SPECIFICATION HISTORY LIST

PROD. NAME	SMD Power Inductor	PART NO.	SRN6045T-121MCFTB

REV.	DATE	DESCRIPTION	APPROVED	CHECKED	DRAWN
A	2016/10/19	Released	楊祥忠	詹偉特	何秦芝
B	2016/11/16	Add SRF, Q Revise packaging information	楊祥忠	詹偉特	何秦芝

BOURNS INDUCTIVE COMPONENTS

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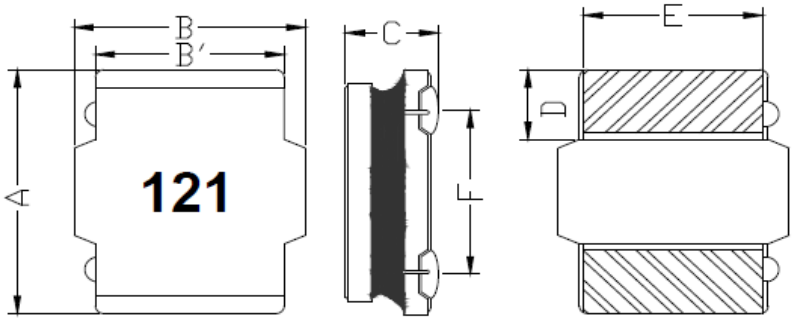
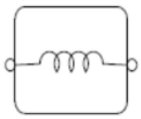
		DATE	2016/11/16

I. CONFIGURATION & DIMENSIONS :

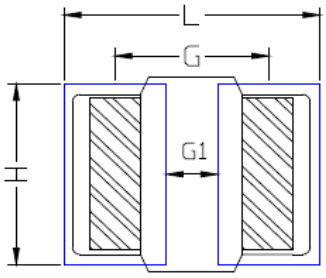


Unit: mm
A: 6.0±0.3
B: 6.0±0.3
B': 4.8±0.2
C: 4.2±0.3
D: 1.7±0.3
E: 4.5±0.3
F: 4.25±0.3

II. RECOMMENDED PCB PATTERN



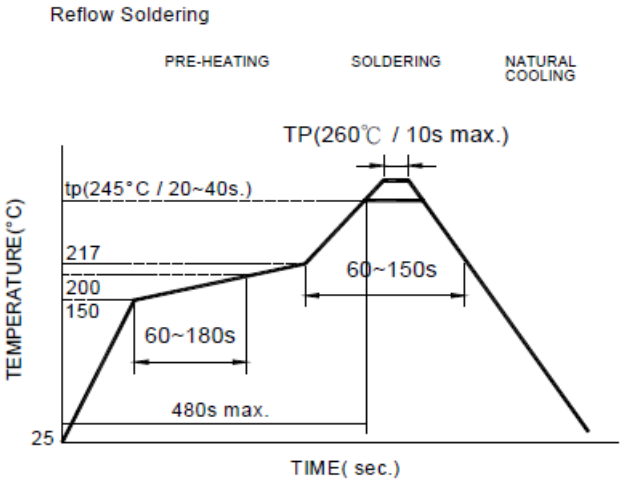
III. RECOMMENDED PCB PATTERN:



Unit: mm
L: 6.5
G1: 1.88
G: 4.25
H:4.8

IV. GENERAL SPECIFICATION :

a Operating temperature : -40 ~ + 125 ℃
b Storage temperature: -10~+40℃,
50~60%RH (Product without taping)
-40~+125℃ (on board)



Reflow times: 1 times max.

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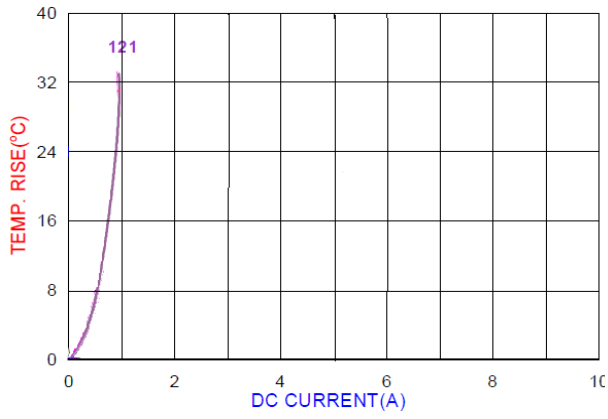
V. ELECTRICAL CHARACTERISTICS :

Part No.	Inductance L0 (uH)±20%	Irms (A) typ.	Isat (A) typ.	DCR(mΩ) ±20%.	SRF(MHz) Ref	Q (Min)
SRN6045T-121MCFTB	120	0.85	1.20	500	7	15

1. Test frequency : Ls : 1MHz /1.0V.
2. All test data referenced to 25℃ ambient.
3. Heat Rated Current (Irms) will cause the coil temperature rise approximately ΔT of 40℃
4. Saturation Current (Isat) will cause L0 to drop approximately 30%.
5. The part temperature (ambient + temp rise) should not exceed 125℃ under worst case operating conditions. Circuit design,component,PCB trace size and thickness,airflow and other cooling provisions all affect the part

VI. CURRENT CHARACTERISTIC

SRN6045T-121MCFTB



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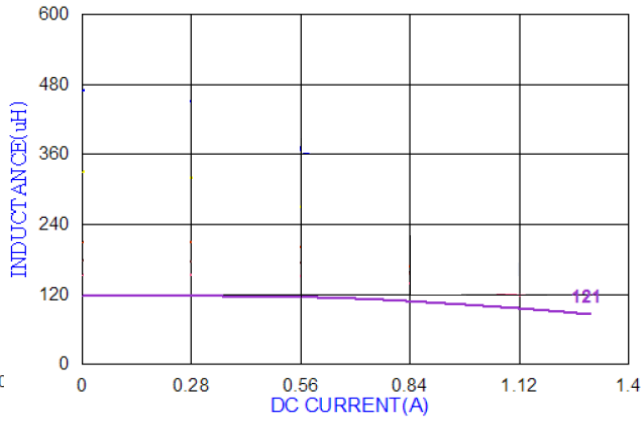

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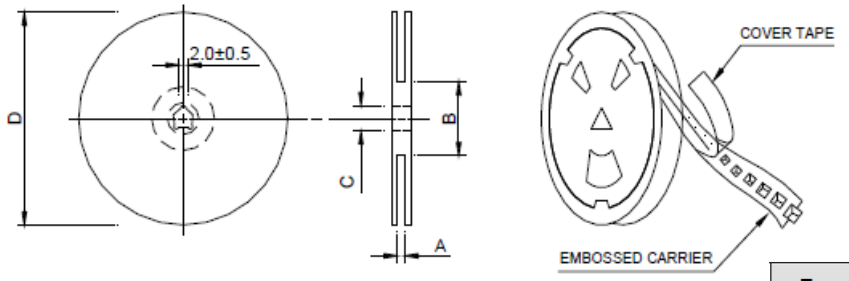
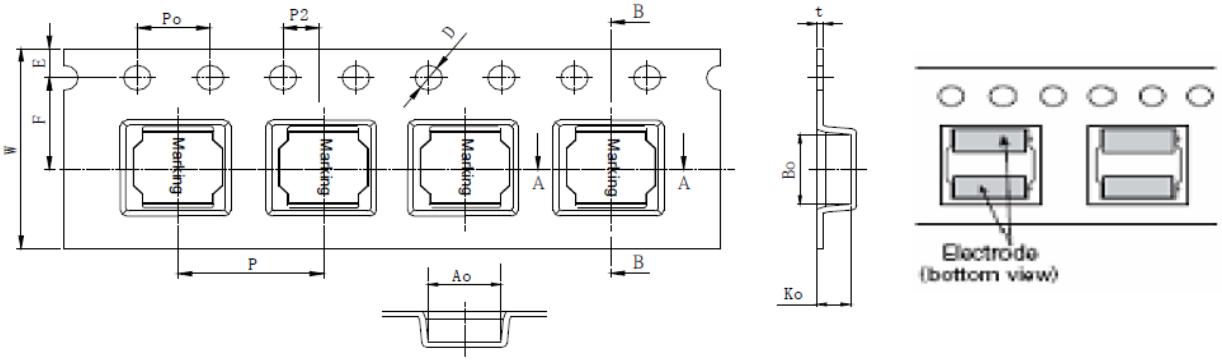
VII. PACKAGING INFORMATION

(1) Tape packaging dimensions



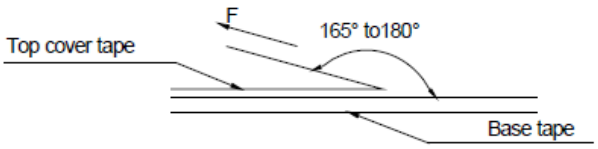
Type	A(mm)	B(mm)	C(mm)	D(mm)
13"x12mm	12.4+2/-0	100±2	13+0.5/-0.2	330

(2) Reel dimensions



Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	w(mm)	t(mm)	E(mm)	F(mm)	D(mm)	Po(mm)	P2(mm)
6.4±0.1	6.4±0.1	4.7±0.1	8.0±0.1	12±0.3	0.4±0.1	1.75±0.1	7.5±0.1	1.5±0.1	4.0±0.1	2.00±0.1

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

(4) Quantity

Reel	1500
Inner box	3000
Carbon	12000

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VIII. RELIABILITY TEST：

Item	Performance	Test Condition
Life Test	Appearance:No damange. Inductance: within ±10% of initial value. Q: Shall not exceed the specification value. RDC: within ±15% of initial value and shell not exceed the specification value	Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) Temperature： 125±2℃(Inductor) Applied current：rated current Duration：1000±12hrs Measured at room temperature after placing for 24±2 hrs
Load Humidity		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles Humidity：85±2% R.H, Temperature：85℃±2℃ Duration：1000hrs Min. with 100% rated current Measured at room temperature after placing for 24±2 hrs
Moisture Resistance		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles 1. Baked at50℃ for 25hrs, measured at room temperature after placing for 4 hrs. 2. Raise temperature to 65±2℃ 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25℃ in 2.5hrs. 3. Raise temperature to 65±2℃ 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25℃ in 2.5hrs,keep at 25℃ for 2 hrs then keep at -10℃ for 3 hrs 4. Keep at 25℃ 80-100%RH for 15min and vibrate at the frequency of 10 to 55 Hz to 10 Hz, measure at room temperature after placing for 1~2 hrs.
Thermal shock		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles Condition for 1 cycle Step1：-40±2℃ 30±5min Step2：25±2℃ ≦0.5min Step3：125±2℃ 30±5min Number of cycles： 500 Measured at room temperature after placing for 24±2 hrs
Virbation		Oscillation Frequency: 10～2K～10Hz for 20 minutes Equipment： Vibration checker Total Amplitude:1.52mm±10% Testing Time : 12 hours(20 minutes, 12 cycles each of 3 orientations)。

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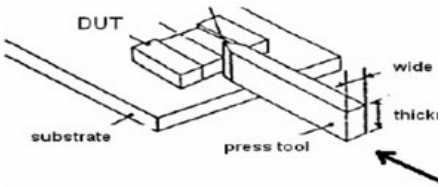
VIII. RELIABILITY TEST：

<table>
<tr><th>Item</th><th>Performance</th><th>Test Condition</th></tr>
<tr><td>Shock</td><td rowspan="2">Appearance：No damage.
Inductance：within±10% of initial value
Q：Shall not exceed the specification value.
RDC：within ±15% of initial value and shall not exceed the specification value</td><td>
<table>
<tr><th>Type</th><th>Peak value (g's)</th><th>Normal duration(D)(ms)</th><th>Wave form</th><th>Velocity change (Vi)ft/sec</th></tr>
<tr><td>SMD</td><td>50</td><td>11</td><td>Half-sine</td><td>11.3</td></tr>
<tr><td>Lead</td><td>50</td><td>11</td><td>Half-sine</td><td>11.3</td></tr>
</table>
</td></tr>
<tr><td>Bending</td><td>Shall be mounted on a FR4 substrate of the following dimensions: >=0805:40x100x1.2mm
<0805:40x100x0.8mm
Bending depth: >=0805:1.2mm
<0805:0.8mm
duration of 10 sec.</td></tr>
<tr><td>Solderability</td><td>More than 95% of the terminal electrode should be covered with solder。</td><td>Preheat: 150℃,60sec.。
Solder: Sn96.5% Ag3% Cu0.5%
Temperature: 245±5℃。
Flux for lead free: Rosin. 9.5%。
Dip time: 4±1sec。
Depth: completely cover the termination</td></tr>
<tr><td>Resistance to Soldering Heat</td><td rowspan="2">Appearance：No damage.
Inductance：within±10% of initial value
Q：Shall not exceed the specification value.
RDC：within ±15% of initial value and shall not exceed the specification value</td><td>Number of heat cycle:1
<table>
<tr><th>Temperature (°C)</th><th>Time (s)</th><th>Temperature ramp/immersion and emersion rate</th></tr>
<tr><td>260±5(solder temp)</td><td>10±1</td><td>25mm/s ± 6mm/s</td></tr>
</table>
</td></tr>
<tr><td>Terminal Strength</td><td>Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles
With the component mounted on a PCB with the device to be tested, apply a force (>0805:1kg , <=0805:0.5kg)to the side of a device being tested. This force shall be applied for 60 +1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested.
 
</td></tr>
</table>

Note：When there are questions concerning measurement result：measurement shall be made after 48 ± 2 hours of recovery under the standard condition