

Molding Power Inductors

THMPI020201 Series

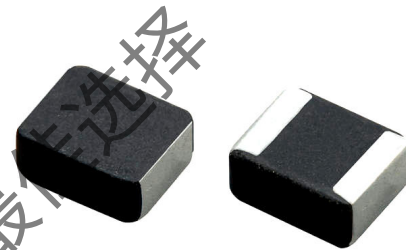
TOP-EMC

FEATURES

- Halogen free, Lead Free, RoHS Compliance.
- Low DC resistance to achieve high conversion efficiency and lower temperature rising
- Magnetically shielded structure to accomplish high resolution in EMC protection.
- Low Profile: 2.5 mm × 2.0 mm × 1.2 mm.
- RoHS, Halogen Free and REACH Compliance
- High reliability -Reliability tests comply with AEC-Q200

APPLICATIONS

- Electric Power Steering
- ABS Control Units
- Battery powered devices
- Car Navigation Systems
- Meters/Alarms
- Car distance Control Units



PRODUCT IDENTIFICATION

THMPI
①

020201
②

D
③

R47
④

M
⑤

T
⑥

- ① Type : THMPI
- ② External Dimensions (L×W×H) [mm]= 020201
- ③ Feature Type: Differential
- ④ Nominal Inductance : R47=0.47μH
- ⑤ Inductance Tolerance : K=±10%
M=±20%
N=±30%
- ⑥ Packing T=Tape Carrier Package

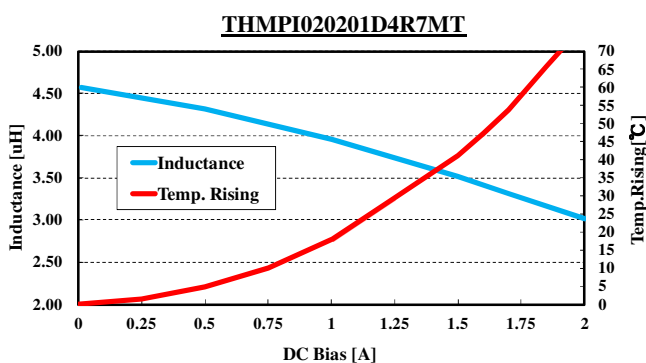
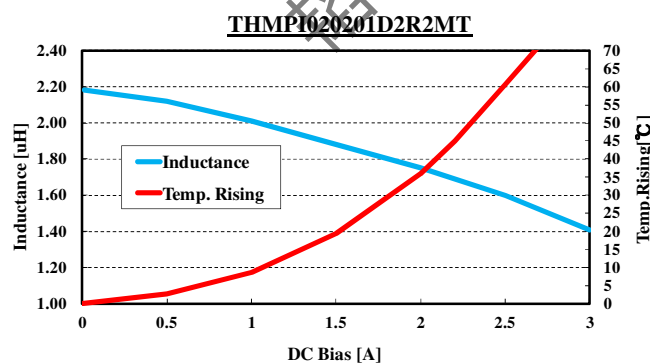
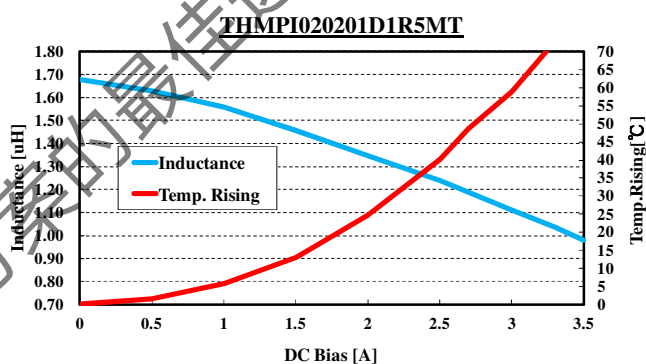
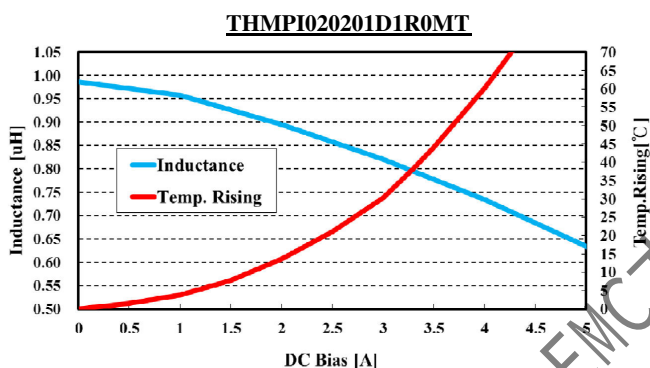
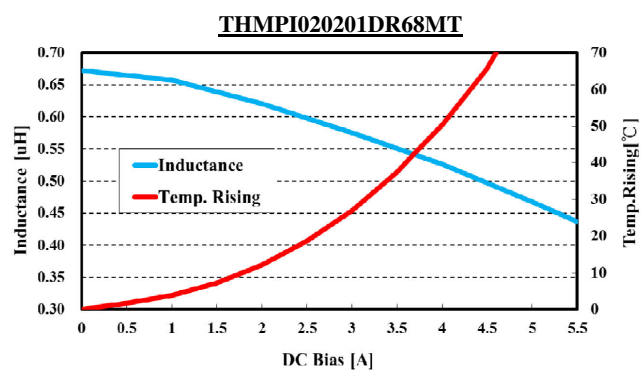
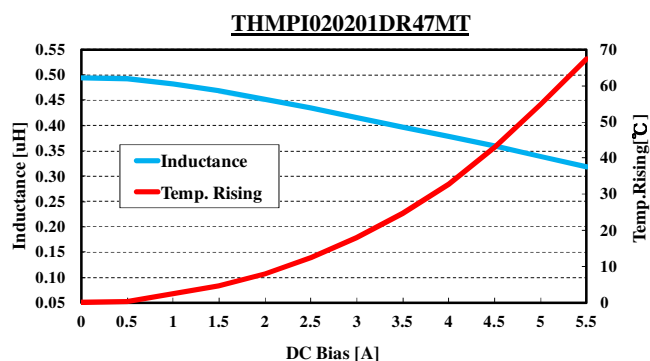
SPECIFICATIONS

Part Number	Li [μ H] Initial inductance @1mA	RDC [$m\Omega$] DC Resistance		Isat [A] Saturation Current		Irms [A] Heat Rating Current	
		Typical	Maximum	Typical	Maximum	Typical	Maximum
THMPI020201DR47MT	0.47	21	25	5.3	4.95	4.6	4.18
THMPI020201DR68MT	0.68	29	35	5	4.63	3.7	3.36
THMPI020201D1R0MT	1.0	41	49	4.4	4.04	3.5	3.18
THMPI020201D1R5MT	1.5	64	77	3.2	2.91	2.5	2.27
THMPI020201D2R2MT	2.2	85	98	3	2.73	2.27	2.06
THMPI020201D4R7MT	4.7	196	235	1.9	1.58	1.55	1.40

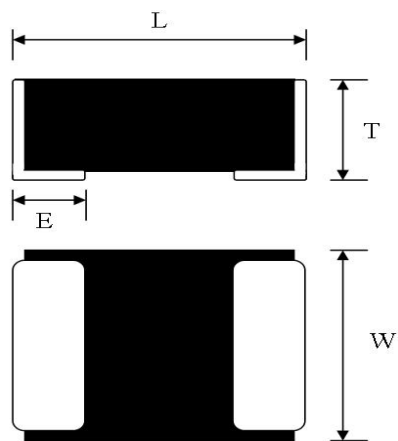
Notes

1. All test data is referenced to 25 °C ambient
2. Operating temperature range - 55 °C to + 125 °C
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40 °C(reference ambient temperature is 25°C)
4. Isat(A):DC current (A) that will cause L0 to drop approximately 30 %
5. 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.

ELECTRICAL

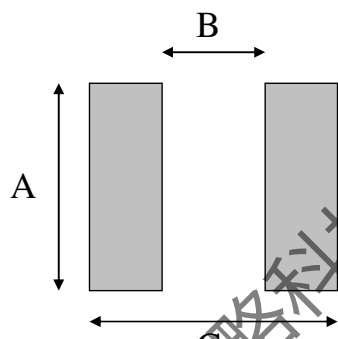


SHAPE AND DIMENSIONS (Dimensions in mm)



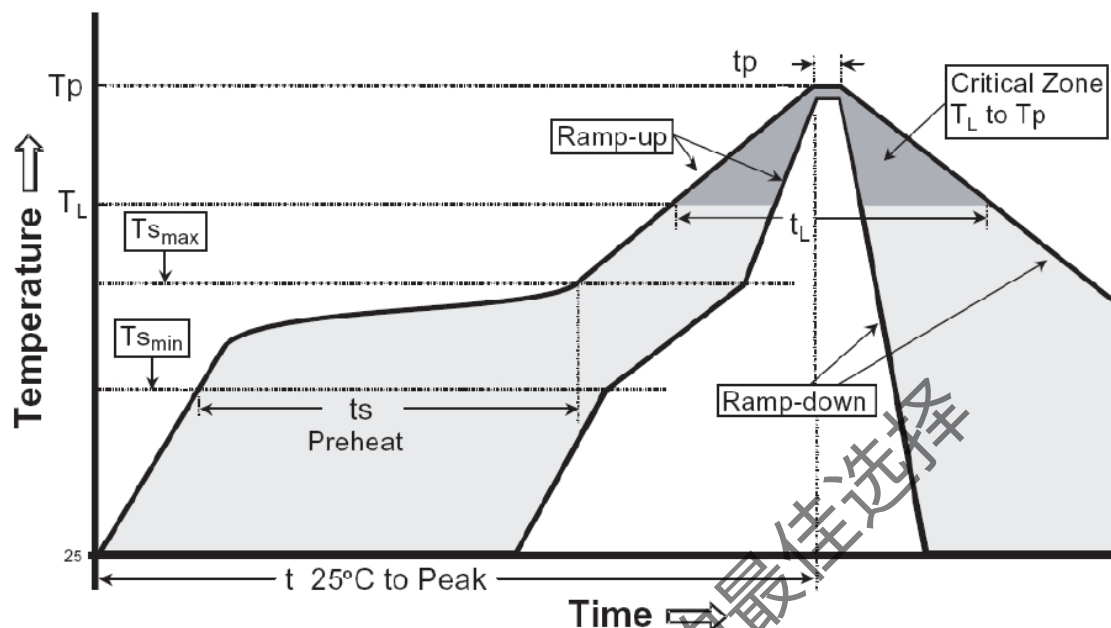
L [mm]	W [mm]	T [mm]	E [mm]
2.5±0.2	2.0±0.2	1.2 max.	0.6±0.3

Recommend Land Pattern Dimensions



A [mm]	B [mm]	C [mm]
2.0	1.2	2.8.

RECOMMENDED SOLDERING TECHNOLOGIES



Profile Feature	Pb free Assembly
Average Ramp Rate (Ts max to Tp)	3 °C/second max
Preheat - Temperature Min (T_{smin}) - Temperature Min (T_{smax}) - Time(t_{smin} to t_{smin})	150°C 200°C 60-180 seconds
Time maintained above: - Temperature (T_L) - Time (t_L)	217°C 60-150 seconds
Peak/Classification Temperature (T_p)	260 °C
Peak/Classification Time (T_p)	3-4 seconds
Time within 5 °C of actual Peak Temperature (T_p)	20-40 seconds
Ramp-Down Rate	6 °C/second max.
Time 25°C to Peak Temperature	8 minutes max

CONTACT INFORMATION

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