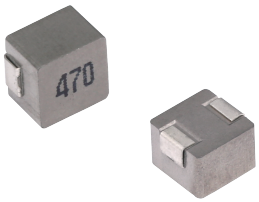
MetalLions

MCMB-1365 Series

High Current Molded Power Inductors

FEATURES



- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Frequency range up to 3MHz
- Operate temperature range .... －40℃～＋125℃(Including self temp. rise)
- RoHS compliant

APPLICATIONS

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

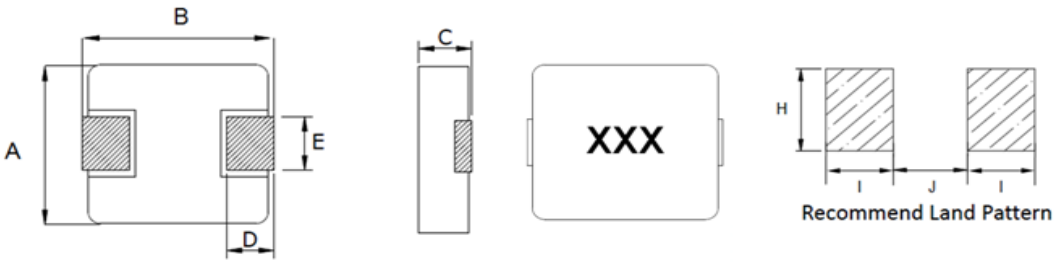
Explanation of Part Number

MCMB -1365 -1R0 M T ZP01

1 2 3 4 5 6

- 1:Product Series:Metal Alloy Molding Power Inductor
- 2:Dimensions:
- 3: Initial inductance value: 1R0 = 1.0uH
- 4:Tolerance of Inductance:M:±20%
- 5:Packing:Tape Carrier Package

Dimensions: [mm]



Series	A	B	C	D	E	I Typ.	J Typ.	H Typ.
MCMB-1365	12.6±0.3	13.45±0.35	6.5Max.	2.0±0.5	5.0±0.3	3.25	8.0	5.5

Electrical Properties:

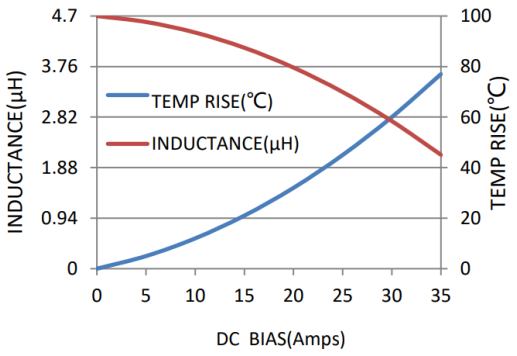
Part Number	Inductance	DC Resistance	Saturation Current		Heat Rating Current	
	@100KHz,1V	Max.	Max.	Typ.	Max.	Typ.
Units	μH	mΩ	A		A	
Symbol	L	DCR	Isat		Irms	
MCMB-1365-4R7MT	4.7±20%	8.5	-	24.0	-	16.0
MCMB-1365-5R6MT	5.6±20%	10.5	-	22.5	-	14.0
MCMB-1365-6R8MT	6.8±20%	12	-	19.0	-	13.0
MCMB-1365-8R2MT	8.2±20%	14	-	16.0	-	12.0
MCMB-1365-100MT	10±20%	16.5	-	15.0	-	11.0
MCMB-1365-150MT	15±20%	26	-	11.0	-	9.50
MCMB-1365-220MT	22±20%	36	-	9.00	-	8.00
MCMB-1365-330MT	33±20%	65	-	8.00	-	6.50
MCMB-1365-470MT	47±20%	70	-	6.80	-	5.50
MCMB-1365-680MT	68±20%	120	-	5.20	-	4.80
MCMB-1365-820MT	82±20%	135	-	4.50	-	4.00
MCMB-1365-101MT	100±20%	170	-	4.00	-	3.50

Notes:

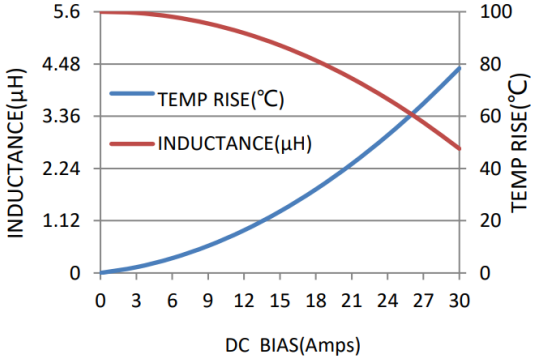
1. All test data is referenced to 20 °C ambient
2. Irms(A):DC current (A) that will cause an approximate ΔT of 40 °C(reference ambient temperature is 20°C)
3. Isat(A):DC current (A) that will cause L0 to dropapproximately 30 %
4. The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
5. Absolute maximum voltage 30V

Typical Performance Curve:

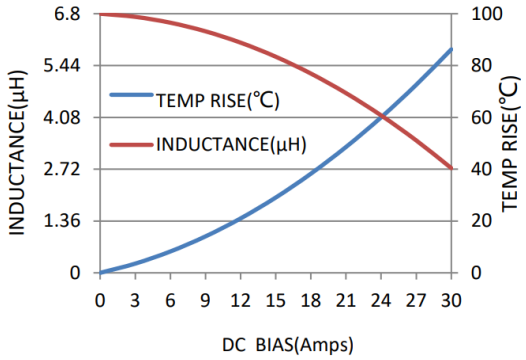
MCMB-1365-4R7MT



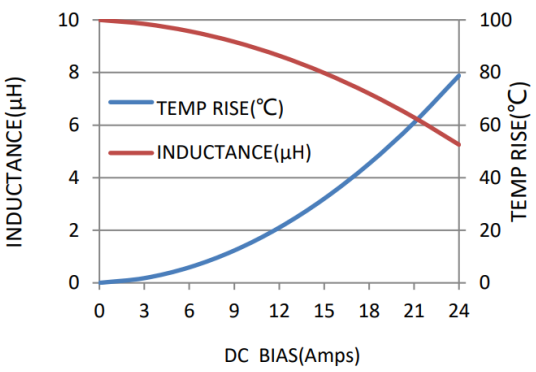
MCMB-1365-5R6MT



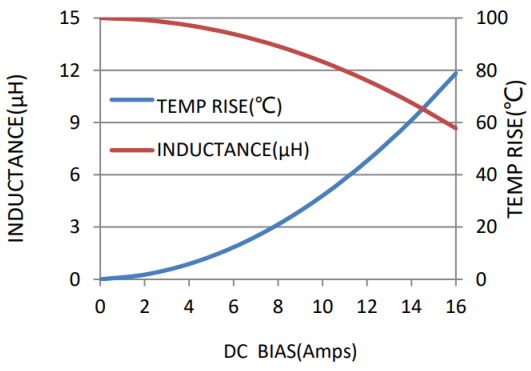
MCMB-1365-6R8MT



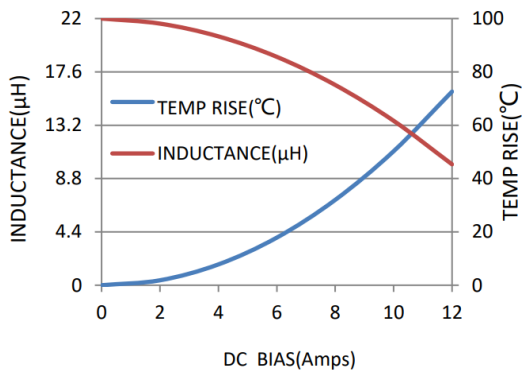
MCMB-1365-100MT



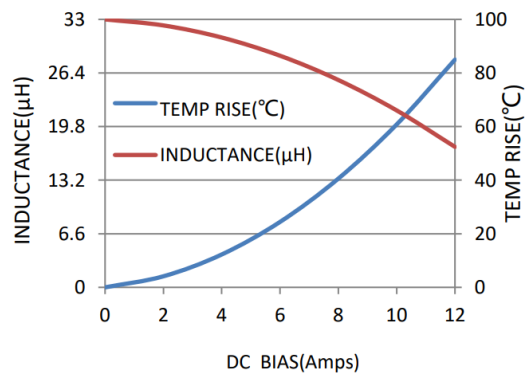
MCMB-1365-150MT



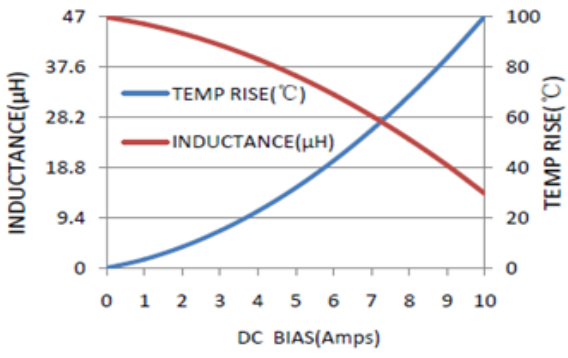
MCMB-1365-220MT



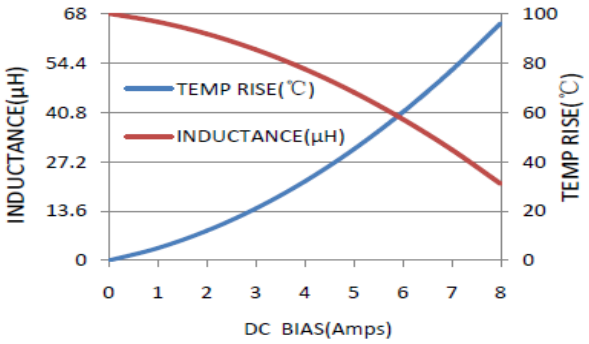
MCMB-1365-330MT



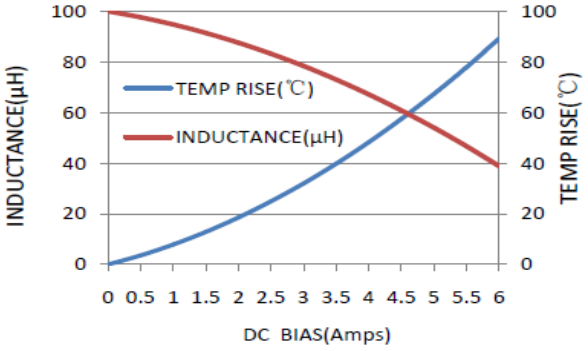
MCMB-1365-470MT



MCMB-1365-680MT



MCMB-1365-101MT



Reliability and Test Condition

Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	The surface of terminal immersed shall be minimum of 95% covered with a new coating of solder	Solder heat proof: 1. Preheating: 160 ± 10 ℃ 2. Retention time: 245 ± 5 ℃ for 2 ± 0.5 seconds
Vibration	Inductance change: Within ± 10% Without mechanical damage such as break	1. Vibration frequency: (10 Hz to 55 Hz to 10Hz) in 60 seconds as a period 2. Vibration time: Period cycled for 2 hours in each of 3 mutual perpendicular directions. 3. Amplitude: 1.5 mm max.
Shock	Inductance change: Within ±10% Without mechanical damage such as break	1. Peak value: 100 G 2. Duration of pulse: 11ms 3. 3 times in each positive and negative direction of 3 mutual perpendicular directions
Endurance Reliability		
Item	Specification and Requirement	Test Method
Thermal Shock	Inductance change: Within ± 10% Without distinct damage in appearance	1. Repeat 100 cycles as follow: (-55 ± 2 ℃; 30 ± 3 min) →(Room temp., 5 min) → (+125 ± 2 ℃, 30 ± 3 min) → (Room temp., 5 min) 2. Recovery: 48 + 4 / -0 hours of recovery under the standard condition after the test.
High Temperature Resistance	Inductance change: Within ± 10% Without distinct damage in appearance	1. Environment condition: 85 ± 2 ℃ Applied Current: Rated current 2. Duration: 1000 + 4 / -0 hours
Humidity Resistance	Inductance change: Within ± 10% Without distinct damage in appearance	1. Environment condition: 60 ± 2 ℃ Humidity: 90–95% Applied Current: Rated current 2. Duration: 1000 + 4 / -0 hours
Low Temperature Store	Inductance change: Within ± 10% Without distinct damage in appearance	Store temperature: -55 ± 2 ℃,1000 + 4 / -0 hours
High Temperature Store	Inductance change: Within ± 10% Without distinct damage in appearance	Store temperature: +125 ± 2 ℃,1000 + 4 / -0 hours

● Recommended Soldering Technologies

(1) Re-flowing Profile

Preheat condition： 150 ~200℃/60~180sec.

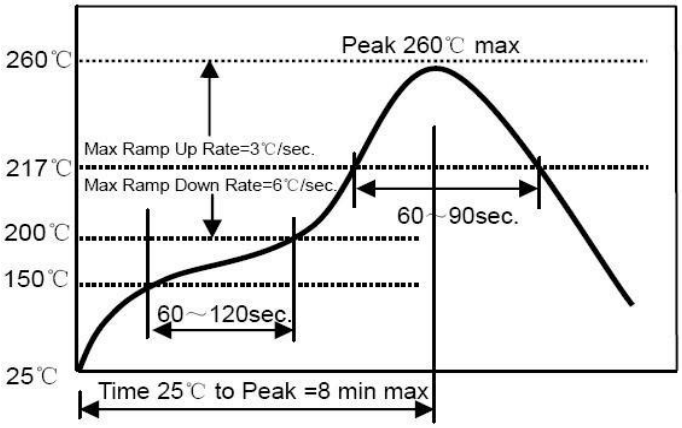
Allowed time above 217℃： 80~120sec.

Max temp：260℃

Max time at max temp： 10 sec.

Solder paste： Sn/3.0Ag/0.5Cu

Allowed Reflow time： 2x max



(2) Iron Soldering Profile

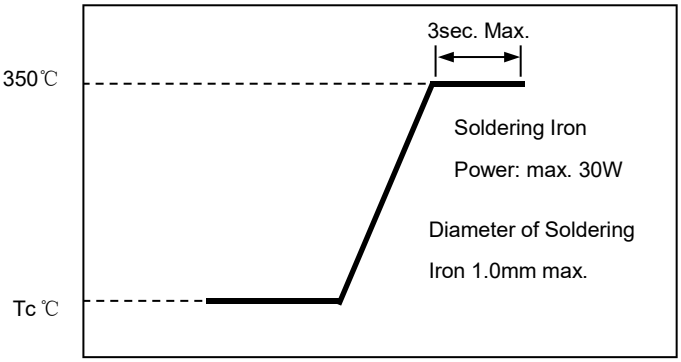
Iron soldering power：Max.

30W Pre-heating：150℃/60sec.

Soldering time： 3sec. Max.

Solder paste：Sn/3.0Ag/0.5Cu

Max.1 times for iron soldering



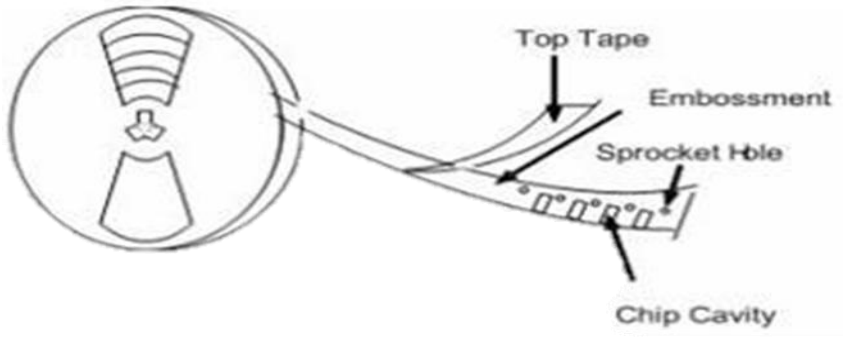
Packaging

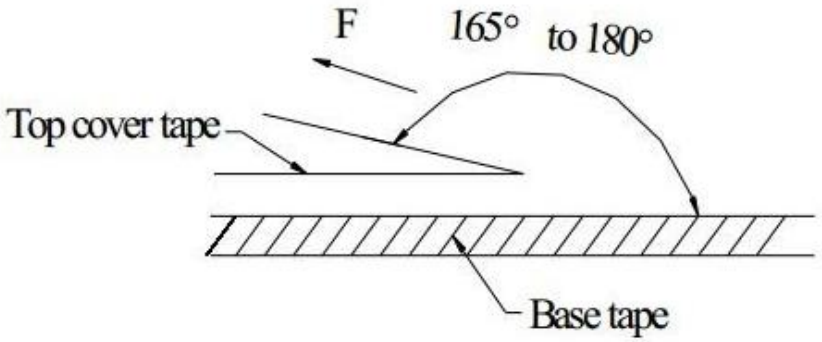
- Tape Packaging Dimensions (UNIT:mm)

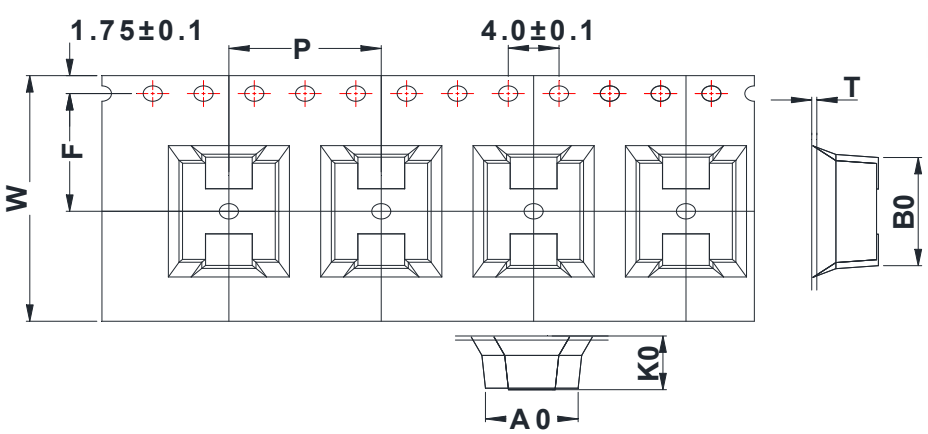
Peel force of top covert MCMB

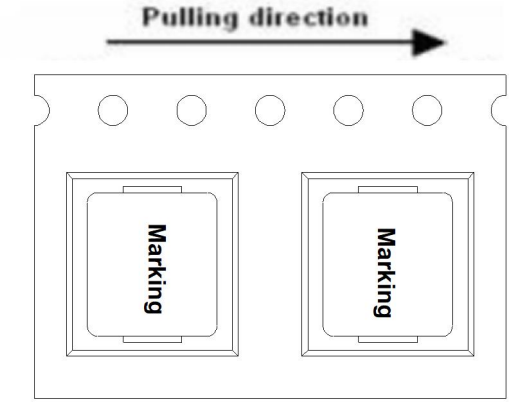
The peel speed shall be about 300mm/minute

The peel force of top covert MPIF shall be between 0.1 to 1.3









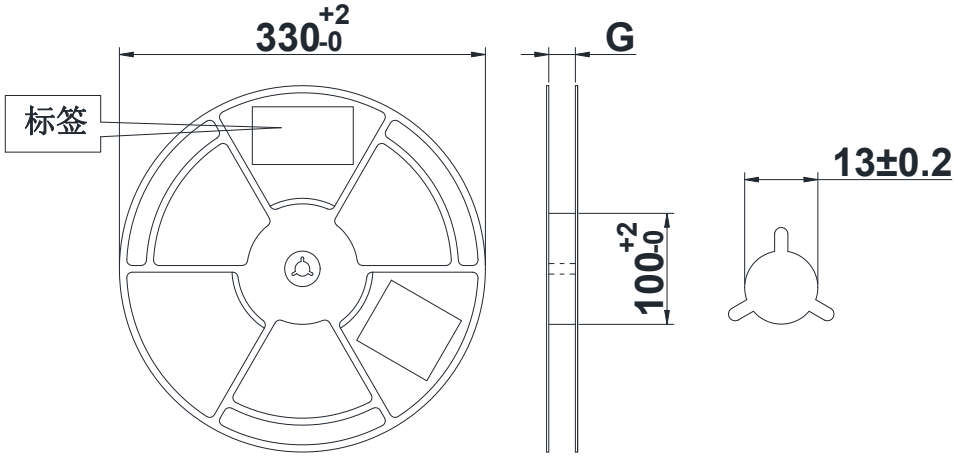
Type	Dimensions（mm）						
	W	P	P0	A0	B0	K0	T
MCMB-1365	24.00±0.30	16.00±0.10	4.00±0.10	13.4±0.1	14.9±0.1	7.30±0.1	0.40±0.05

- Reel Dimensions (UNIT:mm)

Label

Label on the reel

- Customer's part Number
- Lot Number
- Quantity
- date cod



- Packaging Quantity:500PCS/Reel

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Fixed Inductors ***category:***

Click to view products by MetalLions ***manufacturer:***

Other Similar products are found below :

CR32NP-100KC 70F224AI MHQ1005P10NJ MHQ1005P1N0S MHQ1005P2N4S MHQ1005P3N6S MHQ1005P5N1S MHQ1005P8N2J PE-53601NL PE-53602NL PG0936.113NLT 9220-20 9310-16 PM06-2N7 PM06-39NJ A01TK 1206CS-471XJ HC2-R47-R HC8-1R2-R HCF1305-3R3-R 1206CS-151XG RCH664NP-4R7M RCP1317NP-391L DH2280-4R7M DS1608C-106 B10TJ B82498B3101J000 ELJ-RE27NJF2 1812CS-153XJ 1812CS-183XJ 1812CS-223XJ 1812LS-104XJ 1812LS-105XJ 1812LS-124XJ 1812LS-154XJ 1812LS-223XJ 1812LS-224XJ 1812LS-563XJ 1812LS-683XJ 1812LS-824XJ NIN-FB101JTR110F NIN-FB471JTR62F NIN-FC1R5JTR220F NIN-HCR15JTRF NIN-HCR33JTRF NIN-HDR22JTRF NIN-HDR82JTRF NIN-HK2N7STRF NIN-PA150KTR370F NIN-PB100KTR550F