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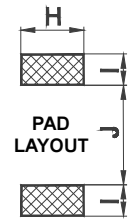
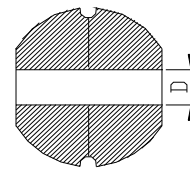
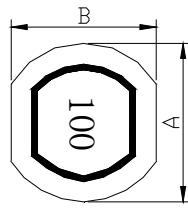
# SPECIFICATIONS

SMD Power Inductor

**PCDS-Serie**

Version May 2015

## SMD Power Inductor



### Dimensions

Unit:

mm

Type	A	B	C	D	H	I	J
PCDS63B	6.2±0.30	5.6±0.30	3.2±0.30	1.70	5.50	2.25	1.70
PCDS74B	7.8±0.50	7.0±0.50	4.5±0.50	1.90	7.50	4.00	2.00
PCDS105B	10.0±0.50	9.0±0.50	5.0±0.50	2.50	9.50	5.00	2.50
PCDS125B	12.6±0.50	11.6±0.50	5.4±0.50	3.00	12.00	6.00	3.00

### Features

- Silver Plated Type, Low cost design
- High power, High saturation inductors
- Ideal inductors for DC/DC converters
- With magnetically shielded against radiation
- Available on tape and reel for automatic surface mounting

### Inductance and rated current ranges

- PCDS63B      10~68μH      1.00~0.42A
- PCDS74B      4.7~820μH      3.15~0.16A
- PCDS105B      4.7~470μH      2.50~0.33A
- PCDS125B      10~820μH      2.65~0.36A

– Test equipment:

L: HP4284A LCR meter

DCR: Milli-ohm meter

– Electrical specifications at 25°C

### Applications

- Power Supply for VTRs
- LCD Televisions
- Notebook PCs
- Portable Communication
- DC/DC Converters, etc.

### Characteristics

- Rated DC current: The current when the inductance becomes 25% lower than its initial value or the actual current when the temperature of coil increases to Δ 40°C. The smaller one is defined as Rated DC Current. (Ta=25°C)
- Operating temperature range: -40~125°C

### Product Identification

PCDS	63B	M	T	470
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	63B: 6.2×5.6×3.2 74B: 7.8×7.0×4.5 105B: 10.0×9.0×5.0 125B: 12.6×11.6×5.4	M: ±20% N: ±30%	T: Tape and Reel	4R7: 4.7μH 470: 47μH 101: 100μH

**SMD Power Inductor**

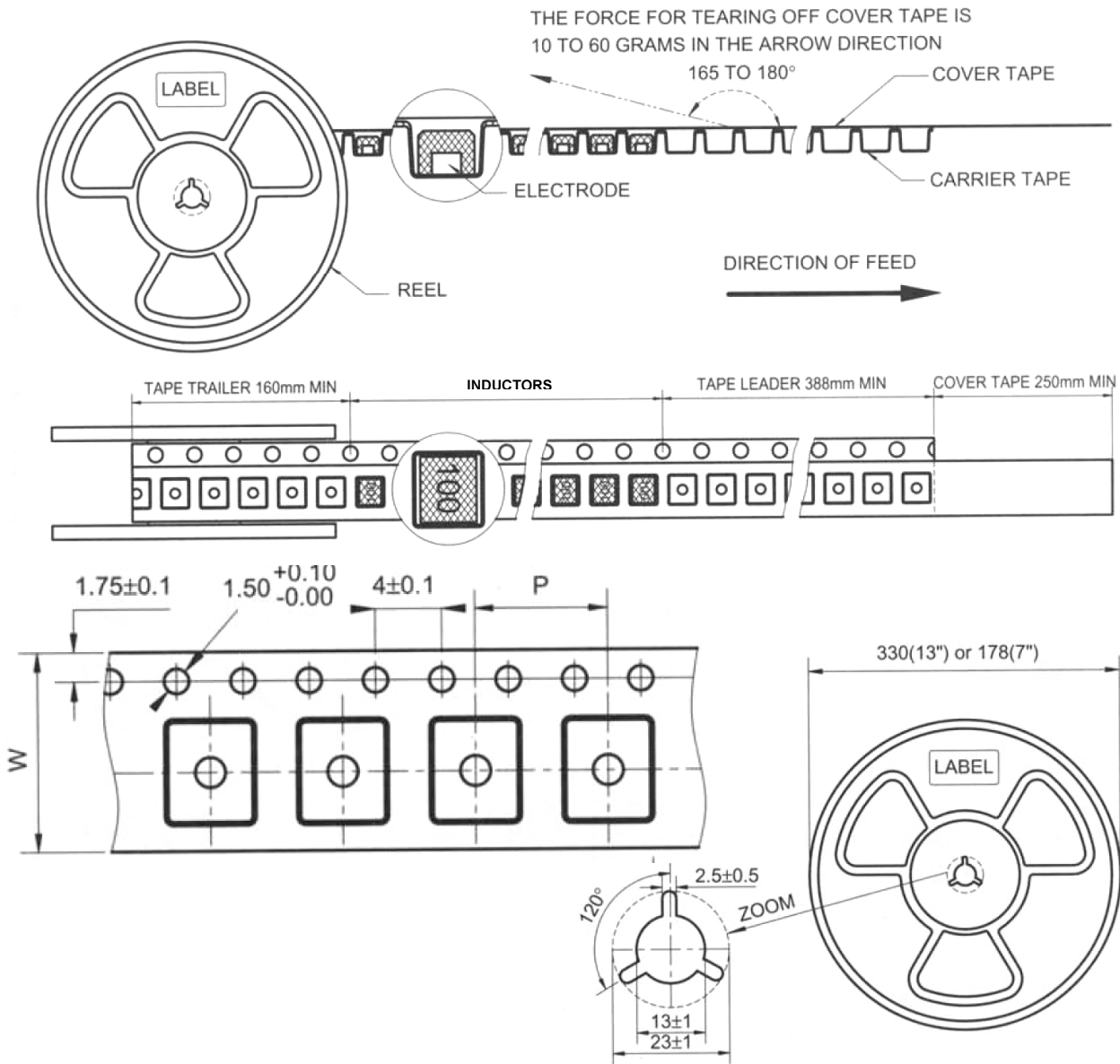
**■Electrical Characteristics**

PCDS63B / 74B / 105B / 125B Type

Codes	L ( $\mu$ H)	Tolerance	Test Condition	DCR ( $\Omega$ ) max.				IDC (A) max.			
				63B	74B	105B	125B	63B	74B	105B	125B
4R7	4.7	N	100KHz, 0.25V	-	0.03	0.013	-	-	3.15	2.50	-
100	10	M	100KHz, 0.25V	0.14	0.07	0.06	0.05	1.00	1.65	2.06	2.65
120	12	M	100KHz, 0.25V	0.16	0.07	0.07	0.05	0.94	1.57	1.94	2.50
150	15	M	100KHz, 0.25V	0.18	0.08	0.07	0.06	0.86	1.39	1.72	2.45
180	18	M	100KHz, 0.25V	0.25	0.10	0.08	0.06	0.78	1.29	1.58	2.40
220	22	M	100KHz, 0.25V	0.32	0.13	0.08	0.07	0.76	1.12	1.42	2.20
270	27	M	100KHz, 0.25V	0.36	0.16	0.10	0.08	0.64	1.06	1.32	2.00
330	33	M	100KHz, 0.25V	0.41	0.18	0.11	0.10	0.61	0.97	1.16	1.80
390	39	M	100KHz, 0.25V	0.47	0.18	0.12	0.11	0.53	0.91	1.10	1.65
470	47	M	100KHz, 0.25V	0.51	0.27	0.14	0.12	0.50	0.80	1.00	1.50
560	56	M	100KHz, 0.25V	0.72	0.29	0.19	0.15	0.46	0.76	0.93	1.38
680	68	M	100KHz, 0.25V	0.82	0.33	0.21	0.17	0.42	0.68	0.85	1.26
820	82	M	100KHz, 0.25V	-	0.43	0.28	0.20	-	0.62	0.79	1.14
101	100	M	1KHz, 0.25V	-	0.49	0.34	0.25	-	0.55	0.72	1.05
121	120	M	1KHz, 0.25V	-	0.68	0.37	0.28	-	0.49	0.63	0.95
151	150	M	1KHz, 0.25V	-	0.94	0.51	0.40	-	0.44	0.55	0.85
181	180	M	1KHz, 0.25V	-	1.00	0.57	0.48	-	0.40	0.50	0.77
221	220	M	1KHz, 0.25V	-	1.18	0.78	0.52	-	0.36	0.47	0.70
271	270	M	1KHz, 0.25V	-	1.30	0.87	0.70	-	0.33	0.41	0.63
331	330	M	1KHz, 0.25V	-	1.35	1.20	0.80	-	0.26	0.37	0.57
391	390	M	1KHz, 0.25V	-	1.44	1.34	1.08	-	0.24	0.35	0.52
471	470	M	1KHz, 0.25V	-	1.65	1.50	1.20	-	0.22	0.33	0.48
561	560	M	1KHz, 0.25V	-	2.34	-	1.34	-	0.20	-	0.44
681	680	M	1KHz, 0.25V	-	2.60	-	1.78	-	0.18	-	0.40
821	820	M	1KHz, 0.25V	-	3.00	-	2.00	-	0.16	-	0.36

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**■Tape and Reel specifications**



Unit:mm

Type	Tape size		Parts Per Reel
	W	P	13"
PCDS63B	12	8	1500
PCDS74B	16	12	1000
PCDS105B	24	12	750
PCDS125B	24	16	500

**SMD Power Inductor**

**■ SMD Power Inductor Environmental Specifications**

General

Items	Specifications
Shelf Storage conditions	Temperature range: 25±3°C; Humidity: <80% relative humidity. Recommended product should be used within six months from the time of delivery.

Environmental test

Test Items	Specifications	Test Conditions / Test Methods
High temperature Storage test	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Temperature 85±2°C, Time: 48±2 hours, Tested after 1 hour at room temperature.
Low temperature Storage test		Temperature -40±2°C, Time: 48±2 hours, Tested after 1 hour at room temperature.
Humidity test		Temperature 40±2°C, 90~95% relative humidity Time: 96±2 hours Tested after 1 hour at room temperature.
Thermal shock test		First -25°C 30minutes then 25°C 10 minutes last 85°C 30 minutes, as 1 cycle. Go through 5 cycles. Tested after 1 hour at room temperature.

Mechanical test

Test Items	Specifications	Test Conditions / Test Methods
Solderability test	Terminal area must have 90% minimum solder coverage.	Product with Lead-free terminal: Dip pads in flux then dip in solder pot at 245±5°C for 3 seconds.
Resistance to Soldering Heat	No case deformation or change in appearance.	Flux should cover the whole of the sample before heating, then be preheated for about 2 minutes over temperature of 130~150°C. Immersing to 260±5°C for 10 seconds.
Vibration test	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.
Shock resistance		Drop down with 981m/s <sup>2</sup> (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.

The condition of reflow (recommendation):

