SMD Power Inductors (Lead Free)

PDC3015N SERIES

1. PART NO. EXPRESSION :

P D C 3 0 1 5 N - 1 R 6 Y F

(a) (b) (c) (d) (e)(f)

(a) Series code

(b) Dimension code

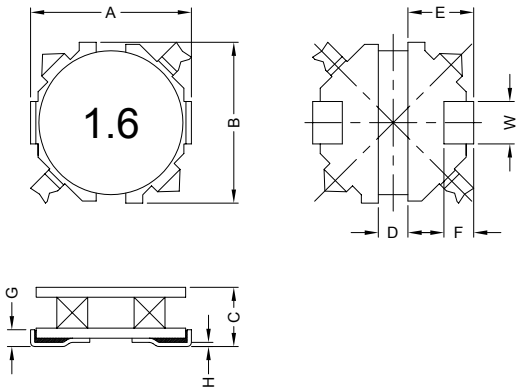
(c) Type code

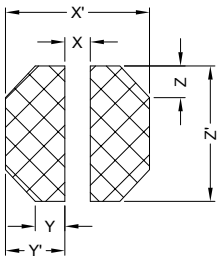
(d) Inductance code : 1R6 = 1.6uH

(e) Tolerance code : M = ±20%, Y = ±30%

(f) F : Lead Free

2. CONFIGURATION & DIMENSIONS :

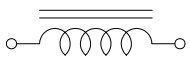




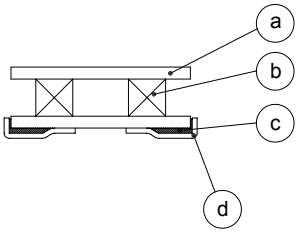
PCB Pattern

A	B	C	D	E	F	G	H
3.00±0.2	3.00±0.2	1.5 Max.	0.80 Max.	1.10 Max.	0.40 Typ.	0.30 Typ.	0.10 Typ.
W	X'	X	Y'	Y	Z'	Z	
1.0 Typ.	3.40±0.1	0.60±0.1	1.40±0.1	0.70±0.1	3.20±0.1	0.75±0.1	

3. SCHEMATIC :



4. MATERIALS :



(a) Core : Ferrite Core

(b) Wire : Enamelled Copper Wire

(c) Adhesive : Epoxy

(d) Clip : Tin Clip

Pb

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

5. GENERAL SPECIFICATION :

a) Test Frequency : 100KHz/0.3Vdc

b) Ambient Temp. : 25°C

c) Idc(A) : Will cause L_0 to drop by 30% and coil temp. rise $\Delta T \leqq 45°C$

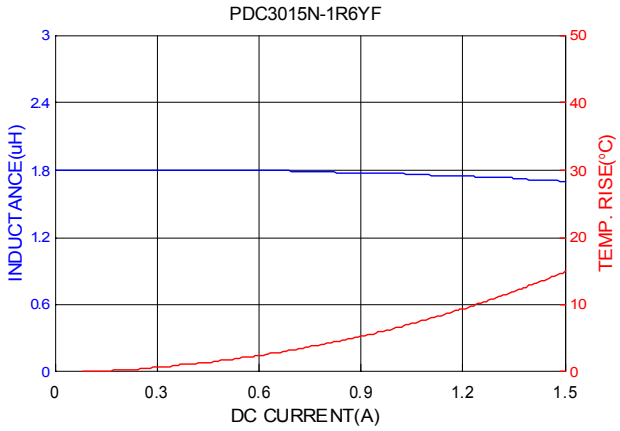
d) Operating temp. : -40°C to +105°C (include self-temp. rise)

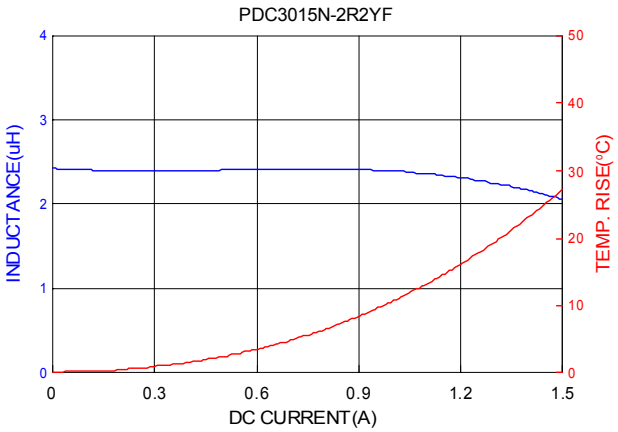
e) Storage temp. : -40°C to +85°C

6. ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (μH)	Test Frequency (Hz)	DCR (Ω) ±20%	IDC (A) Max.
PDC3015N-1R6YF	1.6 ±30%	0.3V/100K	0.065	1.50
PDC3015N-2R2YF	2.2 ±30%	0.3V/100K	0.082	1.30
PDC3015N-3R3YF	3.3 ±30%	0.3V/100K	0.110	1.00
PDC3015N-4R7YF	4.7 ±30%	0.3V/100K	0.160	0.86
PDC3015N-6R8YF	6.8 ±30%	0.3V/100K	0.220	0.80
PDC3015N-100MF	10 ±20%	0.3V/100K	0.280	0.70
PDC3015N-220MF	22 ±20%	0.3V/100K	0.800	0.46

7. CHARACTERISTICS CURVES :

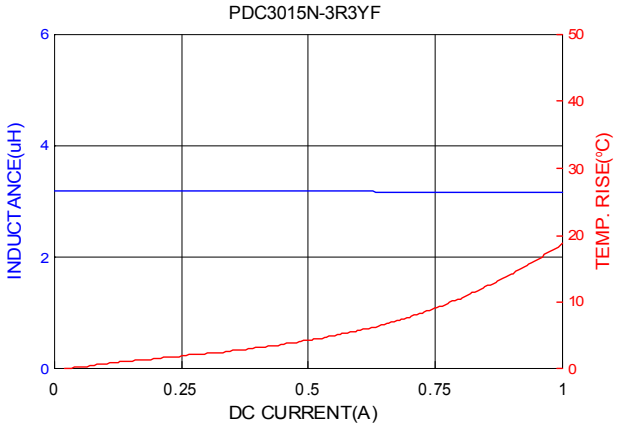


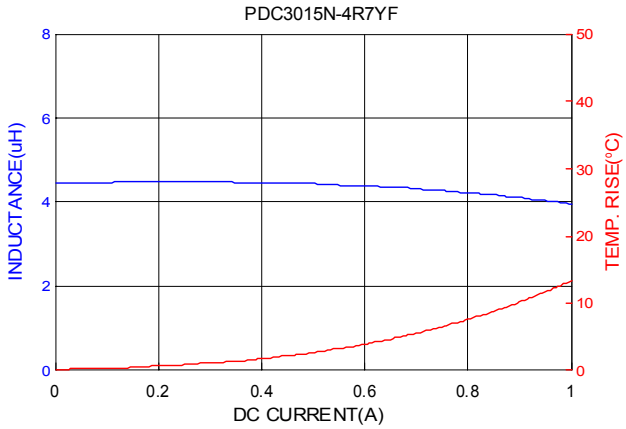


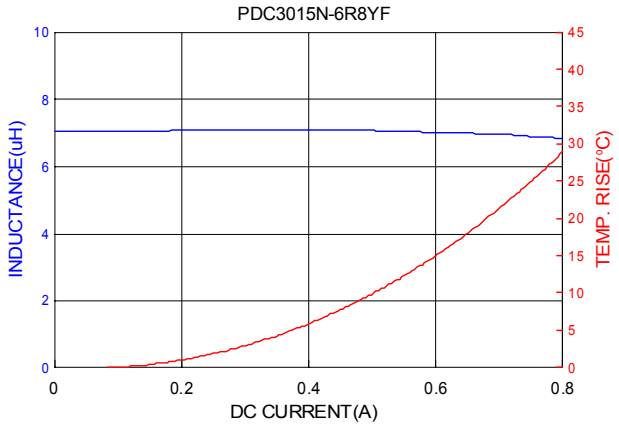
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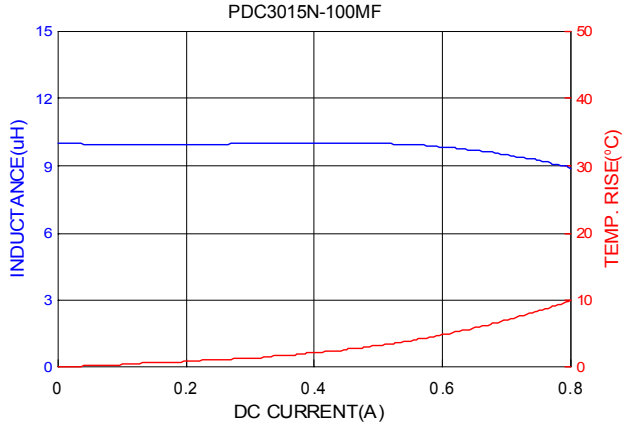
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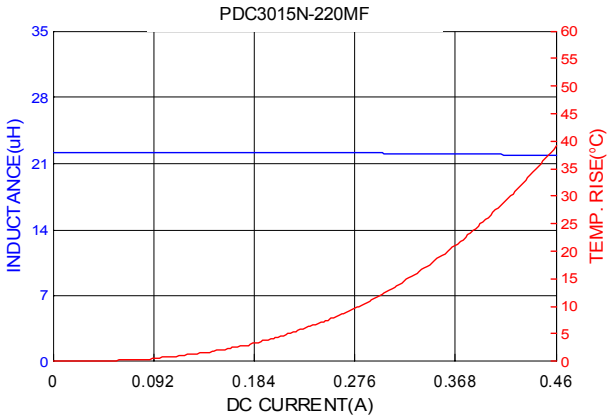
7. CHARACTERISTICS CURVES :







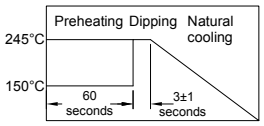
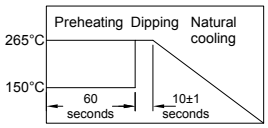




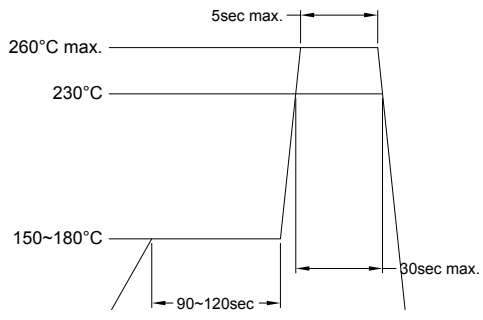
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8. ELECTRICAL CHARACTERISTICS :

ITEM	PERFORMANCE	TEST CONDITION
Mechanical Performance Test		
Solderability Test	More than 90% of the terminal electrode should be covered with solder.	Preheat : 150°C, 60sec. Solder : DD930C Solder Temperature : 245±5°C Flux for lead free : rosin Dip Time : 3±1sec. 
Solder Heat Resistance	1. Appearance : No significant abnormality 2. Inductance change : Within ±10%	Preheat : 150°C, 60sec. Solder : DD930C Solder Temperature : 265±5°C Dip Time : 10±1sec. 
Reliability Test		
Thermal Shock	1. Appearance : No damage 2. Inductance change : Within ±10% of initial value Measured : 50 times	Conditions of 1 cycle. Step / Temperature (°C) / Times (min.) 1 / -40±2 / 30±3 2 / Room temp. / 15 3 / +105±2 / 30±3 4 / Room temp. / 15 Total : 50 cycles
Humidity Resistance	1. Appearance : No damage 2. Inductance change : Within ±10% of initial value	Temperature : 40±2°C Humidity : 90% to 95% Applied Current : Rated Current Time : 500 hours
High Temperature Resistance Test	1. Appearance : No damage 2. Inductance change : Within ±15% of initial value	Temperature : 105±2°C Time : 500 hrs Applied Current : Rated Current

REFLOW SOLDERING CONDITION



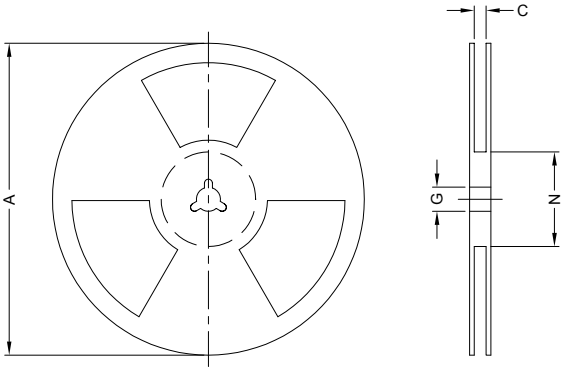
Reflow times : 2 times max.

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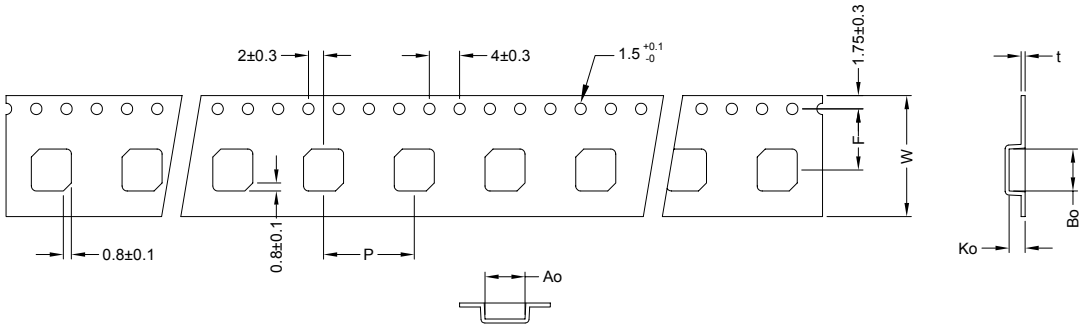
9. PACKAGING INFORMATION :

9-1. Reel Dimension

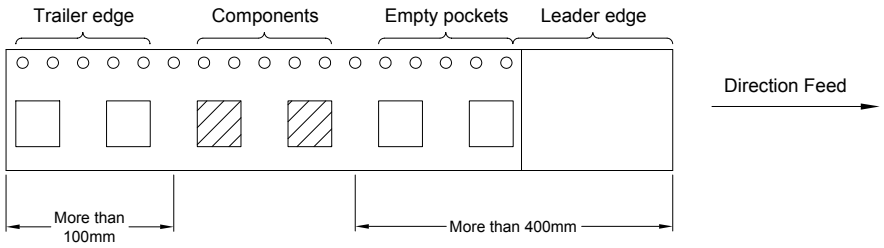


Type	A(mm)	C(mm)	G(mm)	N(mm)
13" x 12mm	330	12.5±0.5	13.0±0.5	100±1.0

9-2 Tape Dimension / 12mm



Series	Ao(mm)	Bo(mm)	Ko(mm)	P(mm)	W(mm)	F(mm)	t(mm)
PDC3015N	3.5±0.1	3.5±0.1	1.7±0.1	8.0±0.3	12±0.3	5.5±0.3	0.4±0.1



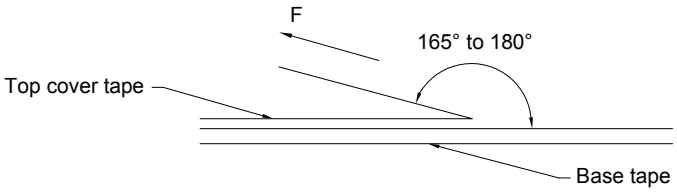
9-3. Packaging Quantity

Size	PDC3015N
Chip / Reel	3000
Inner Box	12000
Carton	48000

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9-4. Tearing Off Force



The force for tearing off cover tape is 10 to 125 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 solderabililty of terminal electrodes :
   a) Temperature and humidity conditions : Less than 40°C and 70% RH.
   b) Recommended products should be used within 6 months from the time of delivery.
   c) 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) The use of tweezers or 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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