

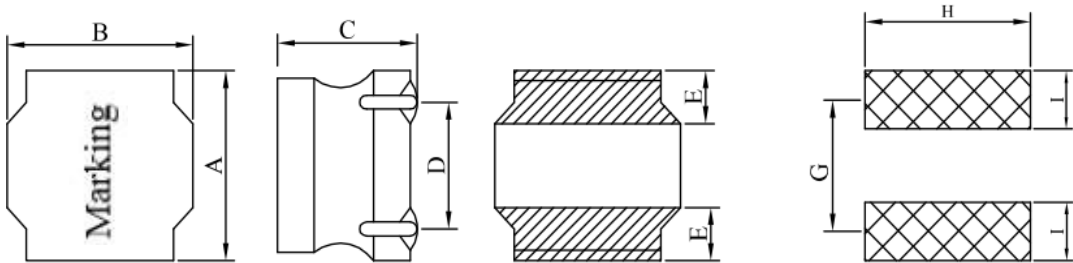
## 1. Part No. Expression

**PNS8040R90YZF**

(a)      (b)      (c)   (d)(e)(f)

- |                     |                    |
|---------------------|--------------------|
| (a) Series Code     | (d) Tolerance Code |
| (b) Dimension Code  | (e) Special Code   |
| (c) Inductance Code | (f) Packaging Code |

## 2. Configuration & Dimensions: (Unit:- mm)

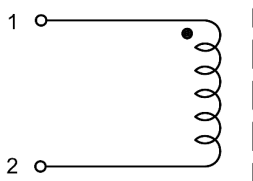


Recommended Land Pattern

- Note: 1. Solder paste thickness at 0.12mm and above is recommended.  
 2. Dimension C for R90~100: 4.2 Max, 150~101: 4.0 Max.

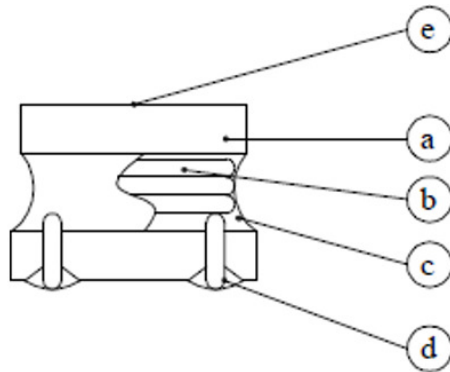
A	B	C	D	E	G	H	I
8.0±0.2	8.0±0.2	4.0 Max 4.2 Max	5.6±0.3	2.0 Typ	5.6 Ref	7.5 Ref	1.8 Ref

## 3. Schematic



NOTE: Specifications subject to change without notice. Please check our website for latest information.

## 4. Material List



- a) Core
- b) Wire
- c) Adhesive
- d) Terminal
- e) Ink

## 5. General Specifications

- (a) Operating Temp. : -40°C to +125°C (Including self-temperature rise).
- (b) Storage Temp. : -40°C to +125°C.
- (c) Irms: Based on temperature rise ( $\Delta T$ : 40°C Typ).
- (d) Isat: Based on inductance change ( $\Delta L/L_0$ : 30% Max).
- (e) Storage condition (component in its packaging)
  - i) Temperature: Less than 40°C
  - ii) Humidity: 60% RH

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## 6. Electrical Characteristics

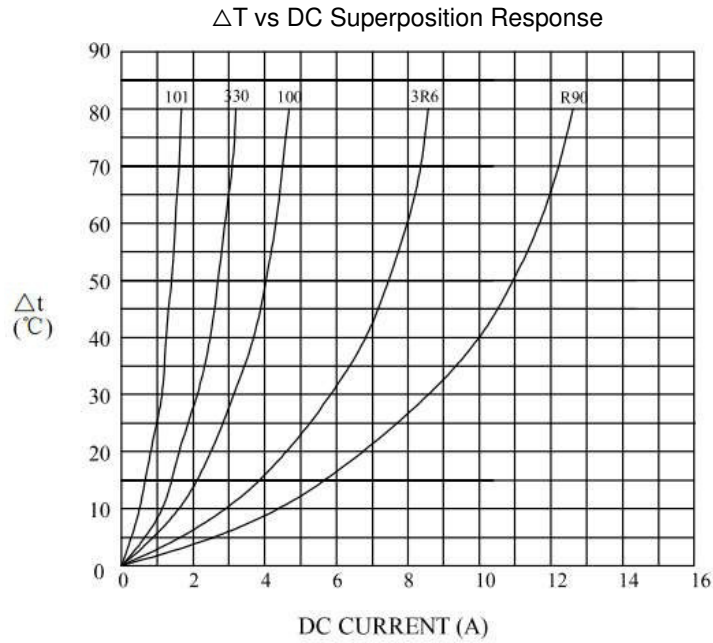
Part Number	Inductance (uH)	Test Freq. (Hz)	DCR (Ω) ±30%	Isat (mA) Max	Irms (mA) Max	SRF (MHz) Typ	Marking
PNS8040R90YZF	0.9±30%	1V/100K	0.006	11000	7800	85	R90
PNS80401R4YZF	1.4±30%	1V/100K	0.007	9000	7000	63	1R4
PNS80402R0YZF	2.0±30%	1V/100K	0.009	7400	6300	50	2R0
PNS80403R6YZF	3.6±30%	1V/100K	0.015	5300	4900	34	3R6
PNS80404R7YZF	4.7±30%	1V/100K	0.018	4700	4100	30	4R7
PNS80406R8MZF	6.8±20%	1V/100K	0.025	4000	3700	24	6R8
PNS8040100MZF	10±20%	1V/100K	0.034	3400	3100	22	100
PNS8040150MZF	15±20%	1V/100K	0.050	2700	2400	16	150
PNS8040220MZF	22±20%	1V/100K	0.066	2200	2200	13	220
PNS8040330MZF	33±20%	1V/100K	0.100	1900	1700	12	330
PNS8040470MZF	47±20%	1V/100K	0.150	1500	1400	8	470
PNS8040680MZF	68±20%	1V/100K	0.230	1200	1100	7	680
PNS8040101MZF	100±20%	1V/100K	0.290	1000	1000	6	101

Tolerance: Y = ±30%; M = ±20%

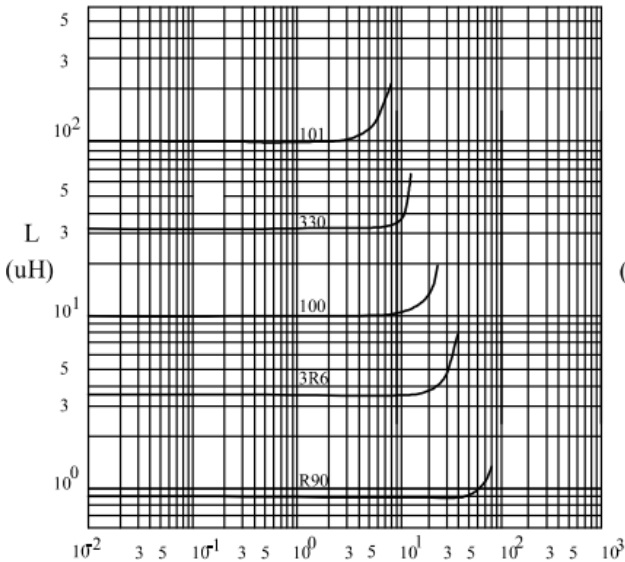
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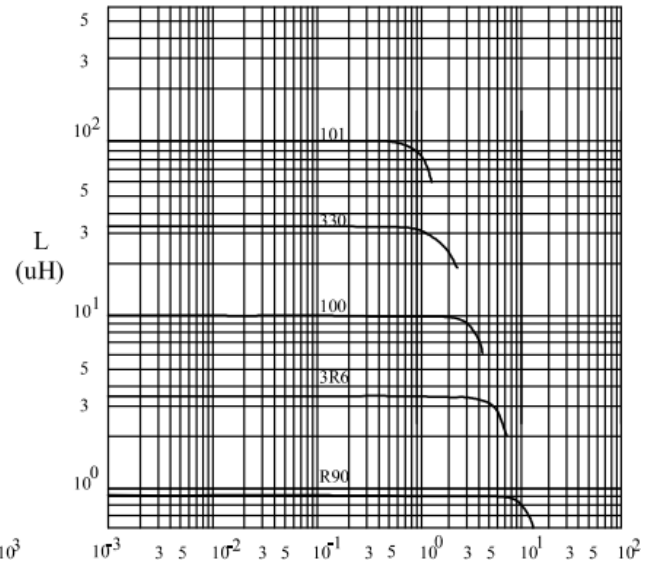
7. Characteristic Curves



L vs Frequency Response



L vs DC Superposition Response



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**8. Soldering and Mounting**

Mildly activated rosin fluxes are preferred. Our terminations are suitable for all re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

**8-1 Solder Re-flow**

Recommended temperature profiles for re-flow soldering in Figure 1.

**8-2 Soldering Iron (Figure 2)**

Products attachment with soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

Note:

- a) Preheat circuit and products to 150°C.
- b) 350°C tip temperature (Max.)
- c) Never contact the ceramic with the iron tip
- d) 1.0mm tip diameter (Max.)
- e) Use a 20 Watt soldering iron with tip diameter of 1.0mm.
- f) Limit soldering time to 4~5 sec.

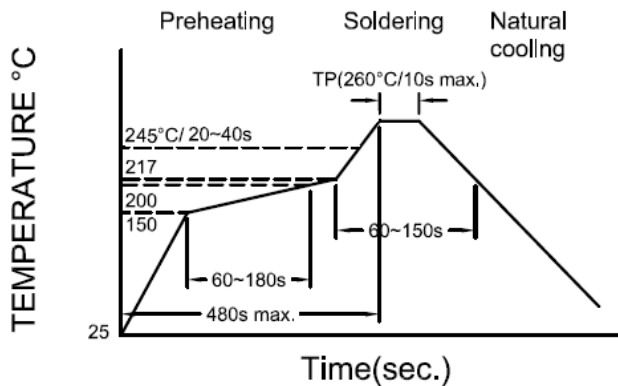


Figure 1: Re-flow Soldering Time 3 times Max.

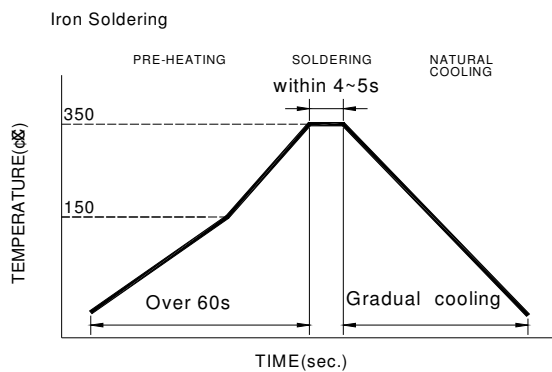


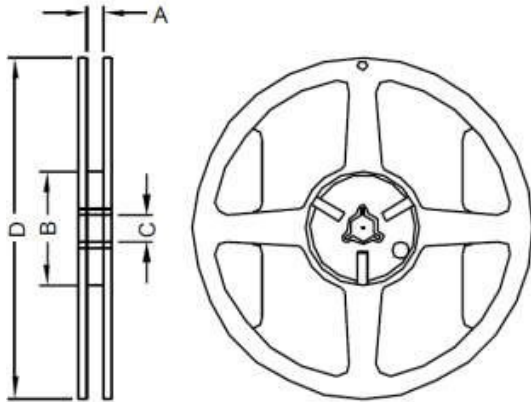
Figure 2: Iron Soldering Time 1 times Max.

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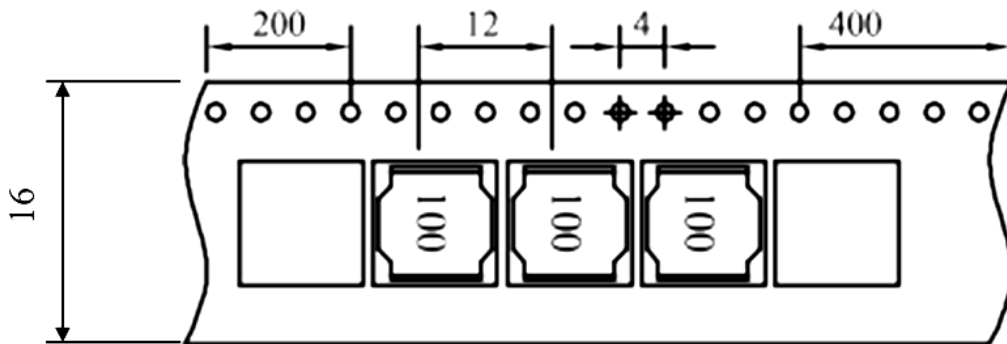
9. Packaging Information

9-1. Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
13"x18	18	100	13	330

9-2. Tape Dimension

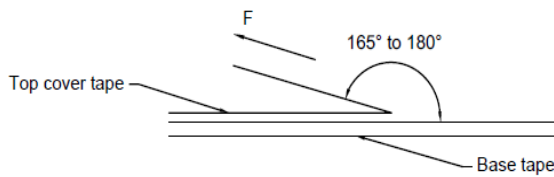


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### 9-3 Packaging Quantity

Chip Size	PNS8040
Chip/Reel	1200
Carton	7200

### 9-4 Tearing Off Force



The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions.

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

### Application Notice:

#### 1. Storage Conditions:

To maintain the solderability of terminal electrodes:

- a) Recommended products should be used within 12 months from the time of delivery.
- b) The packaging material should be kept where no chlorine or sulfur exists in the air.

#### 2. Transportation:

- a) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- b) Vacuum pick up is strongly recommended for individual components.
- c) Bulk handling should ensure that abrasion and mechanical shock are minimized.

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