will cause the coil temperature rise approximately ΔT of 40°C
5. The part temperature (ambient + temp rise) should not exceed 125°C under worst case operating conditions. Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
6. Irms Testing : Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components.
Therefore temperature rise should be verified in application conditions.
7. Rated DC current : The lower value of Irms and Isat.

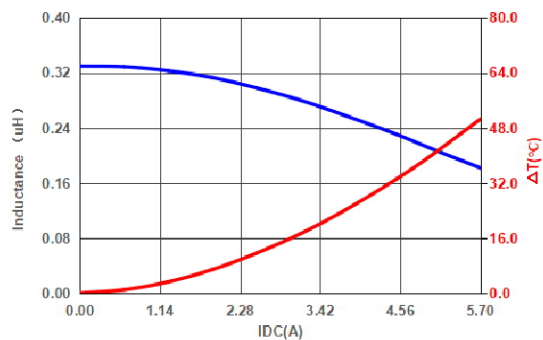
■ Materials



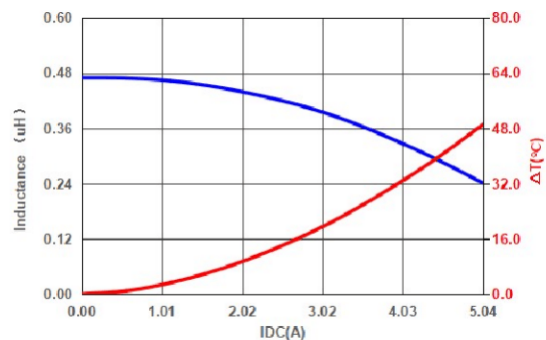
No.	Description	Specification
a	Core	Ferrite Core
b	Wire	Enameled Copper Wire
c	Glue	Epoxy with magnetic powder
d	Terminal	Ag/Ni/Sn+ Sn Solder

TYPICAL PERFORMANCE CURVES

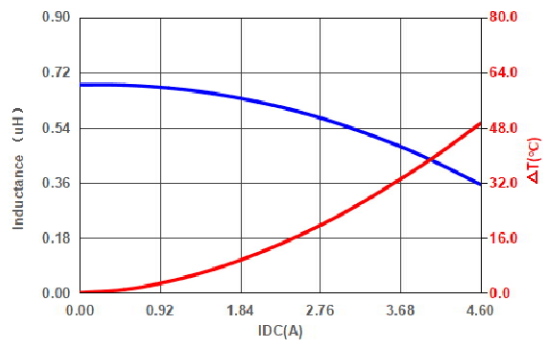
MQU 322512H-R33



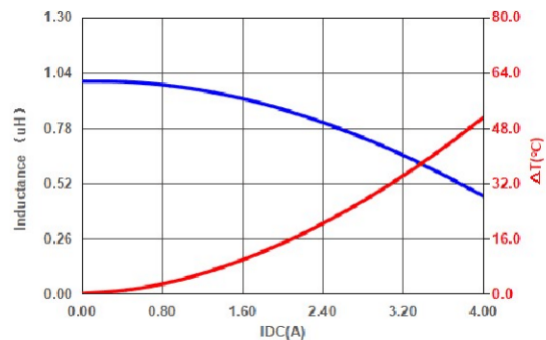
MQU 322512H-R47



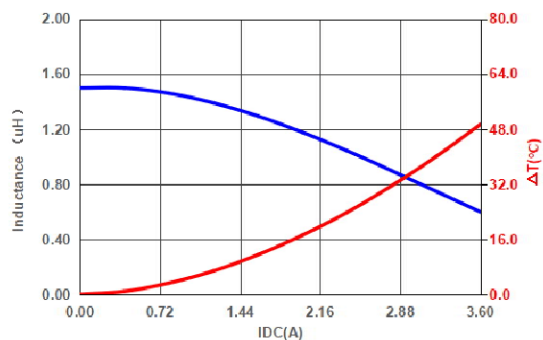
MQU 322512H-R68



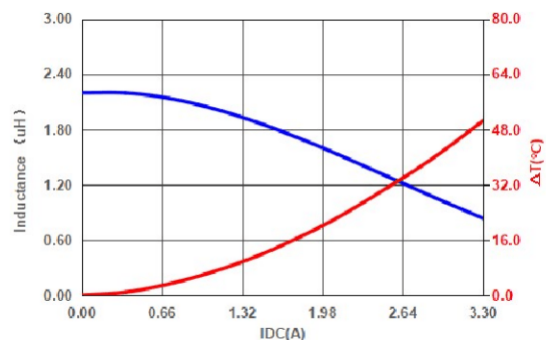
MQU 322512H-1R0



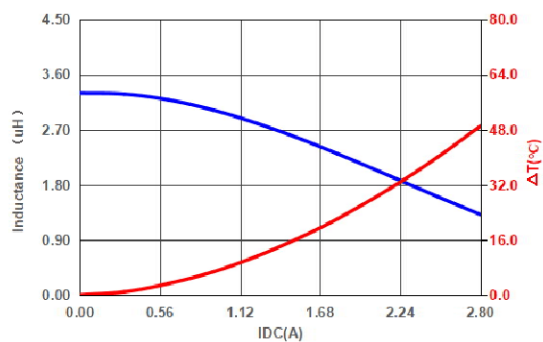
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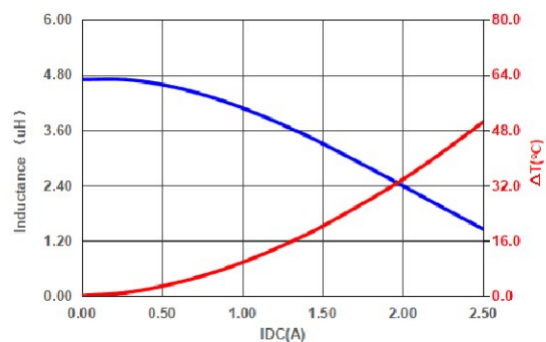
MQU 322512H-2R2



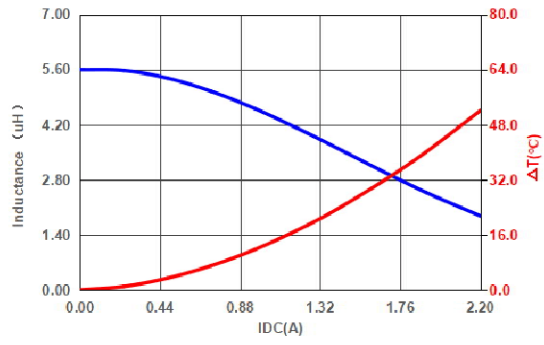
MQU 322512H-3R3



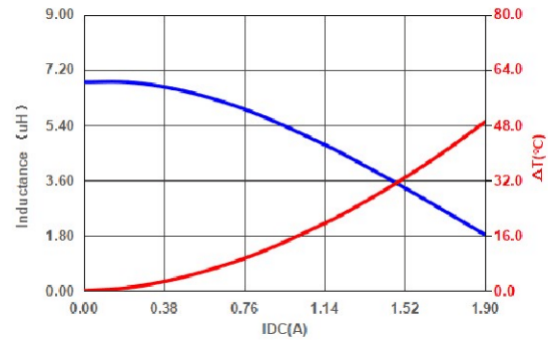
MQU 322512H-4R7



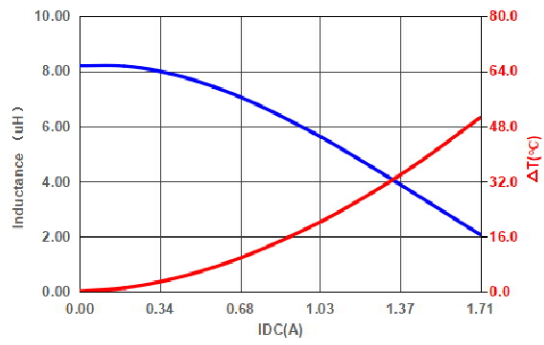
MQU 322512H-5R6



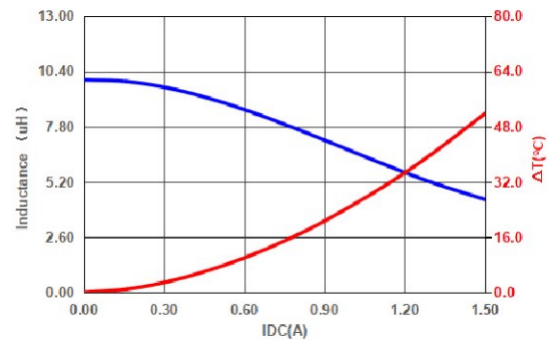
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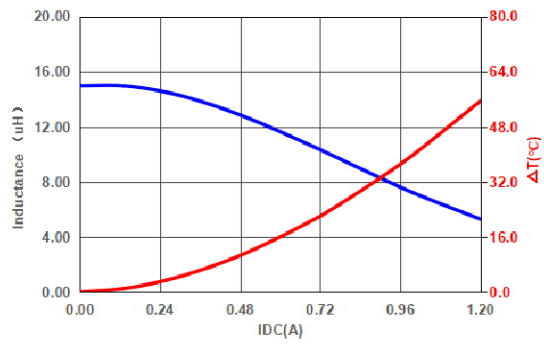
MQU 322512H-8R2



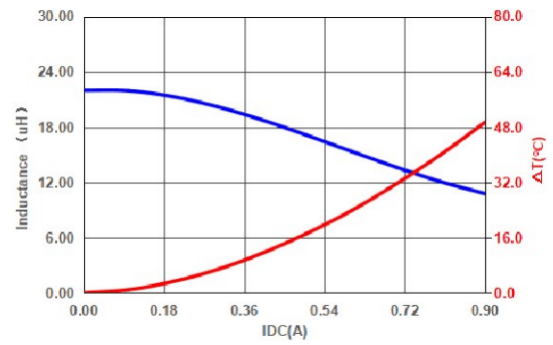
MQU 322512H-100



MQU 322512H-150

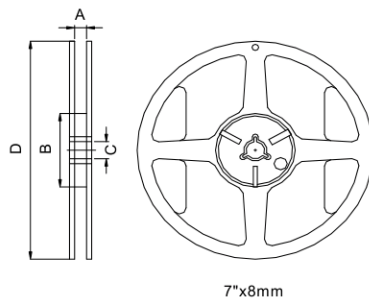


MQU 322512H-220



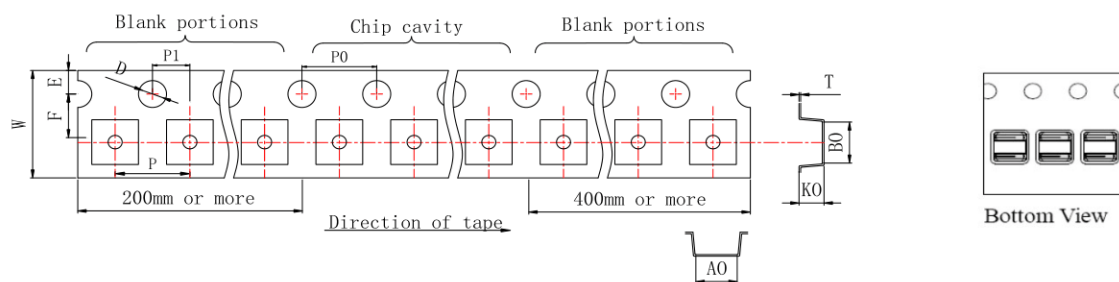
Packaging Information

• Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
7"x8mm	8.4+1.5/-0.0	60±1.0	13+0.5/-0.2	178±2.0

• Tape Dimension



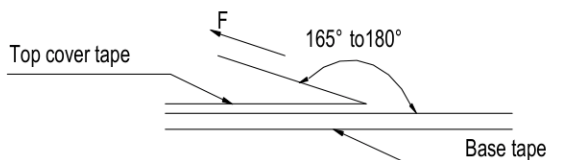
A0	B0	K0	P	W	T	E	F	D	P0	P1
2.9±0.1	3.6±0.1	1.4±0.1	4.0±0.1	8.0±0.3	0.23±0.1	1.75±0.1	3.50±0.1	1.50±0.1	4.0±0.1	2.0±0.1

Unit: mm

• Packaging Quantity

Size	Reel
MQU 322512H	3000

• Tearing Off Force



The force for tearing off cover tape is 10 to 100 grams in the arrow direction under the following conditions (referenced ANSI/EIA-481-D-2008 of 4.11 standard).

Tearing Speed mm	Room Temp. (°C)	Room Humidity (%)	Room atm (hPa)
300±10%	5~35	45~85	860~1060

■ Application Notice

- Storage Conditions(component level)

To maintain the solderability of terminal electrodes:

1. Products meet IPC/JEDEC J-STD-020F standard-MSL, level 1.
2. Temperature and humidity conditions: Less than 40℃ and 85% RH.
3. Recommended products should be used within 12 months from the time of delivery.
4. The packaging material should be kept where no chlorine or sulfur exists in the air.
5. Do not expose the products to magnets or magnetic fields.
6. Do not use products that have received any excessive mechanical shock such as by being dropped.
7. Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
8. Due to the application of mechanical stress after mounting and handling such as contact, disconnection may occur.
9. Carefully lay out the coil for the circuit board design of the non-magnetic shield type A malfunction may occur due to magnetic interference.
10. Self heating(temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
11. Soldering corrections after mounting should be within the range of the conditions determined in the specifications. If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
12. When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.

- Conformal coating:

1. The inductance value may change due to high cure-stress of resin to be used for coating/molding products.
2. An open circuit issue may occur by mechanical stress caused by the resin, amount/cured shape of resin, or operating condition etc. Please pay careful attention when selecting resin in case of coating/molding process. Prior to use the coating resin, please make sure no reliability issue is observed.

- Transportation:

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.