

## Power Inductor SMD (4.50 X 4.00 X 3.20 mm)



### FEATURES

- Ideal for Reflow
- High Current Capacity
- Halogen Free RoHS compliant
- Open Winding

### SPECIFICATION

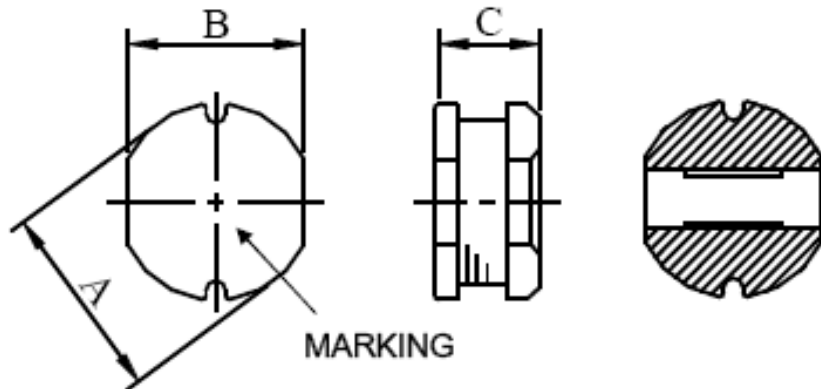
Part Number	Inductance (μH)	DCR (Ω) Max.	IDC (A) Max.
TP0403BF-1R0_	1.0	0.033	3.80
TP0403BF-2R2_	2.2	0.047	2.60
TP0403BF-2R7_	2.7	0.052	2.43
TP0403BF-3R3_	3.3	0.058	2.15
TP0403BF-3R9_	3.9	0.076	1.98
TP0403BF-4R7_	4.7	0.094	1.70
TP0403BF-5R6_	5.6	0.101	1.60
TP0403BF-6R8_	6.8	0.117	1.41
TP0403BF-8R2_	8.2	0.132	1.26
TP0403BF-100_	10	0.182	1.15
TP0403BF-120_	12	0.210	1.05
TP0403BF-150_	15	0.235	0.92
TP0403BF-180_	18	0.338	0.84
TP0403BF-220_	22	0.378	0.70
TP0403BF-270_	27	0.522	0.71

Part Number	Inductance (μH)	DCR (Ω) Max.	IDC (mA) Max.
TP0403BF-330_	33	0.540	0.64
TP0403BF-390_	39	0.587	0.59
TP0403BF-470_	47	0.844	0.54
TP0403BF-560_	56	0.937	0.50
TP0403BF-680_	68	1.117	0.46
TP0403BF-820_	82	1.345	0.45
TP0403BF-101_	100	1.520	0.44
TP0403BF-121_	120	1.800	0.43
TP0403BF-151_	150	2.000	0.42
TP0403BF-181_	180	3.200	0.38
TP0403BF-221_	220	3.400	0.36
TP0403BF-331_	330	5.300	0.28
TP0403BF-471_	470	6.800	0.21
TP0403BF-681_	680	10.00	0.18
TP0403BF-821_	820	13.40	0.15

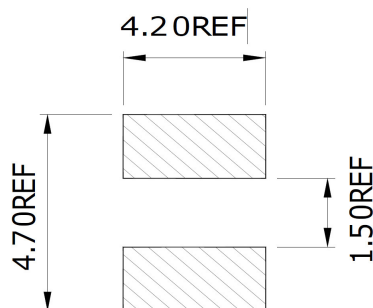
- Inductance tolerance option at end of part number: K: ±10% ; M: ±20%
- Measurement frequency of Inductance value : at 100KHz, 0.25V
- Test equipment: CH3302 / CH1320

### DIMENSION

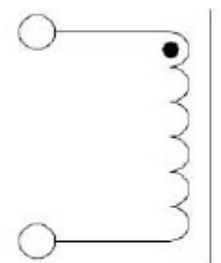
	mm
<b>A</b>	4.50 ±0.30
<b>B</b>	4.00 ±0.30
<b>C</b>	3.20 ±0.30

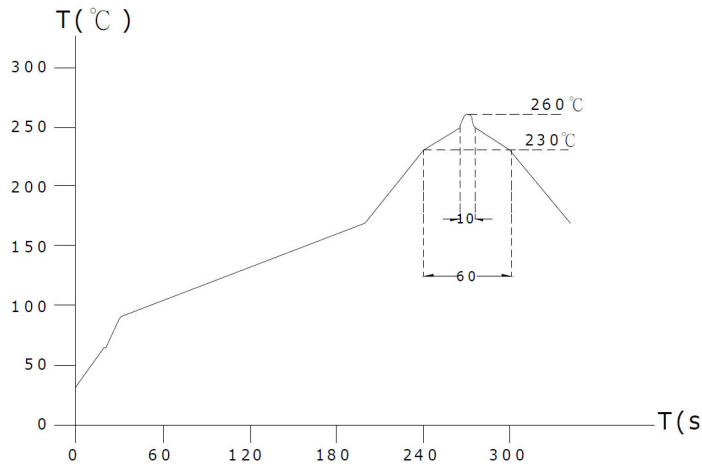
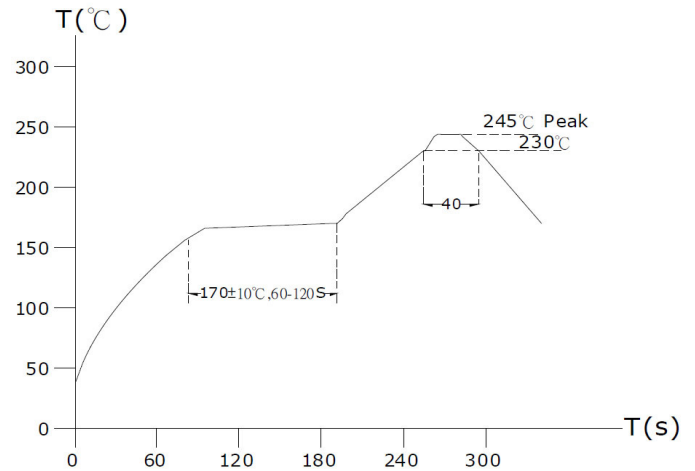
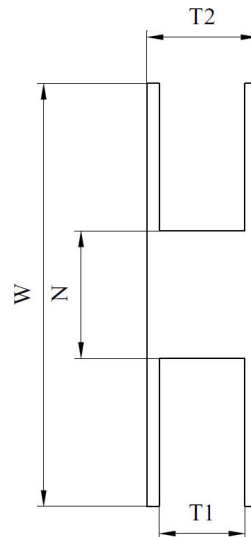
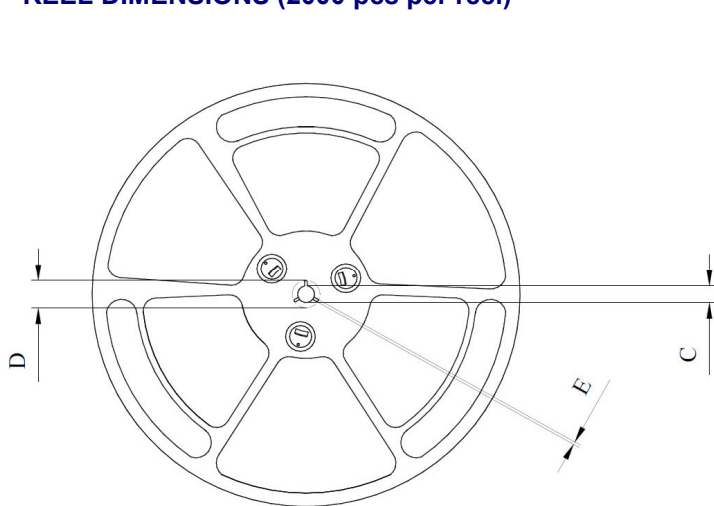


### SOLDER PATTERN

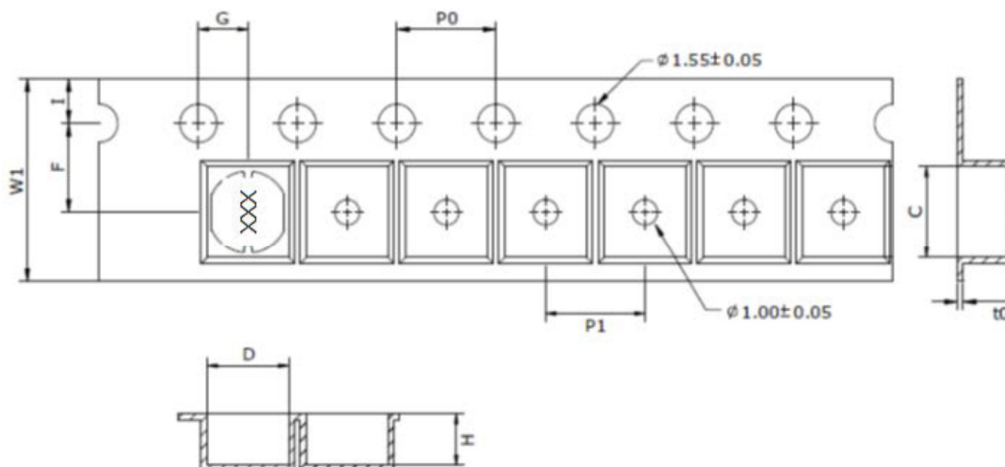


### SCHEMATIC



**LEAD-FREE HEAT ENDURANCE TEST**

**LEAD-FREE RECOMMENDED REFLOW**

**REEL DIMENSIONS (2000 pcs per reel)**


	mm
W	$330 \pm 1.5$
D	$21.5 + 0.5 / - 0$
C	$13 + 0.5 / - 0.2$
T1	$12.5 + 0.5 / - 0$
N	$100 \pm 1.5$
T2	$17.5 \pm 0.4$
E	$2.00 \pm 0.5$



	mm
W1	$12.00 \pm 0.3$
I	$1.75 \pm 0.1$
F	$5.50 \pm 0.1$
P0	$4.00 \pm 0.1$
G	$2.00 \pm 0.1$
P1	$8.00 \pm 0.1$
C	$4.75 \pm 0.1$
t0	$0.35 \pm 0.05$
D	$4.25 \pm 0.1$
H	$3.50 \pm 0.1$

## RELIABILITY TEST

1. Operating temperature range  
-40 TO + 105°C (Includes temperature when the coil is heated)
2. External appearance  
On visual inspection, the coil has no external defects.
3. Terminal strength  
After soldering. Between copper plate and terminals of coil. Push in two directions of X.Y  
withstanding at below conditions.  
Terminal should not peel off. (refer to figure at right)  
5.0N 60 sec.
4. Insulating resistance  
Over 100MΩ at 100V D.C. between coil and core.
5. Dielectric strength  
No dielectric breakdown at 100V D.C. for 1 minute between coil and core.
6. Temperature characteristics  
Inductance coefficient  $(0\sim 2,000)\times 10^{-6}/^{\circ}\text{C}$  (-25~+80°C)  
inductance deviation within  $\pm 5.0\%$ , after 96 hours
7. Humidity characteristics (Moisture Resistance)  
Inductance deviation within  $\pm 5\%$ , after 96 hours in 90~95% relative humidity at  $40 \pm 2^{\circ}\text{C}$   
and 1 hour drying under normal condition.
8. Vibration resistance  
Inductance deviation within  $\pm 5\%$ , after vibration for 1 hour. In each of three orientations at  
sweep vibration (10~55~10 Hz) with 1.5mm P-P amplitudes.
9. Shock resistance  
Inductance deviation within  $\pm 5\%$ , after being dropped once with  $981\text{m/s}^2$  (100G) shock  
attitude upon a rubber block method shock testing machine, in three different orientations.
10. Resistance to Soldering Heat: 260°C, 10 seconds (See recommended reflow)
11. Storage environment  
Temperature: 0°C~35°C; -40°C~105°C (after mounting on PCB)  
Humidity Range: 50% ~ 70% RH
12. Use components within 12 months.  
If 12 months or more have elapsed, check solderability before use.

