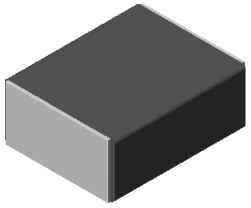
Shielded SMD Power Inductor TL25201

- Iron powder
- Magnetically shielded.
- Storage temperature：-40℃ ~ +125℃
- Operating temperature: -40℃ ~ +125℃ (Temperature rise included)
- Resistance to solder heat：260℃ .10 secs.



Electrical Specifications@ 25℃

Part Number (1)	Inductance (2) (μH)	DCR (mΩ) (Max.)	Isat (A) (3) (Max.)	Irms (A) (4) (Max.)
TL25201-R47M□	0.47 ±20%	32	4.50	3.51
TL25201-R68M□	0.68 ±20%	44	3.87	2.97
TL25201-1R0M□	1.00 ±20%	54	3.15	2.52
TL25201-1R5M□	1.50 ±20%	91	2.34	2.25
TL25201-2R2M□	2.20 ±20%	117 Typ (80)	2.16	2.07

(1). Part Numbering TL25201R47M□

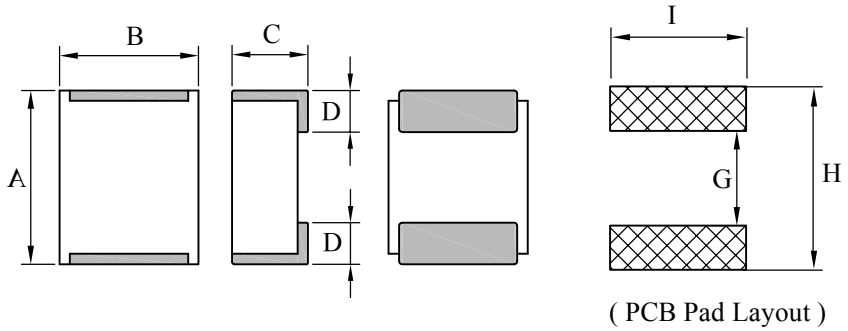
TL- Inductance Code, 25201 - Size, R47 - Inductance Value, M- Tolerance ±20%, □: B, C, D, T
B: Bulk , C: 7" Tape and Reel, D: 13" Tape and Reel, T: Partial Tape and Reel

(2). Inductance Test Condition.：1MHz / 1V

(3). Isat based on △ L/L0A＝30% max. (Approximate transient current)

(4). Irms based on Temperature rise 40℃ max.

(5). Termination: Tin -Silver over copper



(PCB Pad Layout)

Unit：m/m

A	B	C	D	G	H	I
2.50 ±0.2	2.00 ±0.2	1.00 max.	0.60 ±0.2	1.20	2.00	2.80

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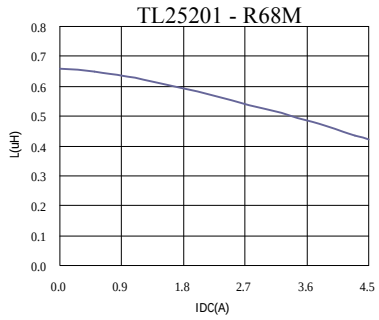
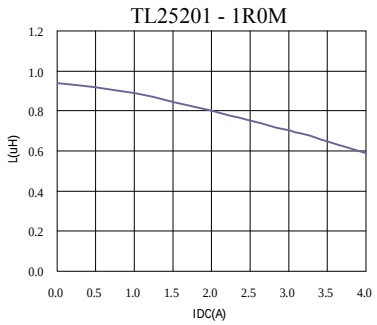
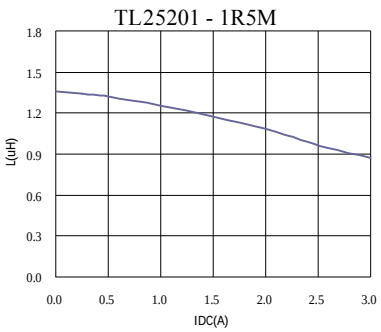
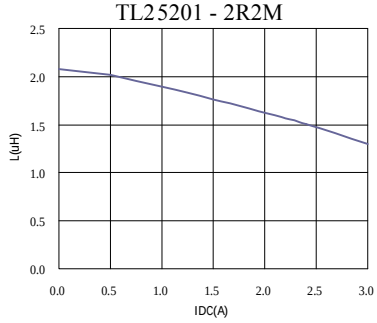
Inductance vs DC Bias

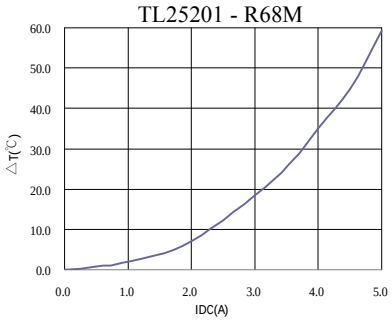


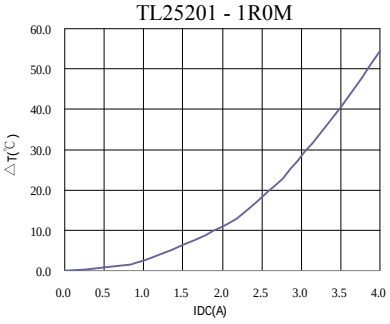


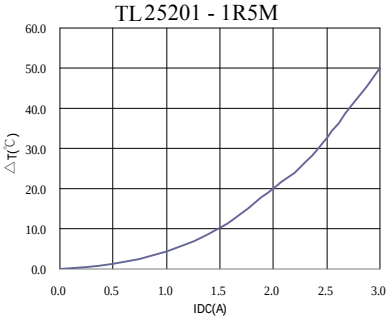


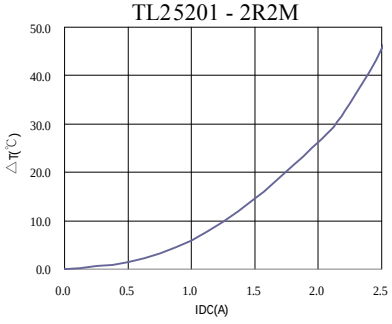


Temp Rise vs DC Bias









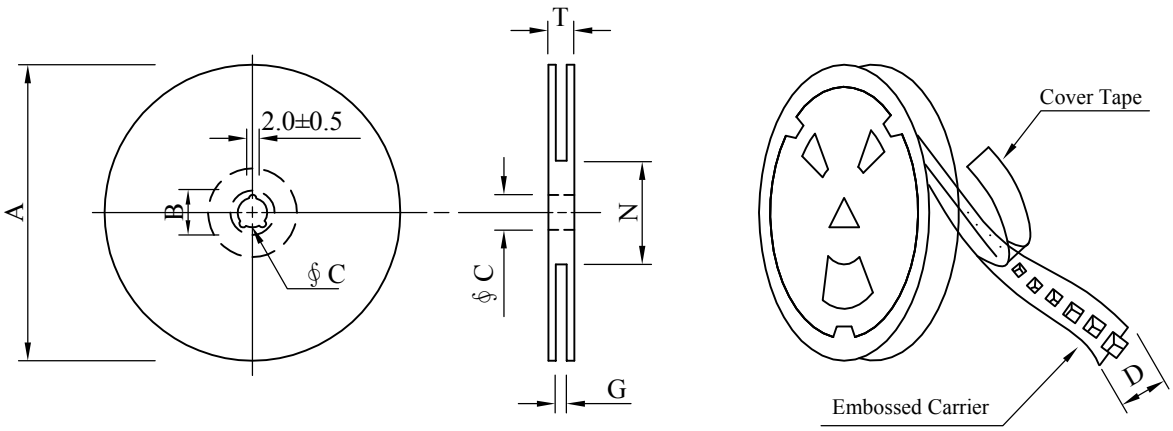
Reliability test： TL25201

Item	Reference documents	Test Condition	Test Specification
1.High Temperature Exposure	MIL-STD-202 Method 108	1.Temperature: 125±2℃ 2.Time:96±2 hours.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
2.Temperature Cycling	JESD22-A 104	1.Temperature: -40℃ ~ +125℃ 2.Number of cycle:100 cycle 3.Dwell time:30 minutes	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
3.Biased Humidity Test	MIL-STD-202 Method 103	1.Temperature：85±2 ℃ 2.Humidity: 85% RH. 3.Time:96±2 Hours	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
4.Operational Life	JESD22-A 108	1.Temperature: 125℃ (Temp. rise included) 2.Time:96±2 hours. 3.Rated current	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
5.External Visual	JESD22-B 101 & MIL-STD-883 Method 2009	Inspect product constructions, marking and workmanship.	1.No pollution on the surface of products. 2.Clear marking. 3.No crack.
6.Physical Dimensions	JESD22-B 100	Verify physical dimensions to the applicable product detail specification.	Per product specification standard
7.Resistance to solvents	MIL-STD-202 Method 215	Immerse into solvent for 3±0.5 minutes & brush 10 times for 3 cycles.	1.No body change in apperarance. 2.No marking blurred. 3.Inductance shall not change more than ±20%.
8.Vibration Test	MIL-STD-202 Method 204	1.Frequency and Amplitued : 10-2000-10 Hz, 1.5 mm. 2.Direction:X, Y, Z 3.Test duration:2 hours for each direction, 6 hours in total.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
9.Resistance To Soldering Heat Test	MIL-STD-202 Method 210 & J-STD020D.1	1.Highest temperature：260±5℃. 2.Time（temp.≧ 217℃）：60~150 Second. 3.IR reflow times：3 times.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
10.Saturation Current	JIS C 6436 & User SPEC.	1.Applied rated current for 5 second. 2.Saturation current	Inductance shall not drop more than 30% max.
11.Over load	JIS C 6436 & User SPEC.	1.Applied one and half rated current for a period of 5 minutes. 2.Rated current	No electrical or mechanical damage
12.Temperature Rise Current	JIS C 6436 & User SPEC.	1.Applied rated current for 10 minutes. 2.Temperature measure by digital surface thermometer. 3.Irms current	Surface temperature rise is less than 40℃ max.
13.Solderability Test	J-STD-002 & JESD22-B 102	1.Baking in pre-testing：150±5℃ / 16Hours±30 min. 2.Peak temperature：240±5℃ 3.Time（temp.≧217℃）：60~150 second. 4.IR reflow times：1 times.	More than 95% soldering coverage min on terminations.
14.Electrical Characteriazation	MIL-STD-202 Method 304 & User SPEC.	1.Operating temperature：-40℃~125℃ 2.Room temperature：25℃.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
15.Drop	CNS-C6354 & GB/T 2423.8	1.Products shall be mounted on SPEC. pcb and dropped down from a heigh of 1m 2.Drop total time：6 time (Every side ofsample drop 2 time)	1. Adhesion on PCB shall be enough. 2. Product appearance shall not break. 3. No electrical damage.
16.Terminal Strength Test	IEC 60068-2-21	1.Apply push force to samples mounted on PCB. 2.Force of 0.8 kg for 60±1 seconds.	After test, inductors shall be no mechanical damage.

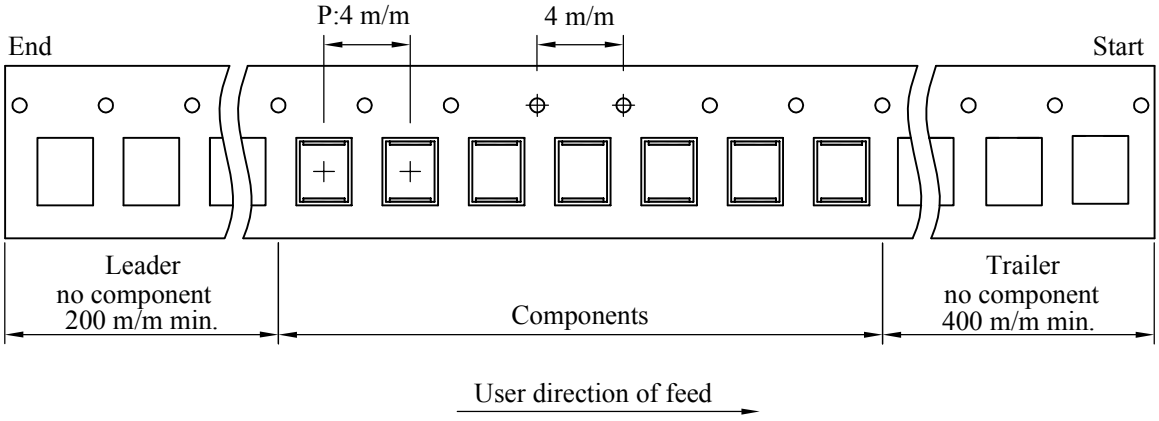
REF :

Packaging information： TL25201

(1) Configuration



※Carrier tape width : D



(2) Dimensions

Unit:m/m

Style	A	B	C	D	G	N	T
07 - 08	178	21±0.8	13	8	10^{+0}	50^{-0}	12.5

(3) Q'TY & G.W. Per package

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (gw)	Style	Q'TY(pcs)	G.W. (Kg)	Size (cm)
B	3,000	180	07 - 08	150,000	7.4	41 x 39 x 22