ISO9001 IECQ - HSPM QC080000
ISO14001 OHSAS18001(GB/T28001)

SPECIFICATION FOR APPROVAL

CUSTOMER NAME :

VENDOR : TRIO Technology Co., Ltd.

PRODUCT NAME : SMD METAL ALLOY POWER INDUCTOR

PART NO : EP-47AM05B01

Q' TY : 10PCS

DATE : 2014/06/19

CUSTOMER APPROVAL CENTER		
APPROVED BY	CHECKED BY	INSPECTED BY

Head office: 14F-9,No.268, Lian Cheng Rd., Zheng-he, Taipei County, Taiwan.
Postcode: 235
TEL: 886-2-8227-9268(Rep) FAX: 886-2-8227-9269
Factory (1): Wisdom industry Zone, Dali village. Qingxi town Dongguan City, Guangdong, China.
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SPECIFICATION FOR APPROVAL

ROHS / HF COMPLIANT

CUSTOMER NAME:		REV NO:	A
DESCRIPTION:	SMD METAL ALLOY POWER INDUCTOR	PAGE NO:	Page 1 of 11
PART NO:	EP-47AM05B01	DATE:	2014/06/19

Change Record:

CHANGE DATE	CHANGE WRITING	MODIFY PERSON	VERSION
2014/06/19	New version	Ping Chen	A
	Following Blank		

APPROVED BY	CHECKED BY	DRAWN BY
Qinghui Zhang June 19 2014	Peter Chen June 19 2014	Ping Chen June 19 2014

SPECIFICATION FOR APPROVAL

CUSTOMER NAME:		REV NO:,	A
DESCRIPTION:,	SMD METAL ALLOY POWER INDUCTOR	PAGE NO:,	Page2 of 11
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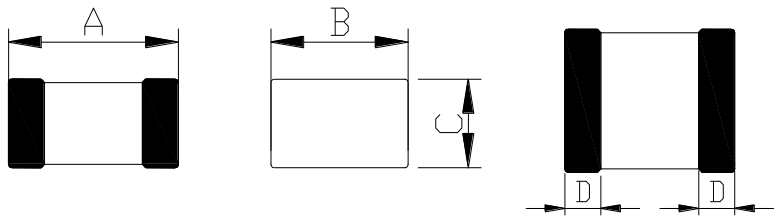
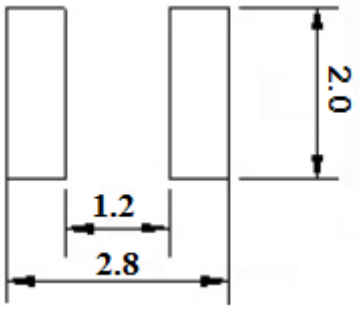
1. CONFIGURATIONS & DIMENSIONS.





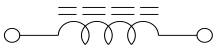
A: 2.5±0.2 mm

B: 2.0±0.2 mm

C: 1.2MAX mm

D : 0.6±0.2 mm

2. SCHEMATIC DIAGRAM



3. MATERIALS LISTS

NO	DESCRIPTION	MATERIALS	VENDOR	UL NO
a	CORE	ALLOY CORE	TRIO	
b	WIRE	ENAMELED COPPER WIRE AIW	JUNGSHING OR EQU	E174837

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4. ELECTRICAL CHARACTERISTICS:

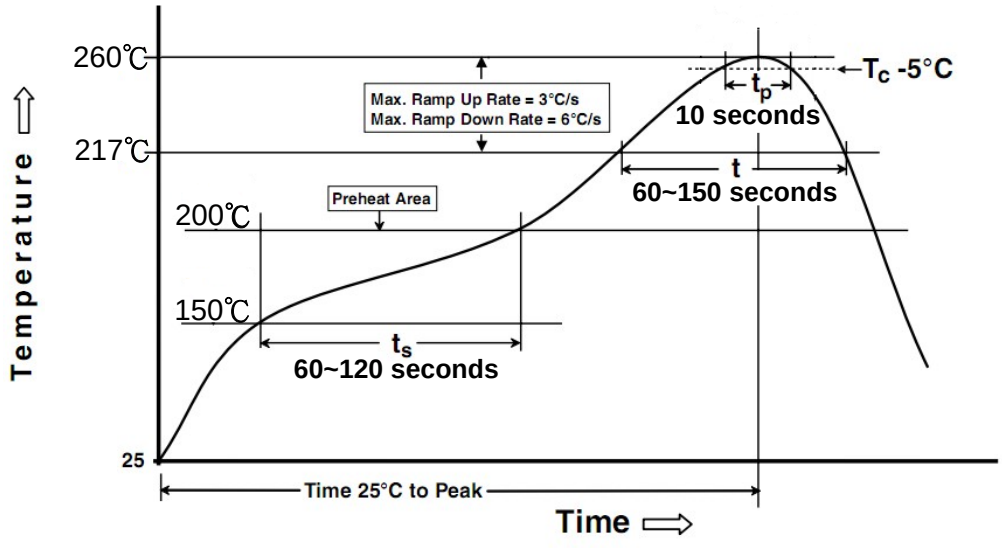
a. Inductance(L) :4.7 ±20% μH(1MHZ /1V)
b. DC Resistance(RDC) : 170.0typ,204.0 mΩ MAX at 25℃
c. Heating rating current (Irms): 1.3A
d. Saturation rated current (Isat):1.5A

5. GENERAL SPECIFICATION:

a. Temperature Rise Current: △T 40℃ approximately at Irms.
b. Saturation Rated Current: Inductance drop approximately 30% at Isat.
c. Storage temp.: -40℃ ~ 85℃
d. Storage R.H: 20% ~ 75%
e. Operating temp.: -55℃~ +125℃
f. Resistance to solder heat: 260℃/10 secs.

6. Recommended Soldering Conditions

Reflow Solderings



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7. TEST DATA

TEST ITEM	L_0 (μH)	L_I (μH)	L_I (μH)	RDC (mΩ)	
SPEC	1MHz/1V	Irms1.3A	Isat 1.5 A	At 25℃	
CON.	4.7±20%	△T 40℃ TYP	Drop 30% TYP	170 TYP	204 MAX
1	4.45	38.9	3.34	179	
2	4.35	40.2	3.26	176	
3	4.51	39.8	3.42	181	
4	4.50	39.6	3.37	180	
5	4.45	40.5	3.34	174	
6	4.35	38.2	3.26	174	
7	4.32	38.5	3.28	176	
8	4.46	39.3	3.38	175	
9	4.51	38.5	3.38	172	
10	4.42	39.1	3.31	180	
X	4.432	39.26	3.334	176.7	
R	0.19	2.3	0.16	9	

TEST INSTRUMENTS

☐IMPEDANCE ANALYZER	HP 4191RF
☐MULTIMETER	HP 3478A
☐NETWORK/ SPECTRUM ANALYZER	HP 4195A
☑LCR METER	CH 502AC, CH 3302 (CH=ZEN TECH)
☑BIAS CURRENT SOURCE	CH 1320, CH 1320S
☐LABORATORY DC POWER SUPPLY	HP 4291A, HP 4338A

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8. TEST DATA(DIMENSIONS)

NO.	A (mm)	B (mm)	C (mm)	D (mm)
SPEC	2.5±0.2	2.0±0.2	1.2MAX	0.6±0.2
1	2.59	2.14	1.17	0.42
2	2.6	2.13	1.15	0.44
3	2.61	2.13	1.13	0.42
4	2.61	2.14	1.17	0.40
5	2.60	2.14	1.14	0.42
6	2.60	2.13	1.17	0.43
7	2.61	2.13	1.15	0.42
8	2.59	2.15	1.14	0.42
9	2.59	2.14	1.16	0.44
10	2.60	2.13	1.16	0.43
X	2.6	2.136	1.154	0.424
R	0.02	0.02	0.04	0.04

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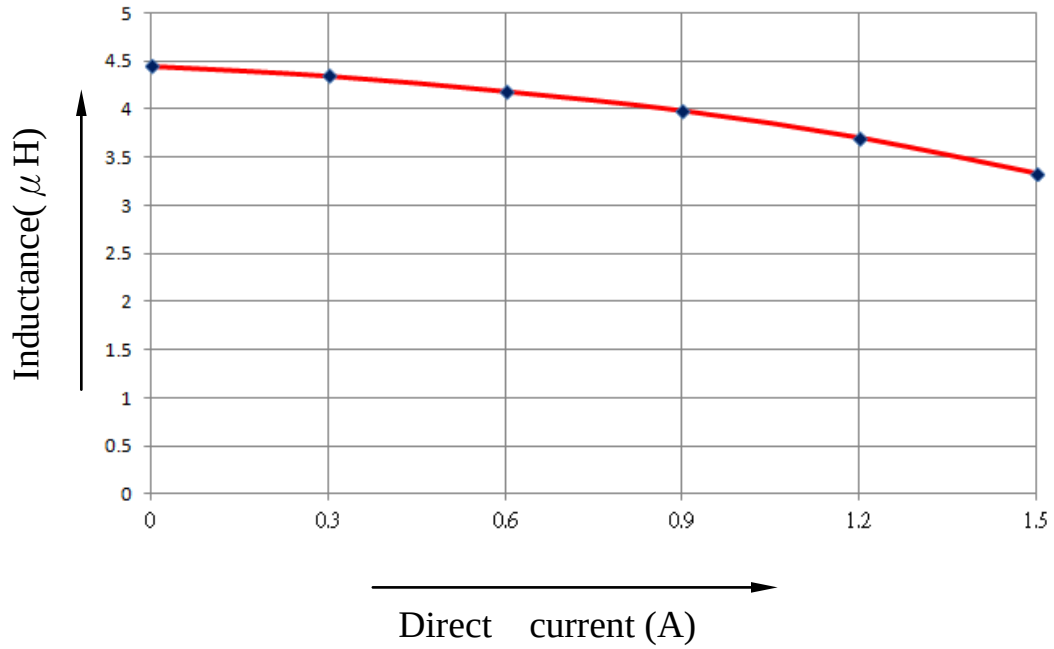
9.1 ELECTRICAL CHARACTERISTICS:

Inductances (uH) VS Direct current (A)

CURRENT	0A	0.3A	0.6A	0.9A	1.2A	1.5A		
L_1 (uH)	4.45	4.35	4.19	3.99	3.71	3.34		
Drop%	0	2.25%	5.84%	10.34%	16.63%	24.94%		



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SPECIFICATION FOR APPROVAL

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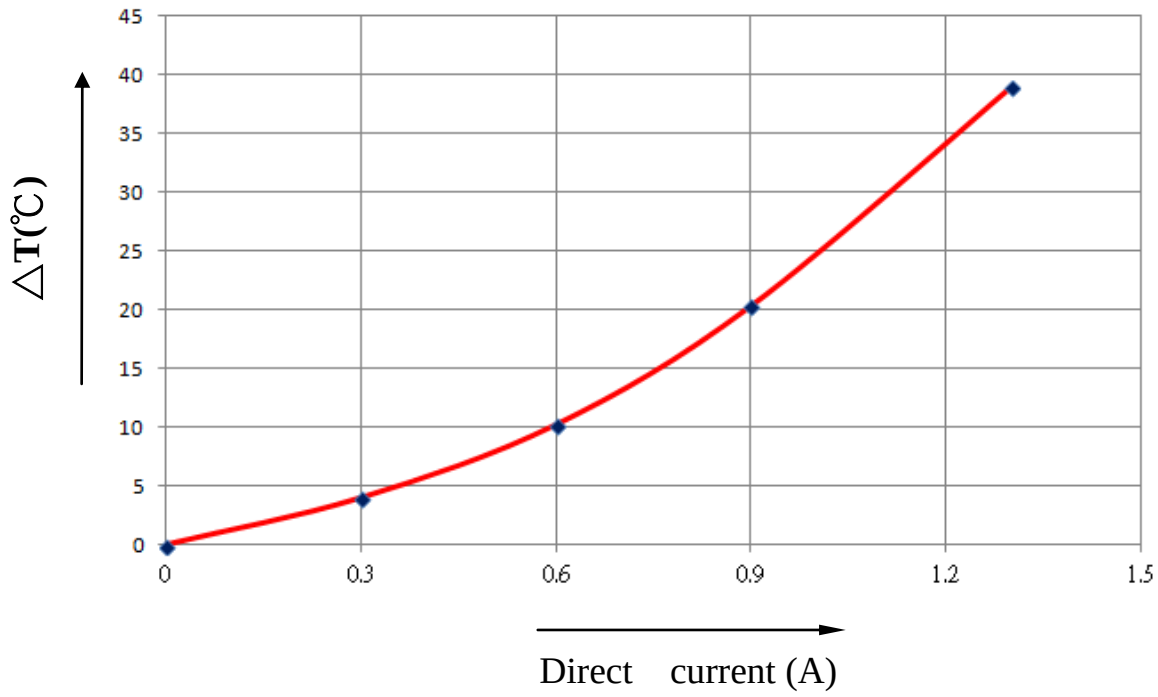
9.2 ELECTRICAL CHARACTERISTICS:

Rise Temperature(℃)vs Direct Current(A)

CURRENT	0A	0.3A	0.6A	0.9A	1.3A			
L_1 (uH)	4.45	4.35	4.19	3.99	3.58			
△T(℃)	0	4	10.2	20.3	38.9			



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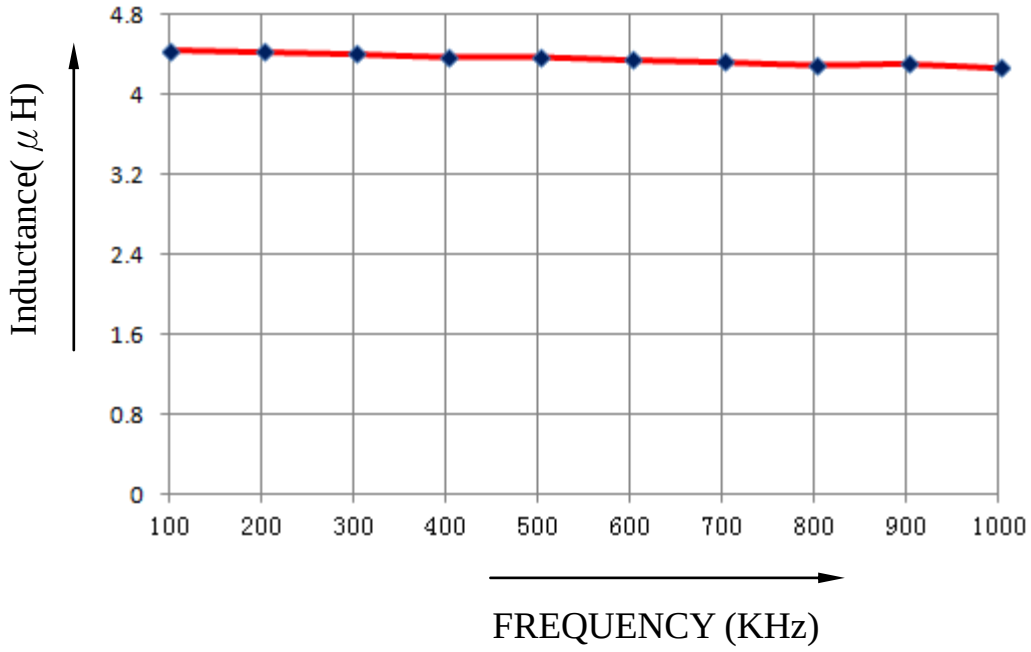
9.3 ELECTRICAL CHARACTERISTICS:

Inductances (uH) VS Frequency (KHZ)										
FREQUENCY (KHZ)	100	200	300	400	500	600	700	800	900	1000
L (uH)	4.45	4.43	4.41	4.38	4.38	4.35	4.33	4.3	4.31	4.27
CONDITION	AT 25℃									



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10.1 RELIABILITY TEST.

TEST ITEM	SPECIFICATION	TEST CONDITION
WITHSTANDING VOLTAGE TEST	AFTER TEST, INDUCTORS SHALL HAVE NO EVIDENCE OF ELECTRICAL AND MECHANICAL DAMAGE.	AC VOLTAGE OF 50V AND AC CURRENT OF 1mA APPLIED BETWEEN INDUCTOR'S TERMINAL AND CORE FOR 3 SECS.
RESISTANCE TO SOLDERING HEAT	1. INDUCTOR SHALL HAVE NO EVIDENCE OF ELECTRICAL AND MECHANICAL DAMAGE. 2. INDUCTANCE SHALL NOT CHANGE MORE THAN ±5%. 3. Q SHALL NOT CHANGE MORE THAN ±20%.	TEMP: 260±5°C TIME: 10±1.0 SECS
SOLDERABILITY TEST	THE TERMINAL SHALL BE AT LEAST 95% COVERED WITH SOLDER.	AFTER FLUXING, THE TERMINAL SHALL BE DIPPED IN A MELTED SOLDER BATH AT 245±5°C FOR 4±1.0 SECS.
VIBRATION TEST	A.INDUCTANCE SHALL BE WITHIN ±10% OF THE INITIAL VALUE. B.APPEARANCE:NO DAMAGE	FREQUENCY: 10 TO 55HZ AMPLITUDE: 1.52MM DIRECTION AND TIME: X, Y AND Z DIRECTIONS FOR 2 HOURS EACH.

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10.2 RELIABILITY TEST.

TEST ITEM	SPECIFICATION	TEST CONDITION
FREE FALL TEST	1. NO MECHANICAL DAMAGE SHALL BE NOTICED.	Drop 5 times on a concrete floor from lm the height
TEMPERATURE CYCLING TEST	a Inductance shall be within ±10% of the initial value b Appearance:No damage	a Test condition 1 Temp.:-55℃,time:30±3min 2 Temp.:+125℃,time: 30±3min 3 Cycles times:12 cycles b Measurement methods: The experimental component should be put at normal condition for 2 hours then to Measure again after test
HIGH TEMPERATURE RESISTANCE TEST		a Test condition Applied rated current Temp.:85℃±2℃ Test time:1000+25/-0H Measurement methods: The experimental component should be Put at normal condition for 25 hours then to measure again after test.
LOW TEMPERATURE RESISTANCE TEST		a Test condition Temp.:-55℃±2℃ Test time:1000+25/-0H Measurement methods: The experimental component should be Put at normal condition for 25 hours then to measure again after test.

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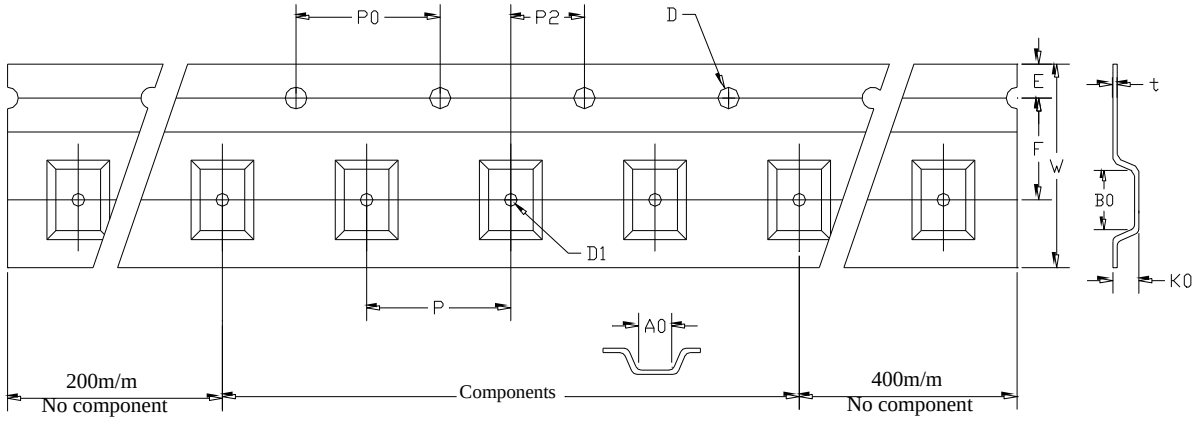
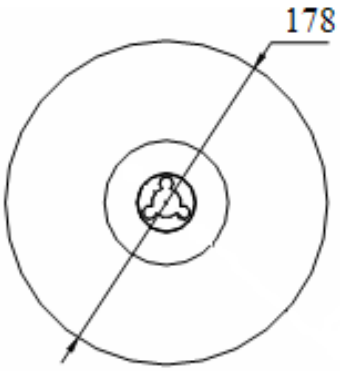
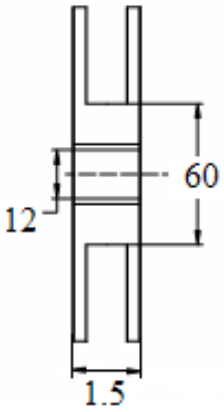
11.PACKAGING SPECIFICATION FOR SMD POWER INDUCTORS (unit:mm)



Feeding direction





TYPE	Dimensions of Tape											Quantity Pcs/reel
	W	P	E	F	D	D1	P0	P2	A0	B0	K0	t
2520B	8	4	1.75	3.5	1.55	1.50	4	2	2.35±0.1	2.80±0.1	1.35	0.25	3000

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