

# Power Choke

## JLTPRH1207F Series

**JinLai's proven design and process support high reliability, high thermal characteristics, and high efficiency power chokes for automotive application.**

### DATA SHEET

**Place of origin: Chongqing**



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## 5. Electrical Characteristics

Part No.	Test Frequency	Inductance (UH)	DC Resistance ( $\Omega$ ) MAX	Isat ( A ) MAX	Irms ( A ) MAX
JLTPRH1207F-1R0N	100KHZ/0.3V	1	0.014	25	12
JLTPRH1207F-2R2N	100KHZ/0.3V	2.2	0.017	21	9
JLTPRH1207F-3R3N	100KHZ/0.3V	3.3	0.020	17	8
JLTPRH1207F-4R7N	100KHZ/0.3V	4.7	0.022	14	6.8
JLTPRH1207F-6R8N	100KHZ/0.3V	6.8	0.025	11	6.6
JLTPRH1207F-100M	100KHZ/0.3V	10	0.027	9	5.4
JLTPRH1207F-150M	100KHZ/0.3V	15	0.035	8	4.7
JLTPRH1207F-220M	100KHZ/0.3V	22	0.057	6	3.6
JLTPRH1207F-330M	100KHZ/0.3V	33	0.065	5	3
JLTPRH1207F-470M	100KHZ/0.3V	47	0.090	4	2.5
JLTPRH1207F-560M	100KHZ/0.3V	56	0.105	3.8	2.3
JLTPRH1207F-680M	100KHZ/0.3V	68	0.110	3.5	2.1
JLTPRH1207F-101M	100KHZ/0.3V	100	0.200	3	1.7
JLTPRH1207F-121M	100KHZ/0.3V	120	0.250	2.7	1.6
JLTPRH1207F-151M	100KHZ/0.3V	150	0.300	2.3	1.4
JLTPRH1207F-221M	100KHZ/0.3V	220	0.400	2	1.1
JLTPRH1207F-331M	100KHZ/0.3V	330	0.550	1.5	0.95
JLTPRH1207F-471M	100KHZ/0.3V	470	0.850	1.3	0.79
JLTPRH1207F-681M	100KHZ/0.3V	680	1.200	1.2	0.67
JLTPRH1207F-102M	100KHZ/0.3V	1000	1.820	1	0.55
JLTPRH1207F-152M	100KHZ/0.3V	1500	2.200	0.75	0.3
JLTPRH1207F-352M	100KHZ/0.3V	3500	4.800	0.4	0.2
JLTPRH1207F-472M	100KHZ/0.3V	4700	7.000	0.3	0.2

**Note: When ordering, please specify tolerance code. Tolerance: M=±20%**

- All data is tested on 25°C ambient temperature.
- Inductance is tested at 100kHz, 1.0V.
- Heat rating current: The value of DC current when product temperature rise is  $\Delta T40^{\circ}\text{C}$  ( $T_a=25^{\circ}\text{C}$ ).
- Saturation current: The value of DC current when the inductance decreases approximately 30% of its.

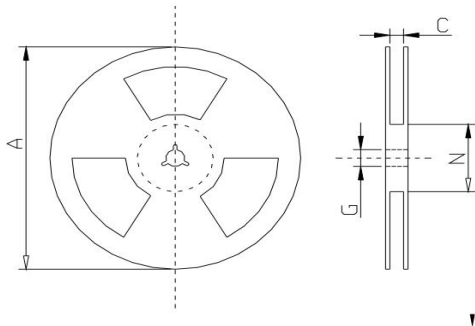
Special remind: Circuit design, component placement, frequency, cooling system and etc. all will affect the product temperature. Please verify the actual product temperature in the final application.

## 6. Material List

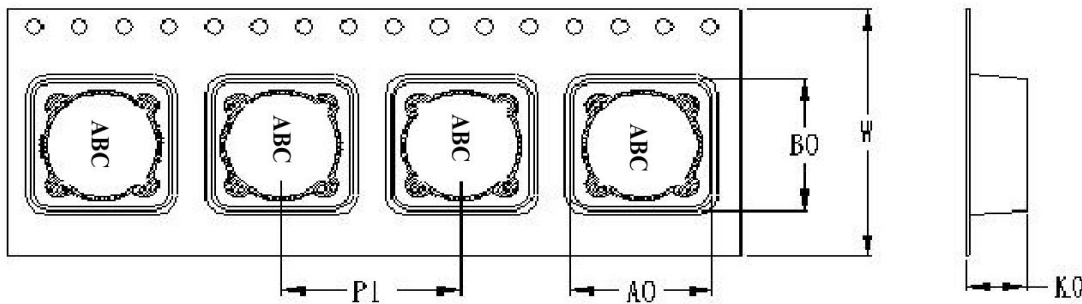
No.	Description	Vendor	Material
1	铜线	TPY	2UEWH P180
2	锡	QD	QD107H
3	上盖带	JC	自粘宽度 21.3mm
4	卷盘	HW	13 寸盘
5	载带	BL	127PS、127PET、500PCS/盘
6	BASE/贝斯	QR	QRC125-17
7	BASE 胶水	PLM	EP2221
8	灌封 胶水	GD	9010H

## 7. Packaging Information

### Reel Dimension & Tape Dimension

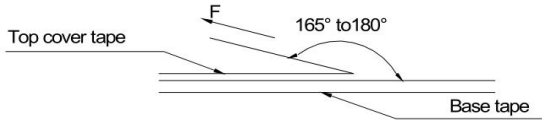


A(mm)	C(mm)	G(mm)	N(mm)
330	13.0± 0.5	24.5± 0.5	100 ±1.0



P1	W	A0	B0	K0
16.0±0.1	24.0±0.3	14.0±0.2	14.0±0.2	8.2±0.15

Cover tape peel-off condition



The force for tearing off cover tape is 10 to 125 grams in the arrow direction under the following conditions.

Room Temp. ( )	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5~35	45~85	860~1060	300

**Application Notice**

**Storage Conditions**

To maintain the solderability of terminal electrodes:

1. Temperature and humidity conditions: Less than 40 and 70% RH.
2. Recommended products should be used within 6 months form the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.
4. JINLAI products meet IPC/JEDEC J-STD-020E standard-MSL, level 1.

**Transportation**

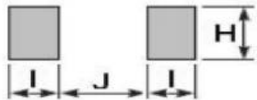
1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

Packaging quantity

每盘 包装数量 Per Reel Quatity	内箱 包装数量 Inner Carton Quatity	外箱 包装数量 Out Carton Quatity
500 pcs	1,000 pcs	3,000 pcs

**8. Recommended PC Board Pattern**

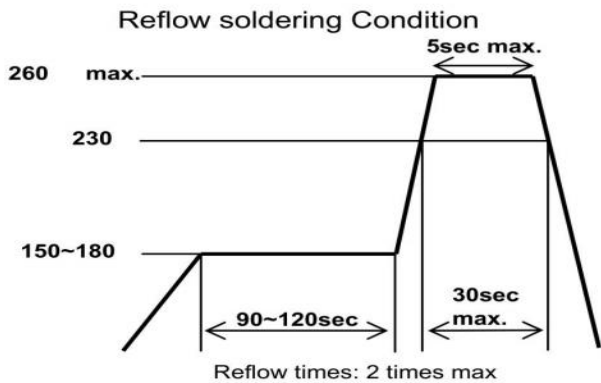
**Recommended PC Board Pattern**



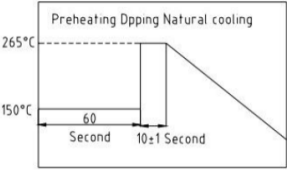
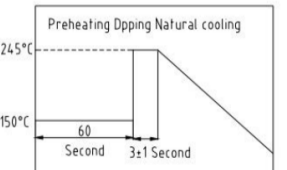
I (mm)	J (mm)	H (mm)
2.2	7.4	4.9

**Soldering**

Mildly activated rosin fluxes are preferred. The minimum amount of solder can lead to damage from the stresses caused by the difference in coefficients of expansion between solder, chip and substrate. JINLAI terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.



## 9. Reliability and Test Condition

Item	Performance	Test Condition															
Operating Temperature	-55°C~+165°C																
Storage temperature	-55°C~+165°C																
IDC Rated Current	Base on temp. rise & $\Delta L/LOA \cong 35\% .40^\circ\text{C max. } (\Delta t)$																
Solder heat Resistance	Appearance: No significant abnormality. Inductance change: Within $\pm 20\%$ . 	Preheat: 150°C, 60sec. Solder : D9930C Solder temperature: 265±5°C Flux: rosin Dip time: 10±1 sec.															
Solderability	More than 90% of the terminal electrode should be covered with solder. 	Preheat: 150±25°C, 60sec. Solder : D9930C Solder temperature: 245±5°C Flux: rosin Dip time: 3±1 sec.															
Thermal shock	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. <table border="1" data-bbox="746 1064 1077 1310"> <thead> <tr> <th>Phase</th> <th>Temperature(°C)</th> <th>Time(min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55±2°C</td> <td>30±3</td> </tr> <tr> <td>2</td> <td>Room Temp.</td> <td>15</td> </tr> <tr> <td>3</td> <td>+165±2°C</td> <td>30±3</td> </tr> <tr> <td>4</td> <td>Room Temp.</td> <td>15</td> </tr> </tbody> </table> Measured: 50 times	Phase	Temperature(°C)	Time(min)	1	-55±2°C	30±3	2	Room Temp.	15	3	+165±2°C	30±3	4	Room Temp.	15	For TPRHC Condition for 1 cycle Step1: -55±2°C 30±3min. Step2: Room temperature 15 min. Step3: +165±2°C 30±3min. Step4: Room temperature 15 min. Number of cycles: 50
Phase	Temperature(°C)	Time(min)															
1	-55±2°C	30±3															
2	Room Temp.	15															
3	+165±2°C	30±3															
4	Room Temp.	15															
Humidity Resistance Test	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value.	Temperature: 40±2°C. Applied current: rated current. Duration: 500 hrs. Humidity: 90~95%															
High Temperature Resistance Test	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value.	Temperature: 165±2°C Applied current: rated current. Duration: 500 hrs.															