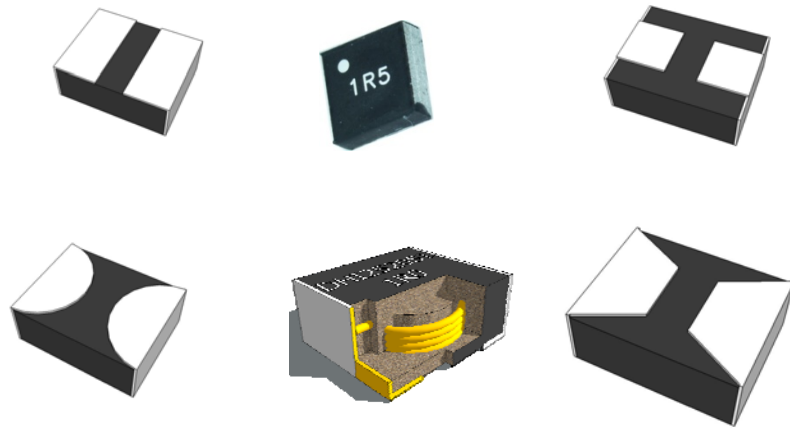


SPECIFICATION

SMD 磁粉芯功率电感

Part No : CSH2520P0-R



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Part No

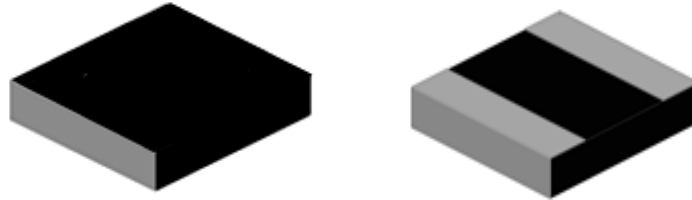
DHI2520P0-R

Rev.

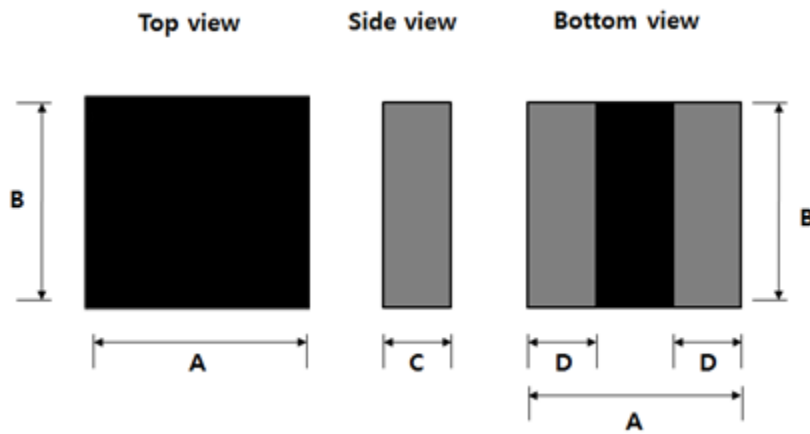
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1. Shape and Dimension/外观与尺寸(mm)

1) Shape/外观



2) Dimensions/尺寸(mm)



Item	A(mm)	B(mm)	C(mm)	D(mm)
DHI2520P0	2.5 ± 0.2	2.0 ± 0.2	1.0 max	0.6 ± 0.25

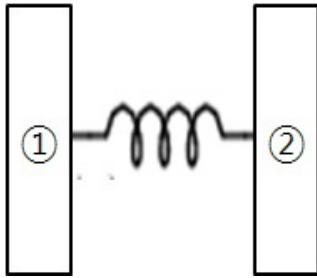


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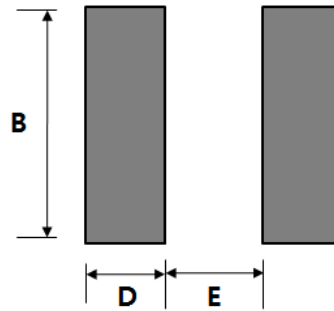
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2. Schematic & Land Pattern/电路图及贴板规格

1) Schematics/电路图



2) Land Pattern/贴板规格(mm)



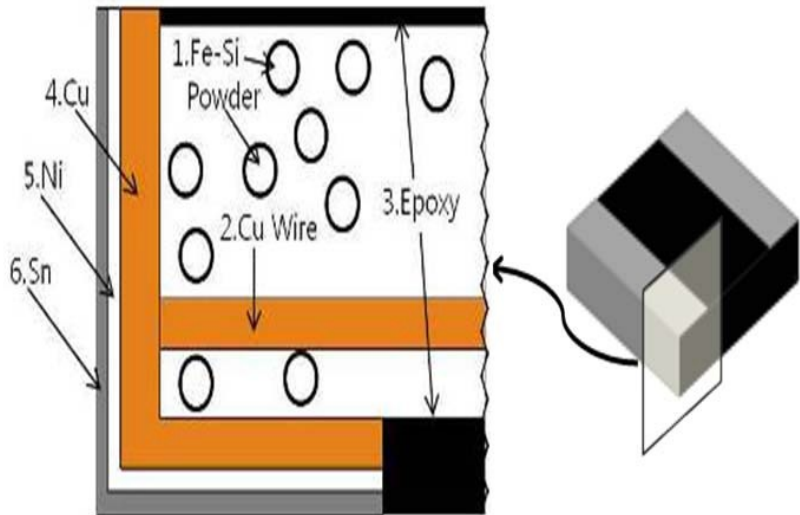
B	2.2mm
D	0.8mm
E	1.2mm

3. Material List & Terminal Construction/材料及内部结构

1) Material List/材料清单

No	Materials
1	Fe-Si Powder
2	Cu wire
3	Epoxy (Black)
4	Cu
5	Ni
6	Sn

2) Terminal Construction/内部结构



Part No

DHI2520P0-R

Rev.

A

4. Electrical Performance/产品规格

1) Test condition/测试条件 : 1MHz, 0.10V

2) DCR @ 25°C

Part No	OCL(μ H)	Irms T-C method	Isat Roll off 30%	DCR(m Ω)
	($\pm 20\%$)@25°C	Typ.	Typ.	($\pm 20\%$)@25°C
DHI2520P0-R47-R	0.47	4.1	3.8	28
DHI2520P0-1R0-R	1.0	3.2	2.8	50
DHI2520P0-1R5-R	1.5	2.4	2.4	80
DHI2520P0-2R2-R	2.2	2.2	2.0	103
DHI2520P0-3R3-R	3.3	1.6	1.5	190
DHI2520P0-4R7-R	4.7	1.4	1.2	240

Note.

1. Irms : DC current for an approximate ΔT of 40°C without core loss

Irms : 加载后温升达到 40°C 时的电流

2. Isat : Amperes peak for 30% roll off(@ 25°C)

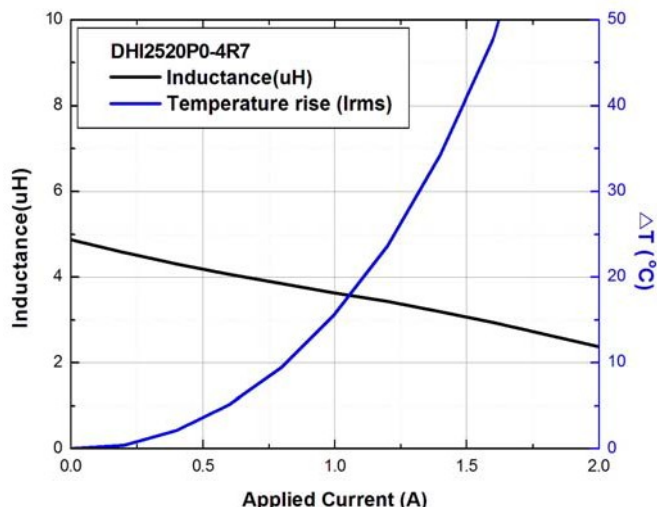
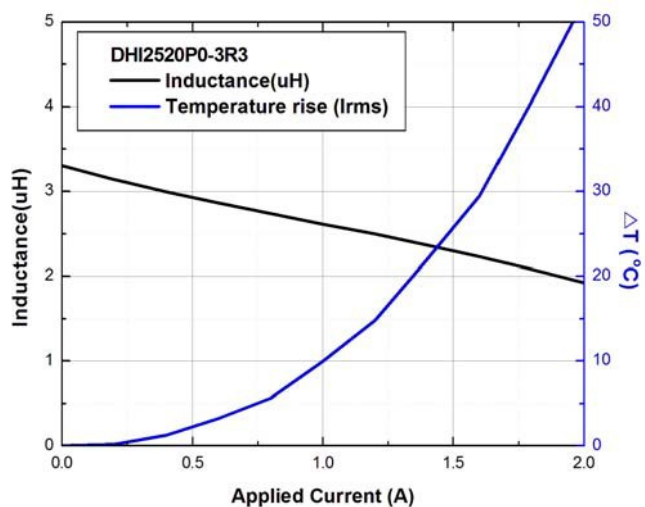
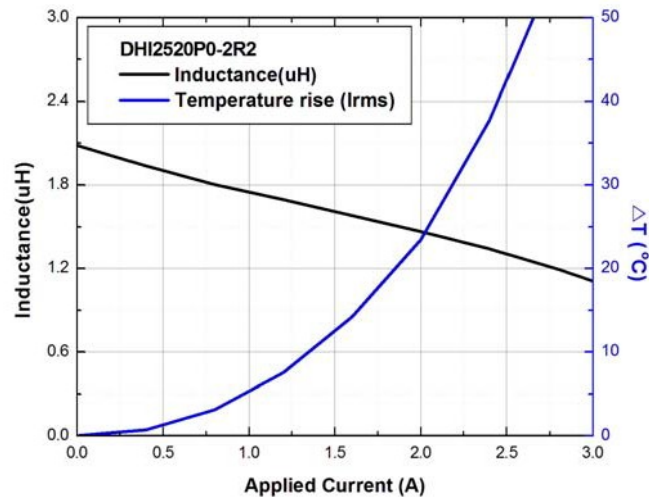
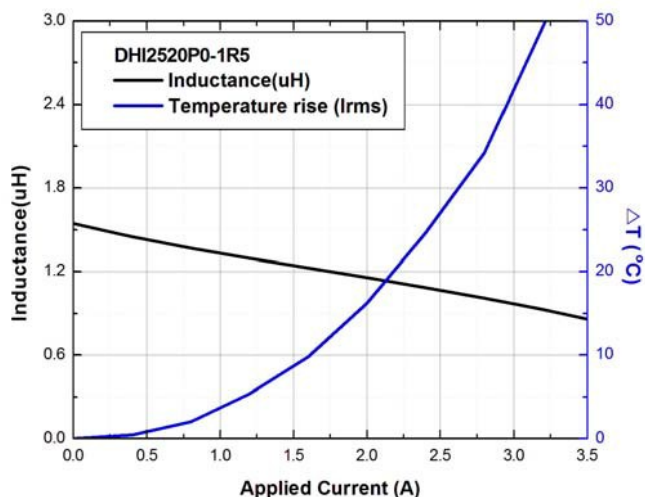
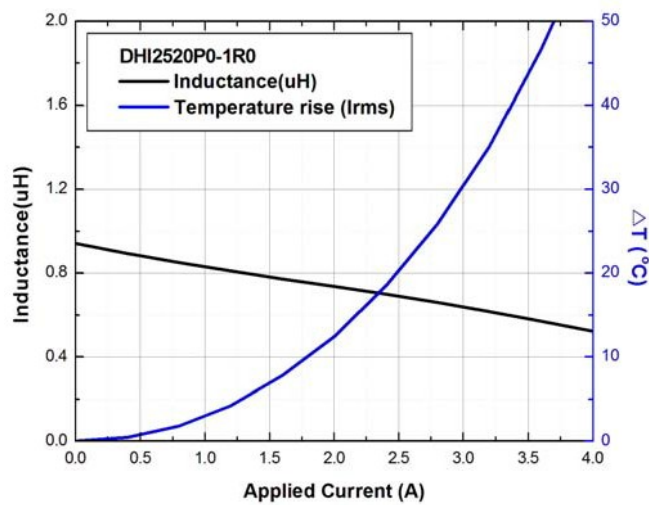
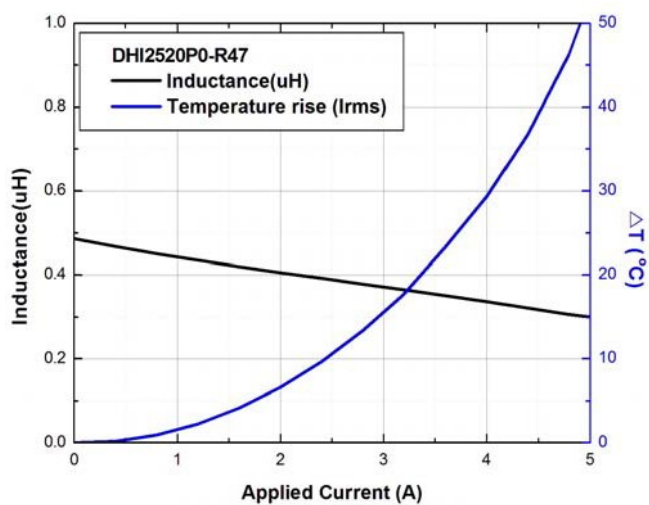
Isat : 加载后电感量下降 30%时的电流值



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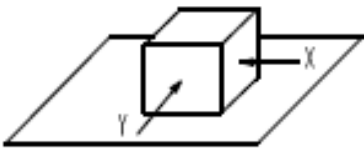
5. Electrical characteristics(Graph)/特性曲线



6. Mechanical characteristics testing items/机械特性测试项目

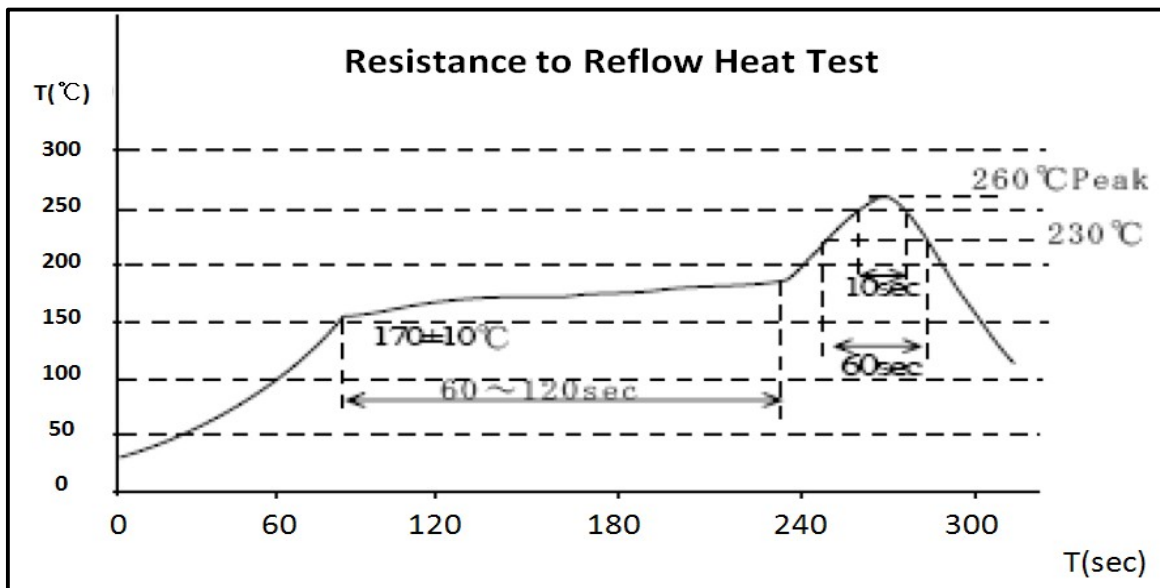
- 1) Storage temperature $-40 \sim +105^{\circ}\text{C}$
- 2) Operation Temperature $-40 \sim +105^{\circ}\text{C}$ (Including coil's self temperature rise)
- 3) External appearance : No external defects can be found in the visual inspection.
- 4) Electrode strength

No electrode detachment should be found when the device is pushed in two directions of X and Y with the force of 5.0N for 60 ± 1 seconds after soldering between copper plate and the electrodes. (Refer to figure)



5) Heat endurance test

Inductance deviation is within $\pm 5.0\%$ after reflow test be done for 3 times. according to the below chart, then the measurement shall be made in 2 hours after 1 hour storage under room ambient conditions



6) Vibration test

Inductance deviation is within $\pm 5.0\%$ after 2 hour sweeping vibration in each three directions, namely, forward and backward, up and down, right and left. The frequency is $10 \sim 55 \sim 10\text{Hz}$ and amplitude of 1 minute cycles is 1.5mm PP.

7) Shock test

Inductance deviation is within $\pm 5.0\%$ after the test with gum-block shock testing machine, once in each of the three perpendicular axis directions. The shock acceleration is 981m/s^2



Part No

DHI2520P0-R

Rev.

A

8) Humidity test

Inductance deviation is within $\pm 5.0\%$ after 500 ± 12 hours test under the condition of relative humidity of 90~95% and temperature of $60 \pm 2^\circ\text{C}$. and 1 hours storage under room ambient conditions after the device is wiped with dry cloth.

9) High temperature Storage test

Inductance deviation is within $\pm 5.0\%$ after 500 ± 12 hours test under the condition of temperature of $105 \pm 2^\circ\text{C}$ and 1 hours storage under room ambient conditions after which device is tested within the next 1 hour.

10) Low temperature Storage test

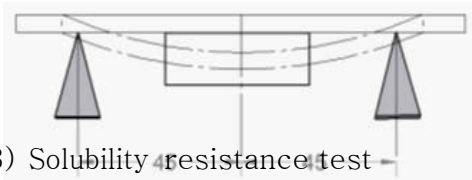
Inductance deviation is within $\pm 5.0\%$ after 500 ± 12 hours test under the condition of temperature of $-40 \pm 2^\circ\text{C}$ and 1 hours storage under room ambient conditions after which device is tested within the next 1 hour.

11) Thermal shock test

Specimen is subject to -40°C for 30 minutes hereafter it is subject to 105°C for 30 minutes(Transition time is 1 minute maximum.) This constitutes one cycle. After 1000 cycles, it is then left in room temperature for 1 hour. After which specimen is tested within the next 1 hour and the inductance deviation is within $\pm 5.0\%$

12) Board bent characteristic

Inductance deviation is within $\pm 5.0\%$, after apply pressure in the direction of the arrow at a rate of about 0.5mm/s until bent with reaches 2mm and hold for 30 seconds



13) Solubility resistance test

Inductance deviation is within $\pm 5.0\%$ after immerse for 1 min in isopropyl alcohol at $25^\circ\text{C} \pm 5^\circ\text{C}$. Then it shall be stabilized under standard atmospheric condition for 1H before measurement. Measurement shall be made within 1 hour

14) Solderability

Electrode are immersed in flux for 5 seconds. Then dipped in melting solder at $245 \pm 5^\circ\text{C}$, for 3 ± 0.5 seconds, 95% min. of the immersed areas should be covered by new solder.

※ Solder item : LCD-D9800C(Sn98%/Cu2% : Flux item : 2HF-7600)

15) Humidity load life test

Inductance deviation is within $\pm 5.0\%$ and no structure and electric defects can be found after 1000 ± 12 hours test under the condition of relative humidity of 80~85% and temperature of $85 \pm 2^\circ\text{C}$ and allowable current loaded and 1 hour storage under room ambient conditions after which device is tested within the next 2 hours



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Part No

DHI2520P0-R

Rev.

A

16) High-temperature electrification test

The component is left in a constant temperature chamber of temperature $105\pm 2^{\circ}\text{C}$ applying the rated current for 1000 ± 12 hours after the soldering heat resistance test, and then the component is left at room temperature and normal humidity for 2 ± 1 hours. After that, any surface defects shouldn't be found and the rate of inductance against its initial value should be within $\pm 5\%$

17) Low-temperature electrification test

The component is left in a constant temperature chamber of temperature $-40\pm 3^{\circ}\text{C}$ applying the rated current for 1000 ± 12 hours after the soldering heat resistance test, and then the component is left at room temperature and normal humidity for 2 ± 1 hours. After that, any surface defects shouldn't be found and the rate of inductance against its initial value should be within $\pm 5\%$

Application Notice / Handling

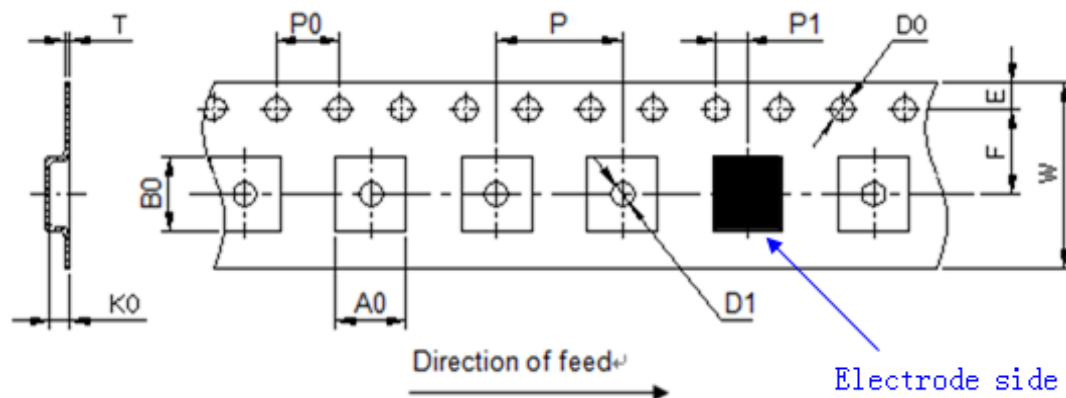
- 1) Temperature and humidity conditions : less than 40°C and 70% RH.
- 2) Products should be used within 6 months.
- 3) The packaging material should be kept where no chlorine or sulfur exists in the air.
- 4) Do not touch the electrodes(soldering terminals) with fingers as this may lead to deterioration of solderability.
- 5) The use of tweezers or vacuum pick-ups is strongly recommended for individual components.
- 6) Bulk handling should ensure that abrasion and mechanical shock are minimized

7. Packaging Standard/包装规格

1) Packaging data

Component	L(mm)	W(mm)	H(mm)	Wt(g)	Quantity
Part size	2.70	2.20	1.00	0.02	7,500

2) Reel Tape Specification : Units supplied in tape and reel packaging. Meets EIA-481 standard.



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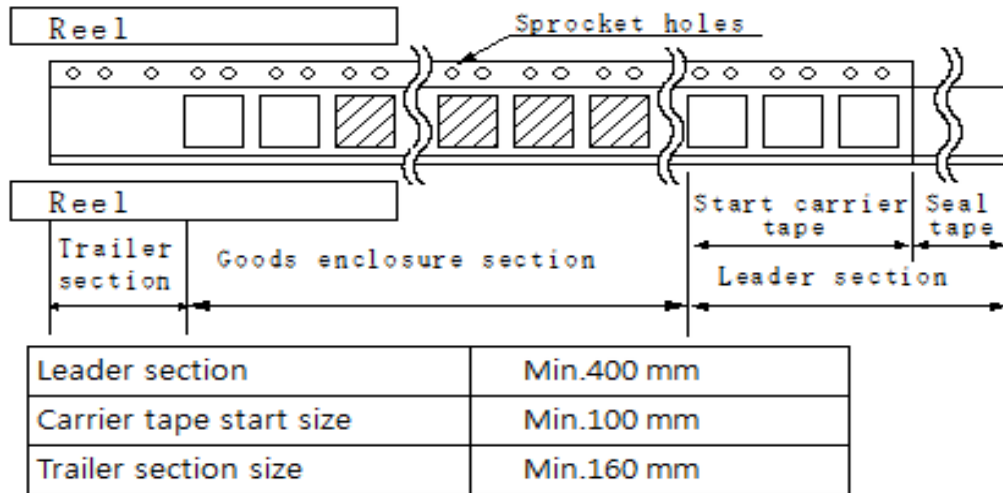
DHI2520P0-R

Rev.

A

P/N	W	A0	B0	K0	T	P	F	E	D0	D1	P0	P1
DHI2520P0	8.0± 0.3	2.3± 0.1	2.8± 0.1	1.3± 0.1	0.3± 0.1	4.0± 0.1	3.9± 0.1	1.75 ±0.1	1.5+ 0.1	1.5± 0.1	4.0± 0.1	2.0± 0.05

3) Taping dimension and tape direction, Leader, Trailer section dimension

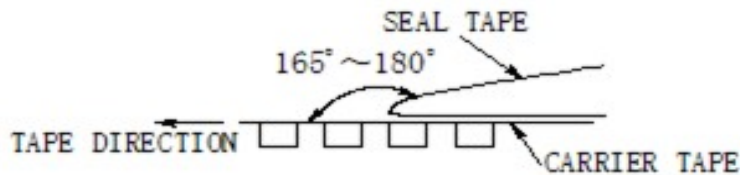


4) Taping

The angle between the seal tape during peel off and the direction of unreeling shall be 165°C to 180°C.

The seal tape shall adhere uniformly to the carrier tape along both sides in the direction of unreeling.

The peel force with a peel speed of 300mm/MIN±10mm/MIN shall be 0.1N TO 1.3N.



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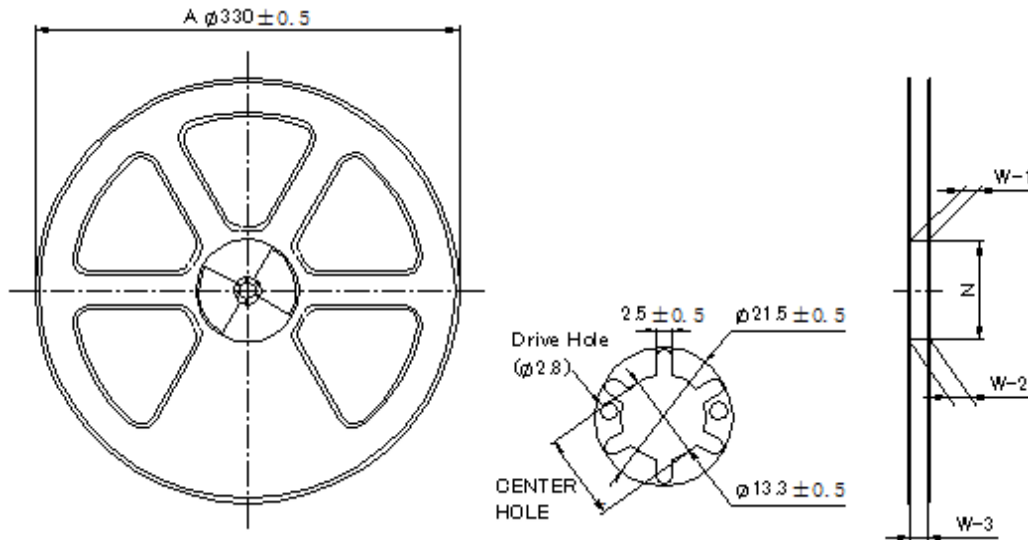
Part No

DHI2520P0-R

Rev.

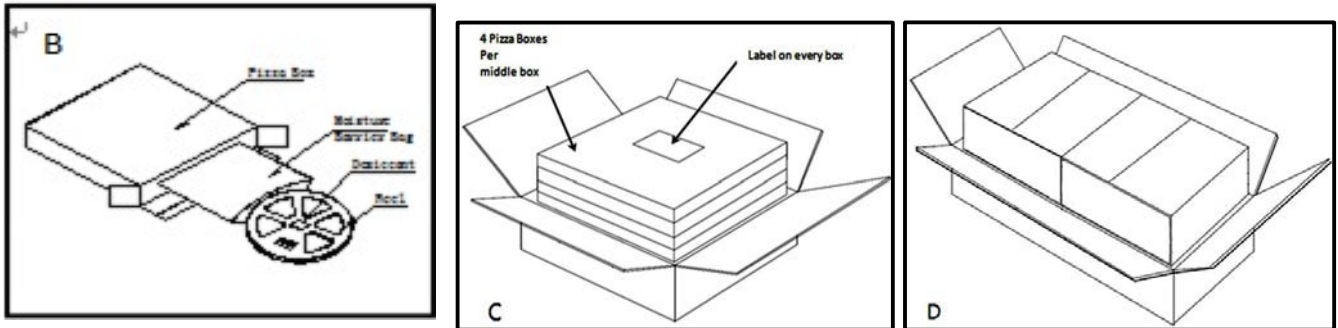
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5) Reel Specification



Dimension	A	W-1	W-2	W-3	Center Hole	N
Spec	$\phi 330 \pm 0.5$	12.4+ 2/0	16.0 ± 0.5	13.0 ± 0.5	13.3 ± 0.5	$\phi 76 \pm 0.5$

6) Packing Materials



Packing Materials	B. Pizza Box			C. Middle Box			D. Large Box		
	L	W	H	L	W	H	L	W	H
Dimension(mm)	335	335	50	355	355	230	720	370	255

7) Packing Specification/包装规格:

2middle box/Large box, 4Reel/Middle box, 1Reel/Pizza box, 7500pcs/Reel, Total 60000pcs(Large Box)

Reel Dimensions : $\phi 330 \times 12$ (mm)

2个中盒/大箱, 4卷/中盒, 1卷/小盒, 7500pcs/卷, 总 60000pcs/大盒.

卷轴尺寸: 直径 330×12 (毫米)



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DATA SHEET

PAGE

10 / 10

Part No

DHI2520P0-R

Rev.

A

8. Environmental substances requirement

1) RoHs Compliance & Halogen Compliance

Test Items	Unit	Test Method	MDL	Results
Cd	mg/kg	With reference to IEC62321:2008, ICP	0.5	N.D.
Pb	mg/kg	With reference to IEC62321:2008, ICP	5	N.D.
Hg	mg/kg	With reference to IEC62321:2008, ICP	2	N.D.
Cr VI	mg/kg	With reference to IEC62321:2008, UV-VIS	1	N.D.
PBBs	mg/kg	With reference to IEC62321:2008, GC-MS	5	N.D.
PBDEs	mg/kg	With reference to IEC62321:2008, GC-MS	5	N.D.
Br	mg/kg	BS EN 14582:2007, IC	30	N.D.
Cl	mg/kg	BS EN 14582:2007, IC	30	N.D.
F	mg/kg	BS EN 14582:2007, IC	30	N.D.
I	mg/kg	BS EN 14582:2007, IC	50	N.D.

Note

- 1) N.D. = Not detected(< MDL)
- 2) mg/kg = ppm
- 3) MDL = Method Detection Limit
- 4) Test instrument : SGS TEST KOREA



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