广东风华高新科技股份有限公司 英达电感器件分公司

Guangdong Fenghua Advanced Technology (Holding) Co., Ltd
Yingda Inductor Subcompany

风华高科 FENGHUA

承 认 书

APPROVAL SHEET

客 户 名 称: Customer Name:	
产 品 名 称: Product Name:	功率电感器
制 造 商 料 号: Manufacturer P/N:	PW4532-□□□□T
客 户 料 号: Customer P/N:	
版 本 号: Version No.:	2.0

制造厂商 Manufacturer	
拟制 Draft	审核 Check
刘秋菊	李婉慧
日期 Date	2010-08-19

客户承认印章 Approval Signet	
日期 Date	

地址：广东省肇庆市风华路 18 号电子城

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【 承认书样单号:】

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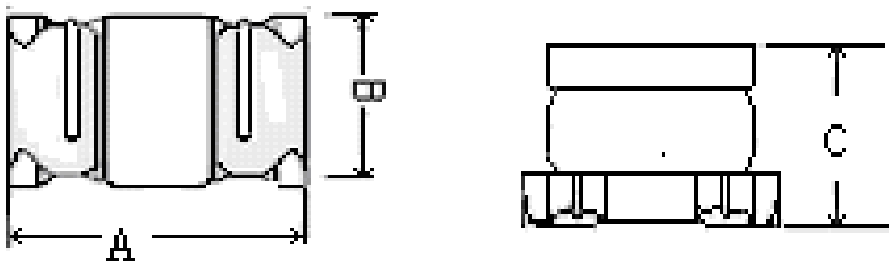
1 Electrical Characteristics List (PS Product)

Part NO.	Inductance(μH)	Test Freq.	Test Vol. (V)	RDC Max (Ω)	IDC Max (A)
PW4532-1R0MT	1.0±20%	1MHz	0.25	0.08	1.08
PW4532-1R5MT	1.5±20%	1MHz	0.25	0.09	1.00
PW4532-2R2MT	2.2±20%	1MHz	0.25	0.10	0.90
PW4532-3R3MT	3.3±20%	1MHz	0.25	0.13	0.80
PW4532-4R7MT	4.7±20%	1MHz	0.25	0.15	0.75
PW4532-6R8MT	6.8±20%	1MHz	0.25	0.185	0.72
PW4532-100MT	10±20%	1MHz	0.25	0.185	0.65
PW4532-150MT	15±20%	1MHz	0.25	0.320	0.57
PW4532-220MT	22±20%	1MHz	0.25	0.600	0.42
PW4532-330MT	33±20%	1MHz	0.25	1.00	0.31
PW4532-470MT	47±20%	1MHz	0.25	1.10	0.28
PW4532-680MT	68±20%	1MHz	0.25	1.70	0.22
PW4532-101MT	100±20%	1MHz	0.25	1.85	0.19
PW4532-151MT	150±20%	1MHz	0.25	3.5	0.13
PW4532-221MT	220±20%	1MHz	0.25	4.00	0.11
PW4532-331MT	330±20%	1MHz	0.25	6.8	0.10
PW4532-471MT	470±20%	1MHz	0.25	8.5	0.09
PW4532-561MT	560±10%	1MHz	0.25	10.50	0.07
PW4532-102MT	1000±20%	1MHz	0.25	25.00	0.05
TEST EQU	HP4263B	HP4263B	HP4263B	HP4263B	CH102+1320

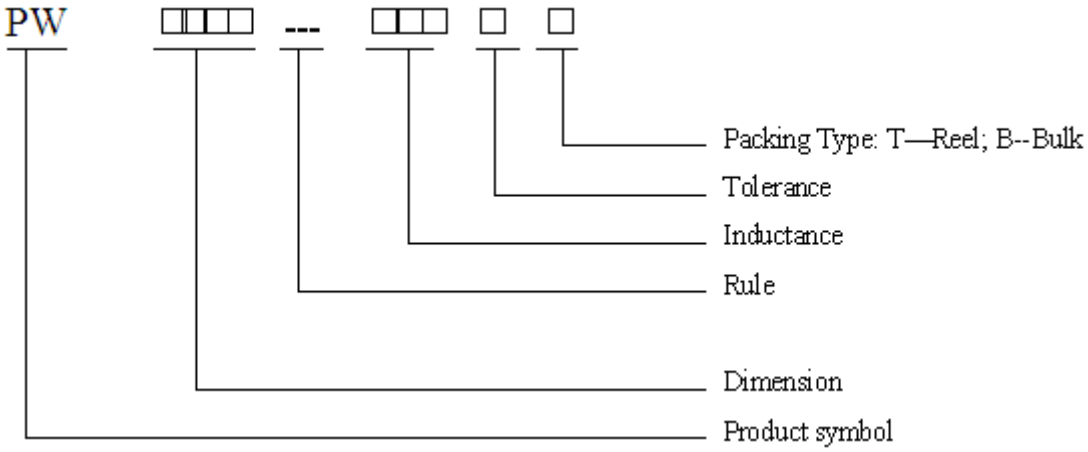
Isat: 施加电流后电感量下降≤10%。

2 Dimension &Inner-configuration ： unit：mm



Part NO.	A	B	C
PW3216	3.2±0.3	1.6±0.3	1.8±0.3
PW3225	3.2±0.3	2.5±0.3	2.0±0.3
PW4532	4.5±0.3	3.2±0.3	3.0±0.3
PW5750	5.7±0.3	5.0±0.3	4.7±0.3

3 Product Spec. Model



4 Reliability Testing Items

Item	Standard	Test Method
Operating Temperature Range	-40℃～+85℃	
Soldering Heat Resistance	The metalized area must have more than 75% solder coverage There shall be no case deformation or change in appearance. Inductance shall not change more than ± 5%.	Dip pads in flux and dip in solder pot(96.5Sn/3.0Ag/0.5Cu)at 260±5℃ for ten seconds.
Solderability	There shall be no case deformation or change in appearance. The metalized area must have more than 90% solder coverage.	Dip pads in flux and dip in solder pot(96.5Sn/3.0Ag/0.5Cu)at 245±5℃ for five seconds.
Insulation Resistance	≥100MΩ	100V DC between inductor terminals for 60 seconds .
Component Adhesion (Push test)	≥2.0kgf	Inductors shall be subjected to 260 ±5℃ for 20±5sec Soldering in the base whit 0.3mm solder. And then aplomb electrode way plus tax 2.0kgf for ten seconds
Over Loading	There shall be no case deformation or change in appearance. Inductors shall not have a open winding.	Direct current of rating current between inductor terminals , Direct current error ±2%, and center of case for five minutes.

4 Reliability Testing Items

Item	Standard	Test Method
Mechanical Shock	 No evidence of terminal peel off and wire broken	Inductors shall be Soldering on the PCB with 1.0mm thick and fixed them in a 15cm big.,1.4Kg weight cube with brass base, let it nature fallen form 0.5m height (X,Y,Z three axes)
Temperature Change	There shall be no case deformation or change in appearance. Inductance shall not change more than ±5%.	+85℃ 60minutes ←→ -40℃ 60minutes 5Cycles, Inductors are to be tested after 1 hour at room temperature.
High Temperature	There shall be no case deformation or change in appearance. Inductance shall not change more than ±5%.	Inductors shall be subjected to+85±5℃for 96±2 hours. Inductors are to be tested after one hour at roo temperature.。
Low Temperature	There shall be no case deformation or change in appearance. Inductance shall not change more than ±5%.	Inductors shall be subjected to -40±2℃for 96±2 hours. Inductors are to be tested after one hour at room temperature.。
Static Humidity	There shall be no case deformation or change in appearance. Inductance shall not change more than ±5%.	Inductors shall be subjected to 90~95% R.H. at 50±2℃ for 100 hours . Inductors are to be tested after having air dried for one hours.
Life	Inductors shall not have a shorted or open winding.	Inductors shall be store at 85±2℃ for 1000 hour With rated current applied. Inductors shall be tested after four hours at room temperature.

5 Packaging

1）Peeling off force

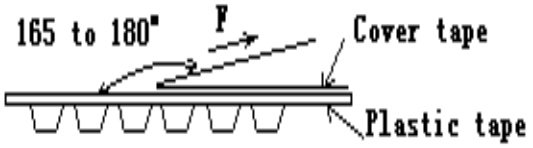
① Pull strength：

20g~100g

② Test condition：

Speed of peeling off ： 300mm/min±10%

Angle of peeling off**:** 165°~ 180°



2) Packing number

SIZE	PS2D11	PS4018	**PIO32**/43	PIO52/53/54/73	PIO75	PIO105/104	MS124	PB5022
	-------	PS3D18	PB1608	LBS6028/7030	LBS7045	PB3316	MS125	-------
	-------	-------	PS5020/5030	PS6020/6030	MS74	MS104R	MS127	-------
	-------	-------	PS4D28/4D18	MS73/PS6D28	PS6D38	LBS10145	LBS12575	-------
	-------	-------	-------	PS5D28/5D18	-------	-------	-------	-------
REEL (PCS)	4000	3000	2000	1500	1000	750	500	350
BOX (PCS)	16000	12000	8000	6000/4500	3000	1500	1000	700

8 Recommend Soldering Conditions

1) Soldering Conditions

Products can be applied to reflow and flow soldering.

① Flux,Solder

a) Use rosin-based flux.

Don’t use highly acidic flux with halide content exceeding 0.2(wt)%(chlorine conversion value).

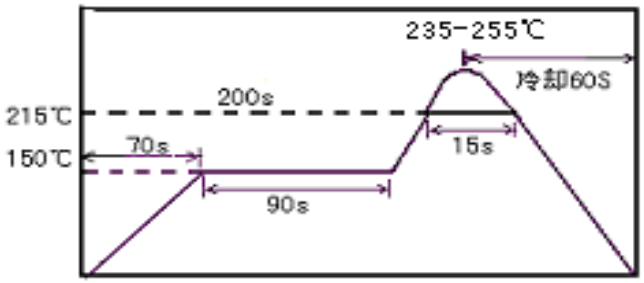
b) Using lead-free solder (96.5Sn /3.0Ag/0.5Cu)

8 Recommend Soldering Conditions

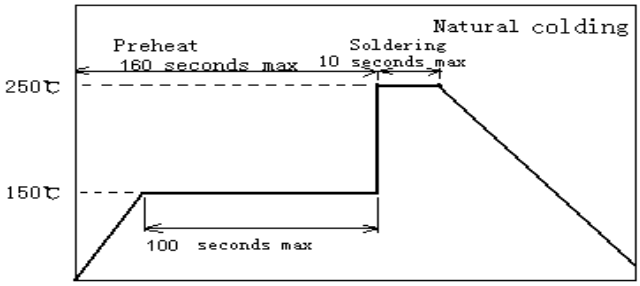
② Soldering conditions

- Pre-heating should be in such a way that the temperature difference between solder and ferrite surface is limited to 150℃ max . Also cooling into solvent after soldering should be in such way that the temperature difference is limited to 100℃ max.
  Unenough pre-heating may cause cracks on the ferrite , resulting in the deterioration of product quality.
- Products should be soldered within the following allowable range indicated by the slanted line.
  The excessive soldering conditions may cause the corrosion of the electrode.
  When soldering is repeated, allowable time is the accumulated time.

2) Reflow soldering profile



3) Flow soldering profile



4) Iron soldering

Perform soldering at 280℃ on 30W max. Time：< 5S

Take care not to apply the tip of the soldering iron to the terminal electrodes

5) Cleaning Conditions

Cleaning temperature ： 60℃ max Cleaning time：1 minute . max

Ultrasonic output power：200W max

9 Storage Conditions

1) Storage period

Products which outgoing from YINDA in 6 months should be used, you can confirm with the inspection No. which marked on the container. Solder ability should be checked if this period is exceeded.

2) Storage conditions

- Products should be storage in the warehouse on the following conditions:
  Temperature ： -10~+40℃ Humidity： 30~70% relative humidity
- Don’t keep products in corrosive gases such as sulfur, chlorine gas or acid , or it may case oxidization of Electrode resulting in poor solder ability.
- Products should be storaged on the palette for the prevention of the influence from humidity, dust and so on.
- Products should be storaged in the warehouse without heat shock, vibration, direct sunlight and so on.
- Products should be storaged under the airtight packaged condition.

10 Environmental information

Our products meet the ROHS directive.

11 Note

(1) This product specification guarantees the quality of our product as a single unit,Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.

(2) We can’t warrant against failure caused by any use of our product that deviates from the intended use as described in this product specification.

10 Sample's feedback list

Respect customer,

Thank you for your trust and support， In cooperation, we will do our best to meet your all of requests, and provide the best service to you.

If you have any problem, please feel free to contact us, we would earnestly analyze the question which you asked for, and reply to you as soon as possible. You only need fill in this form and fax or mail it to us.

Wishes cooperate happily!

Problem Description

Part NO.	
LOT NO.	
Sample Date	
Problem description	
Your analysis(for the reason)	
Note	

Your contact

Your Name		Company	
Business		Address	
Tel		Post	
Fax		E-mail	

Contact us

Linkman	Yanlingzhi	Tel	0758-2865619
E-mail	ydaservice@fenghua-advanced.com	Fax	0758-2865619
Address	Fenghua Electronic Industrial City,18th Fenghua Road,Zhaoqing Guangdong, P.R, China	Post	526020
Note	Please fill in the form and feedback to us in time, thanks!		