

Features

- The structure is coated with magnetic glue, which greatly reduces the buzzing sound;
- Metallized electrode directly on the ferrite core, strong anti-drop impact, durable;
- Closed magnetic circuit structure design, less magnetic leakage, strong anti-EMI capability;
- The rated current is 30% higher than the conventional power inductor under the same size conditions.

Applications

- LED lighting
- TV box
- personal computer
- Battery powered devices.
- Base stations
- PDA/notebook/desktop devices

Product Identification

THWPI
①

303015
②

D
③

1R0
④

M
⑤

T
⑥

- ① Type : THWPI
- ② External Dimensions (L×W×H) [mm]= 303015=3.0*3.0*1.5
- ③ Feature Type: Differential
- ④ Nominal Inductance : 1R0=1.0μH
- ⑤ Inductance Tolerance : K=±10%
M=±20%
N=±30%
- ⑥ Packing T=Tape Carrier Package

THWPI303015 Series

Specifications

Part Number	Inductance	DC Resistance	Saturation Current	Heat Rating Current	Test Condition
		Typ± 30%	Typ.	Typ.	
Units	uH	mΩ	A	A	
Symbol	L	DCR	Isat	Irms	
THWPI303015DR24NT	0.24	14	4.80	3.50	1MHz /0.25V
THWPI303015DR30NT	0.30	15	4.60	3.50	1MHz /0.25V
THWPI303015DR47NT	0.47	20	4.00	3.50	100KHz /0.25V
THWPI303015DR56NT	0.56	20	3.30	2.80	100KHz /0.25V
THWPI303015D1R0NT	1.0	30	2.32	2.10	100KHz /0.25V
THWPI303015D1R5NT	1.5	50	2.00	1.70	100KHz /0.25V
THWPI303015D1R8NT	1.8	55	1.75	1.65	100KHz /0.25V
THWPI303015D2R2MT	2.2	60	1.60	1.60	100KHz /0.25V
THWPI303015D2R7NT	2.7	70	1.52	1.50	100KHz /0.25V
THWPI303015D3R3MT	3.3	80	1.32	1.36	100KHz /0.25V
THWPI303015D3R9MT	3.9	108	1.20	1.10	100KHz /0.25V
THWPI303015D4R7MT	4.7	125	1.10	1.09	100KHz /0.25V
THWPI303015D5R6MT	5.6	170	1.05	1.00	100KHz /0.25V
THWPI303015D6R8MT	6.8	200	0.85	0.85	100KHz /0.25V
THWPI303015D8R2MT	8.2	230	0.80	0.75	100KHz /0.25V
THWPI303015D100MT	10	250	0.72	0.77	100KHz /0.25V
THWPI303015D120MT	12	288	0.70	0.68	100KHz /0.25V
THWPI303015D150MT	15	350	0.66	0.65	100KHz /0.25V
THWPI303015D180MT	18	430	0.56	0.59	100KHz /0.25V
THWPI303015D220MT	22	460	0.52	0.57	100KHz /0.25V
THWPI303015D270MT	27	630	0.48	0.46	100KHz /0.25V
THWPI303015D330MT	33	780	0.44	0.42	100KHz /0.25V
THWPI303015D470MT	47	1200	0.35	0.32	100KHz /0.25V

Note: **Isat (A) :**

DC Saturation Current that will cause initial inductance to drop approximately 30% max.

Irise(A)

DC Current that will cause an approximate ΔT of 40 °C

Measuring Instrument :

L:HIOKI3532-50

DCR:HIOKI 3540

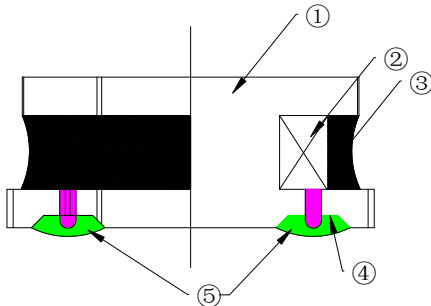
Isat / Irise:HP4284A+42841

Storage Temperature range : -40℃ ~ +105℃

Operating temperature range: -40℃ ~ +125℃ (Including coil's self temperature rise)

Structure

The structure of THWPI303015 Series product.

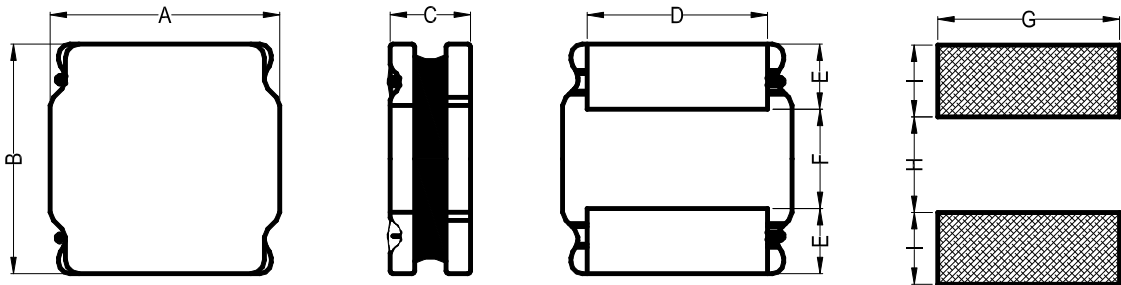


No.	Part name	Material	Ceaiya P/N
①	Drum Core	Ni-Zn Ferrite Core M13D DRS3.0×1.35×3.0	TZD/CY
②	Wire	Polyurethane enameled copper wire	YLSL
③	Adhesive	Epoxy Resin Magnetic Powder	
④	Plating Electrodes	Plating: Ag 10-20 μm Ni 1-3 μm Sn 3-7 μm	
⑤	Outer Electrodes	Top surface solder coating Sn99%、 Ag0.3%、Cu0.7%	YX



Δf: Clearance between terminal and the surface of plate must be 0.1mm max when coil is placed on a flat plate.

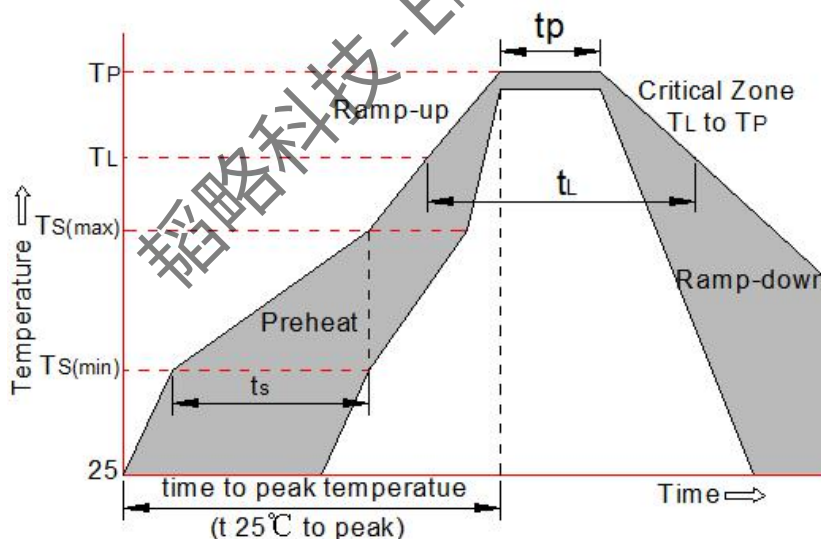
Package Mechanical Data And Suggested Land Pattern



A	B	C	D	E	F	G	H	I
3.0 ± 0.2	3.0± 0.2	1.5Max	2.5±0.3	0.8±0.2	1.4±0.2	2.7Ref	1.5 Ref	0.8 Ref

Soldering Parameters

Reflow Condition		Pb-Free Assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217°C
	-Temperature(t_L)	60-90 secs .
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260°C



Contact Information

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