

ITEM P/N	PSPMAA0412-R47M-ANP	TEST INSTRUMENT	Zentech-3305 / Zentech502BC
PRODUCT	SMD Inductor	TEST FREQUENCY	100 kHz / 1.0V

**CUSTOMER :**

**CUSTOMER P/N :**

**DESCRIPTION :** SMD INDUCTOR

**P/N :** PSPMAA0412-R47M-ANP

**REVISION NO. :** Version: 2.0

**DATE :** 2017-4-19

**NOTES :** STANDARD

<b>DOCUMENTED</b>	
<b>APPROVED</b>	<b>Kevin</b>
<b>CHECKED</b>	<b>Ben</b>
<b>PREPARED</b>	<b>Peter</b>

<b>CUSTOMER APPROVAL</b>

company seals

Version: 2.0

# SPECIFICATION FOR APPROVAL

**RoHS  
COMPLIANT**

<b>ITEM P/N</b>	<b>PSPMAA0412-R47M-ANP</b>	<b>TEST INSTRUMENT</b>	<b>Zentech-3305 / Zentech502BC</b>
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Version	REVISION ITEM	BEFORE REVISION	AFTER REVISION	DATE
1.0	First Version			2016-3-11
2.0	Second Version	PSPFE-0412-R47M	PSPMAA0412-R47M-ANP	2017-4-19

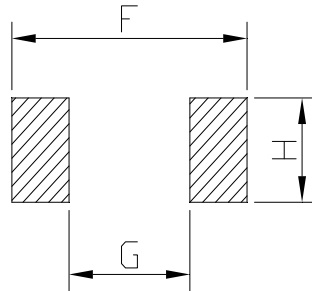
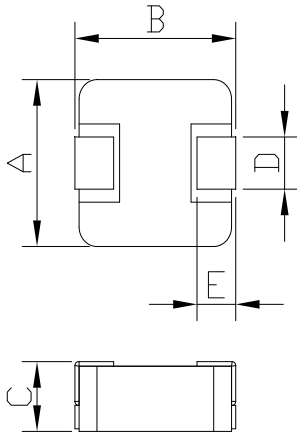


**PROD TECHNOLOGY CO., LTD.**



**E-LIVEN TECHNOLOGY CO., LTD.**  
NO. 28 HO-CHENG RD, BADE CITY, TAOTUAN, TAIWAN

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**PACKING DIMENSIONS (mm)**RECOMMANED  
LAND PATTERN

0412	Dimensions
A	4.2 ± 0.25
B	4.4 ± 0.35
C	1.2 MAX
D	2.0 ± 0.5
E	0.8 ± 0.3
F	4.95 Typ
G	2.15 Typ
H	2.3 Typ

**EXPLANATION OF PART NUMBERS**

<b>P S P M A A</b>	<b>0 4 1 2</b>	-	<b>R 4 7 M</b>	-	<b>A N P</b>
<u>Serial Codes</u>	<u>Size</u>		<u>Inductance</u>		<u>Descriptio</u>

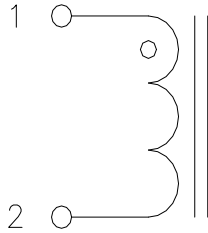
**ELECTRICAL CHARACTERISTICS**

ITEM P/N	@ 26 °C Ambient Temperature				DCR mΩ @ 25°C Typical	DCR mΩ @ 25°C MAX
	INDUCTANCE		Typical Heat Rating DC Current (A) (I <sub>dc</sub> )	Typical Saturation DC Current (A) (I <sub>sat</sub> )		
	Lo (μH)	TOLERANCE				
PSPMAA0 412-R47M- ANP	0.47	±20%	6	6.8	19	22

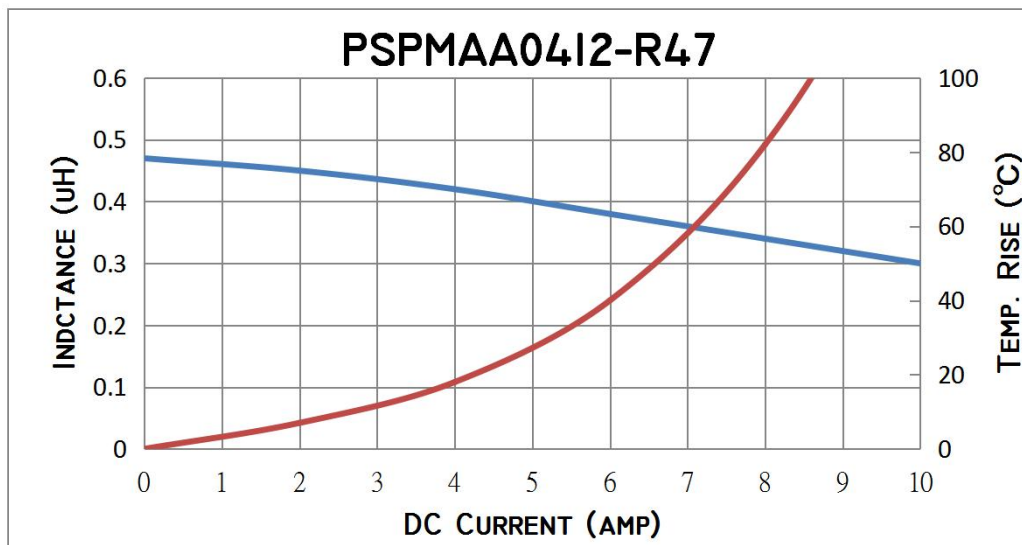
- ⊙ All test Data is referenced to 25°C ambient
- ⊙ Typical Heat Rating DC Current would cause an approximately ΔT of 40°C
- ⊙ Typical Saturation DC Current would cause Lo to drop approximately 35%
- ⊙ Operation Temperature Range : -40°C ~ 125°C
- ⊙ The Part temperature (ambient + ΔT) should not exceed 125°C under worst case operating conditions.
- ⊙ Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all effect the part temperature. Part temperature should be verified in the end application.

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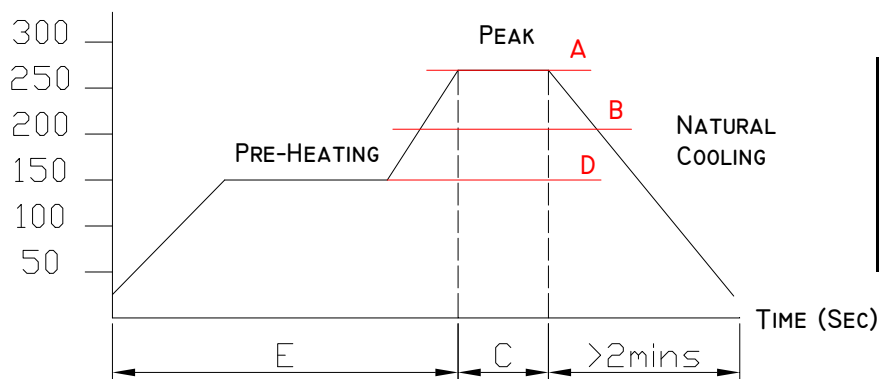
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**CONNECTIONS**

- ⊙ Inductor Contents ONE (1) Set(s) of Coil
- ⊙ DC/AC Current Shall Be Introduced By Any One of Two Pads

**MARKING****PERFORMANCE CURVES****RECOMMENDED SOLDERING TEMP. GRAPH**

TEMPERATURE (°C)



A	260°C
B	230°C
C	10 Sec
D	150°C
E	60~240 Sec

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**MECHANICAL RELIABILITY**

TEST	Specification & Requirement	Method Used
Solderability	The surface of terminal/pin tested shall be covered with new solder by 95%	Solder heat proof: Preheating: 180 ±10°C 90 seconds Soldering: 255 ±5°C for 3 ±1 sec
Shock	Inductance change within ± 5% Without mechanical damage	Drop down with 981m/s <sup>2</sup> (100G) shock Attitude upon a rubber block method shock testing machinem, 3 tests.
Vibration	Inductance change within ± 5% Without mechanical damage	Vibration frequency: 10Hz to 55Hz to 10Hz 60 seconds cycle Vibration time: 2 hours

**ENDURANCE RELIABILITY**

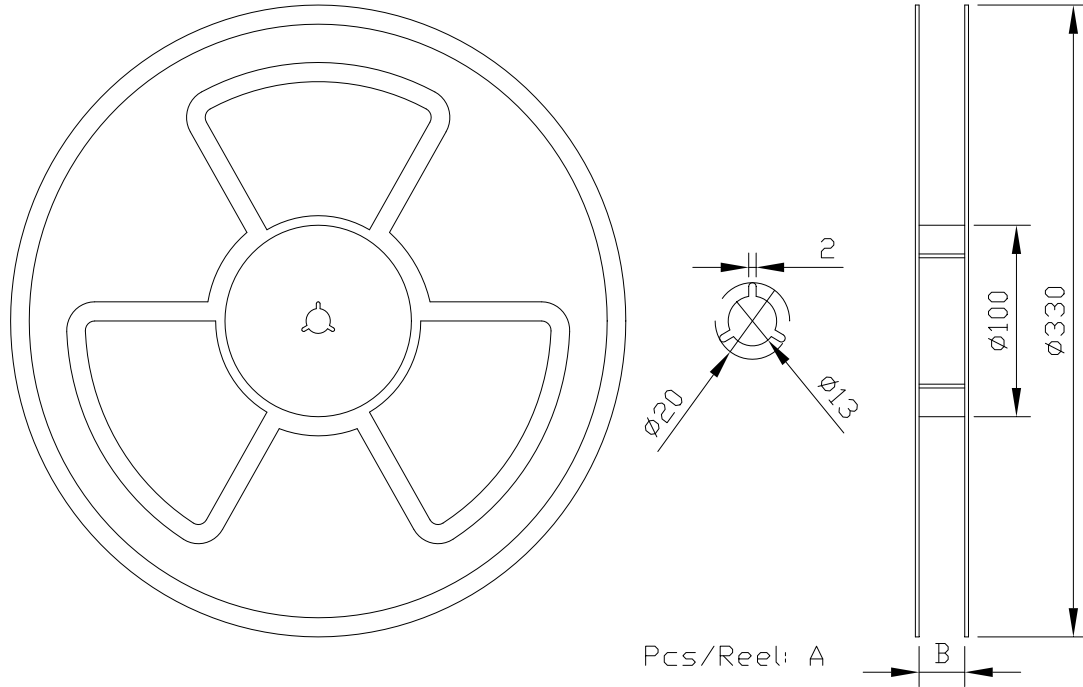
TEST	Specification & Requirement	Method Used
Thermal Shock	Inductance change within ± 5% Without mechanical damage	-25°C, (30 mins) -> room temp. (5 mins) -> 125°C, (30 mins) -> room temp. (5 mins) 100 cycles
Heat Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 85°C ambient Duration: 1000 hrs
Humidity Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 60°C ambient Humidity: 90~95% Duration: 1000 hrs
Low Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. -25 ±2 °C for total 1,000 +4/-0 hours
High Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. 125 ±2 °C for total 1,000 +4/-0 hours

# PACKING FOR SMD

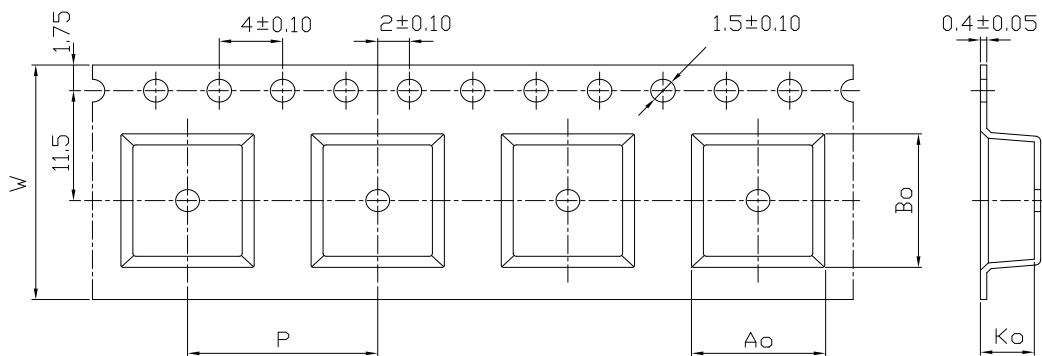
**RoHS  
COMPLIANT**

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**CARRIERTAPEING REEL & CARRIER MATERIALS (PAPER PLASTICS) UNIT : (mm)**



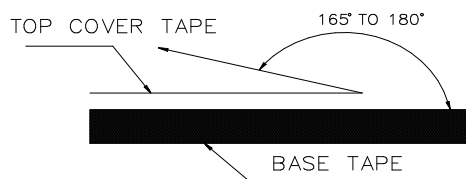
A	B	Ao	Bo	Ko
3000	12	4.3 ± 0.2	4.7 ± 0.2	2.0 ± 0.2



W	P
12	8

Typical Pulling Force:

100 grams typical



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## TEST DATA

SPEC No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)			DCR Max( mΩ )	INDUCTANCE L(0) ± 20%	6.8 A
		4.2 ± 0.25	4.4 ± 0.35	1.2 MAX	2.0 ± 0.5	0.8 ± 0.3			22	0.47
1	4.23	4.46	1.12	1.52	0.82			20.3	0.457	PASS
2	4.21	4.45	1.13	1.55	0.83			20.4	0.465	PASS
3	4.26	4.43	1.12	1.54	0.86			20.3	0.470	PASS
4	4.21	4.42	1.15	1.52	0.84			20.2	0.453	PASS
5	4.25	4.44	1.12	1.54	0.82			20.3	0.462	PASS
6	4.29	4.42	1.11	1.51	0.81			20.2	0.463	PASS
7	4.25	4.46	1.12	1.52	0.83			20.2	0.463	PASS
8	4.21	4.45	1.13	1.50	0.82			20.6	0.455	PASS
9	4.20	4.45	1.14	1.56	0.83			20.3	0.457	PASS
10	4.26	4.49	1.12	1.53	0.82			20.2	0.448	PASS
$\bar{X}$	4.24	4.45	1.13	1.53	0.83			20.30	0.46	
R	0.09	0.07	0.04	0.06	0.05	0.00		0.40	0.02	

© All test Data is referenced to 25°C ambient

## 产品注意事项

使用本产品时，请注意以下事项

- ◎ 产品保存期限为12个月，保存条件：温度5~40℃，湿度10~80%RH以内，超过保存期限可能会使产品端子电极发生氧化。
- ◎ 请勿在极端环境下使用和保存（高盐，强酸，强碱，强辐射等）。
- ◎ 产品焊接前，请进行预热；预热温度与焊接温度之间温差建议控制在150℃以内。
- ◎ 产品焊接后需重新拆卸焊接修正时，请遵循规格书规定的条件范围；过高的加热温度以及反复的拆卸可能会导致产品失效。
- ◎ 产品焊接到线路板后，请注意不可因线路板整体变形或局部变形而施加给电感剩余应力，这可能会导致电感发生破裂，脱落，以致失效。
- ◎ 产品请勿接触清洗剂，酒精等液体，这会侵蚀产品本体，从而导致产品失效。
- ◎ 产品通电后温度会随电流的增大而上升，设计时请务必考虑留有余量。
- ◎ 过高的静电会对产品产生永久性损害，请注意静电防护。
- ◎ 产品通电过程请勿触摸产品任何部位，防止触电。
- ◎ 本产品作为磁性产品，设计时请务必考虑周边元器件与本产品可能产生的相互影响。
- ◎ 本产品适用于一般电子设备，如：AV设备，通信设备，家电产品，娱乐设备，计算机设备，个人设备，办公设备，计测设备，工业机器人等。且该一般电子设备需在常规的操作和使用方法环境下使用。对于需要高度安全性和可靠性的，或者因本产品失效造成设备故障，误操作，运转不良等危及到人的生命身体及财产安全，以及对社会产生较大不良影响的特殊用途，设计使用前务必同本公司沟通，设计使用者如在未取得我司书面同意状况下使用造成任何后果，我司不予承担。特殊用途包含但不限于如下清单：

- |                       |                  |
|-----------------------|------------------|
| 1 军用设备                | 8 关系到国防安全的设备     |
| 2 运输设备（汽车，轨道交通产品，船舶等） | 9 防灾赈灾设备         |
| 3 航空，航天设备             | 10 各种安规设备        |
| 4 发电控制设备              | 11 紧急救护设备        |
| 5 核动力相关设备             | 12 其他被认定为特殊用途的设备 |
| 6 爆炸引燃控制设备            |                  |
| 7 交通控制设备              |                  |



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