

## PCDH

### SMD POWER INDUCTOR



#### Product Identification

PCDH   0705   M   T   101

(1)   (2)   (3)   (4)   (5)

(1)Type: SMD Power Inductors

(2)Dimensions(mm): 0504=5.8×5.8×4.8,

0705=7.5×7.5×5.0

1005=9.5×9.5×5.5,

1307=13.0×13.0×7.0,

(3)Tolerance: M=20%, K=10%, J=5%,L=15%,N=30%

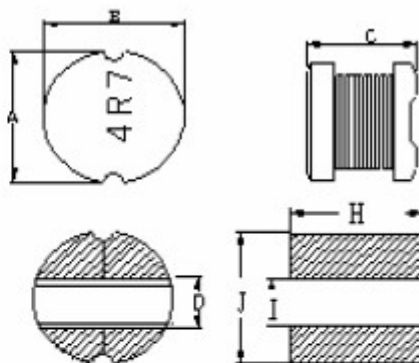
(4) Packaging style: T

(5) Inductance: 1R5=1.5uH ,470=47uH ,101 =100uH

#### Characteristics:

- Rated Dc Current: Base on the inductance is 90% more than its initial value and temperature rise  $\Delta t=40^{\circ}\text{C}$  lower.
- Operating temperature:  $-20\sim 80^{\circ}\text{C}$ .

## Dimensions



Unit: mm

Codes	A	B	C	D	H	I	J
PCDH0504	5.8Max	5.8Max	4.8Max	1.8	5.8	1.7	6.0
PCDH0705	7.5±0.3	7.5±0.3	5.0±0.3	2.5	8.0	2.4	7.8
PCDH1005	9.5±0.3	9.5±0.3	5.5±0.3	2.9	10.0	4.4	10.0
PCDH1307	13.0±0.3	13.0±0.3	7.0±0.3	5.0	14.0	5.0	14.0



## SMD Power Inductor

### ● 0504 / 0705 / 1005 / 1307 TYPE

Part No.	L (uH)	Test Freq. (@0.25V)	DC Resistance (mΩ) Max				Rated DC current (Amp) Max			
			0504	0705	1005	1307	0504	0705	1005	1307
1R0	1.0	100KHz	-	-	12	-	-	-	7.5	-
1R2	1.2	100KHz	20	-	-	-	4.2	-	-	-
1R5	1.5	100KHz	24	15	18	5	3.6	6.0	6.4	20.0
2R2	2.2	100KHz	31	-	21	-	2.8	-	5.7	-
2R7	2.7	100KHz	55	-	-	-	2.3	-	-	-
3R3	3.3	100KHz	60	22	24	9	2.0	4.6	5.0	15.0
3R9	3.9	100KHz	65	24	27	10	1.9	4.4	4.6	13.0
4R7	4.7	100KHz	70	33	36	15	1.8	3.7	4.4	11.0
5R6	5.6	100KHz	75	35	40	17	1.7	3.5	3.7	10.5
6R8	6.8	100KHz	80	40	44	21	1.6	3.2	3.5	9.2
100	10	100KHz	100	70	60	30	1.45	2.3	3.2	8.0
150	15	100KHz	120	90	80	34	1.4	1.8	2.3	6.8
220	22	100KHz	140	110	100	47	1.3	1.5	2.0	5.8
270	27	100KHz	220	120	110	60	1.1	1.3	1.8	5.5
330	33	100KHz	250	140	120	65	1.0	1.2	1.5	4.5
390	39	100KHz	320	160	140	75	0.88	1.1	1.3	4.0
470	47	100KHz	370	200	170	95	0.80	1.0	1.2	3.8
560	56	100KHz	420	240	190	110	0.72	0.9	1.1	3.5
680	68	100KHz	520	300	220	120	0.68	0.9	1.0	3.2
101	100	100KHz	700	450	350	180	0.60	0.7	0.9	2.5
121	120	100KHz	930	480	400	210	0.52	0.7	0.8	2.4
151	150	100KHz	-	680	470	250	-	0.6	0.7	2.0
221	220	100KHz	-	960	730	450	-	0.5	0.7	1.5
331	330	100KHz	-	1260	970	520	-	0.4	0.6	1.2

### ● Tolerance of inductance:

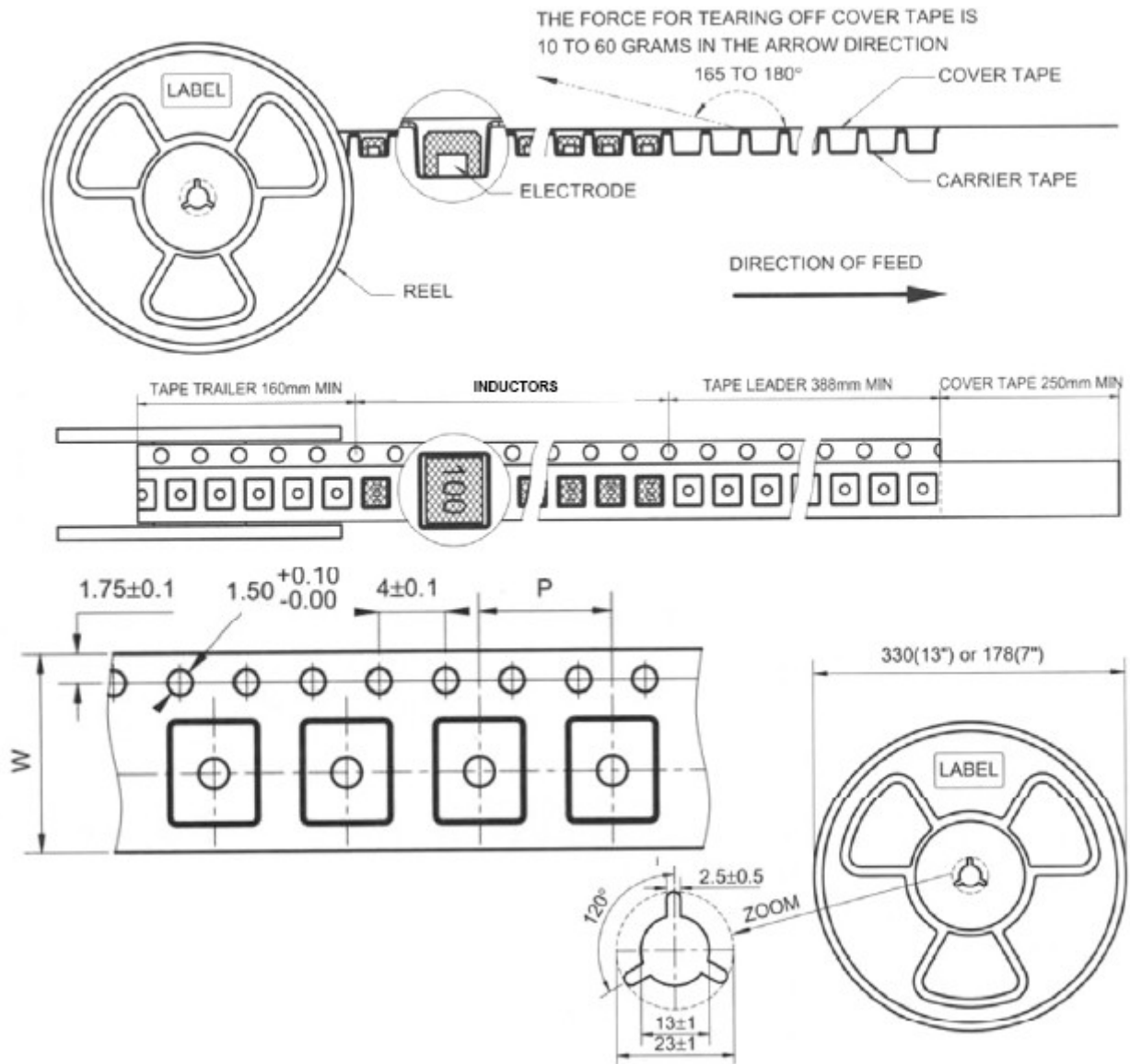
PCDH0504 1.2~68uH (M)±20% ; 100uH~120uH(K)±10%.

PCDH0705 1.5~331uH (J)±5%;(K)= ±10%.(L)= ±15%;(M)= ±20%;(P)= ±25%;(N)= ±30%

PCDH1005 1.0~68uH (M)±20% ; 100uH~330uH(K)±10%.

PCDH1307 1.5~68uH (M)±20% ; 100uH~330uH(K)±10%.

## Tape and Reel specifications



Series	Tape size		Parts Per Reel 13" ( EA )
	W	P	
PCDH0504	12	8	1500
PCDH0705	16	12	1000
PCDH1005	16	12	1000
PCDH1307	24	12	400

### General

Items	Specifications
1. Shelf Storage conditions	Temperature range: $25\pm 3^{\circ}\text{C}$ ; Humidity: <80% relative humidity. Recommended product should be used within six months from the time of delivery.
2. Storage temperature range	Temperature range: $-25^{\circ}\text{C}$ to $+85^{\circ}\text{C}$
3. Operating temperature range	Temperature range: $-20^{\circ}\text{C}$ to $+80^{\circ}\text{C}$

### Environmental test

Test Items	Specifications	Test Conditions / Test Methods
1. High temperature Storage test	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Temperature $85\pm 2^{\circ}\text{C}$ , Time: $48\pm 2$ hours, Tested after 1 hour at room temperature.
2. Low temperature Storage test		Temperature $-25\pm 2^{\circ}\text{C}$ Time: $48\pm 2$ hours, Tested after 1 hour at room temperature.
3. Humidity test		Temperature $40\pm 2^{\circ}\text{C}$ , 90~95% relative humidity Time: $96\pm 2$ hours, apply rated current, Tested after 1 hour at room temperature.
4. Thermal shock test		First $-25^{\circ}\text{C}$ 30 minutes then $25^{\circ}\text{C}$ 10 minutes last $85^{\circ}\text{C}$ 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
1. 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 $245\pm 5^{\circ}\text{C}$ for 5 seconds.
2. Heat endurance of Reflow soldering	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Refer to the reflow soldering condition. Go through 3 times.
3. Vibration test		Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.
4. Shock resistance		Drop down with $981\text{m/s}^2$ (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.

### The condition of reflow (recommendation):

