

SPECIFICATION SHEET

規 格 圖 面

提出年月日 / Date of application

2024 11 19
(year) (month) (date)

客 戶

CUSTOMER:

品 名

Description: SMD POWER INDUCTOR

顧客品名

CUST. Part Number:

Ceaiya 品名

Ceaiya Part Number: CEI1809-6R8M

規格圖面提出區分、CLASSIFICATION OF SPEC. PRESENTATION. (Tick the relevant box "√")

- 新規 New application
- 新規部品追記 New part(s) is added to accepted specification
- 既存規格圖變更 Revision of accepted specification

備考 Note

蓋上確認印後，請返回一份給我公司。 Please send us the specification with acceptance stamp.

客戶受領印 (ACCEPTANCE STAMP)

Approved By 核 准	Checked By 审 查	Drawn By 制 作
李庆辉	苏高峰	劳水花

深圳市柯爱亚电子有限公司

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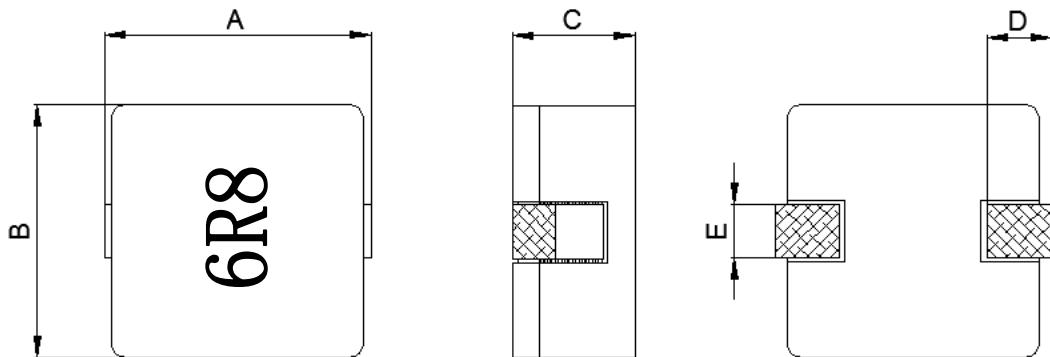
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[Http://www.ceaiya.com](http://www.ceaiya.com) Tel: 0769-89333213

【Version of Changed Record】

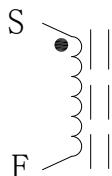
Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2024.11.19	New release	/	Li qing hui

1.DIMENSIONS (UNIT:mm)



A	B	C	D	E
19.3Max	18.2 ± 0.5	8.9 ± 0.4	4.5 ± 0.5	4.0 ± 0.3

2. CONNECTION (BOTTOM)



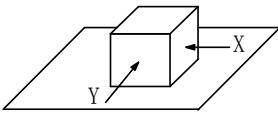
3. CHARACTERISTICS

Item	Specifications	Measuring Conditions	Measuring Instrument
Inductance	$6.8\mu\text{H} \pm 20\%$	100KHz/0.5V	HIOKI3532-50
D.C.R	4.1mΩ Typ.(4.7 mΩMax.)	25°C	HIOKI 3540
Isat	31.0A ($\Delta L/L_0=30\%$ Typ.)	100KHz/0.5V	Microtest 6377&6220
Irms	18.5A($\Delta T=40^\circ\text{C}$ Typ.)	25°C	Microtest 6377&6220

※ All data is tested based on 25°C ambient temperature.

- Inductance measure condition at 100kHz, 0.5V.
- Isat : the actual value of DC current when the inductance decrease 30% of its initial value.
- Irms : the actual value of DC current when the temperature rise is $\Delta T=40^\circ\text{C}$ (Ta=25°C).
- Special remind : Circuit design, component placement, PCB size and thickness, cooling system and etc. all will affect the product temperature. Please verify the product temperature in the final application.
- Operating temperature range (individual chip without packing): $-40^\circ\text{C} \sim +125^\circ\text{C}$ (Including Self-heating)
- Storage temperature range (packaging conditions): $-10^\circ\text{C} \sim +40^\circ\text{C}$ and RH 70% (Max.).

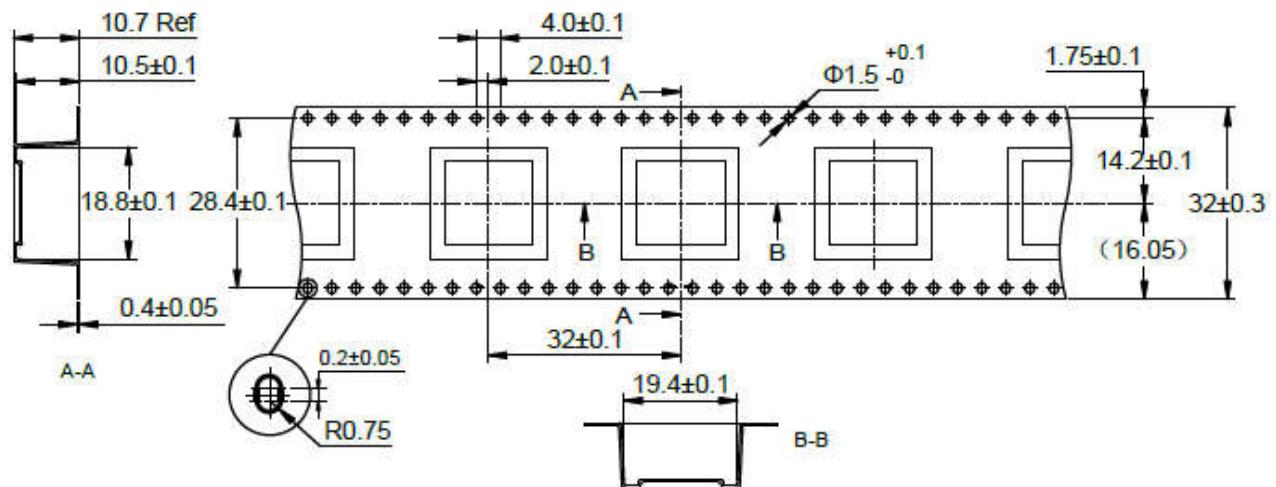
4. Reliability Test

Items	Requirements	Test Methods and Remarks
Terminal Strength	No removal or split of the termination or other defects shall occur.  Fig.4.1-1	<p>① Solder the inductor to the testing jig (glass epoxy board shown in Fig.4.1-1) using eutectic solder. Then apply a force in the direction of the arrow.</p> <p>② 10N force.</p> <p>③ Keep time: 5s</p>
Vibration	① No visible mechanical damage. ② Inductance change: Within $\pm 10\%$	<p>① Solder the chip to the testing jig (glass epoxy board shown as the following figure) using eutectic solder</p> <p>② The chip shall be subjected to a simple harmonic motion having total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 55Hz.</p> <p>③ The frequency range from 10 to 55Hz and return to 10Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3 mutually perpendicular directions (total of 6 hours).</p>
Solderability	90% or more of electrode area shall be coated by new solder	<p>① The test samples shall be dipped in flux, and then immersed in molten solder.</p> <p>② Solder temperature: $245 \pm 5^\circ\text{C}$</p> <p>③ Duration: $5 \pm 1\text{ sec}$.</p> <p>④ Solder: Sn/0.3Ag/0.7Cu</p> <p>⑤ Alpha Flux:</p> <p>⑥ Immersion depth: all sides of mounting terminal shall be immersed</p>
Resistance to Soldering Heat	① No visible mechanical damage. ② Inductance change: Within $\pm 10\%$	<p>① Re-flowing Profile: Please refer to Fig.4.6-1</p> <p>② Test board thickness: 1.0mm</p> <p>③ Test board material: glass epoxy resin</p> <p>④ The chip shall be stabilized at normal condition for 1~2 hours before measuring</p>
Thermal Shock	① No visible mechanical damage. ② Inductance change: Within $\pm 10\%$	<p>① Temperature and time: $-40 \pm 3^\circ\text{C}$ for $30 \pm 3\text{ min} \rightarrow 125^\circ\text{C}$ for $30 \pm 3\text{ min}$, please refer to Fig.4.7-1.</p> <p>② Transforming interval: Max, 20sec</p> <p>③ Tested cycle: 100 cycles</p> <p>④ The chip shall be stabilized at normal condition for 1~2 hours before measuring</p>

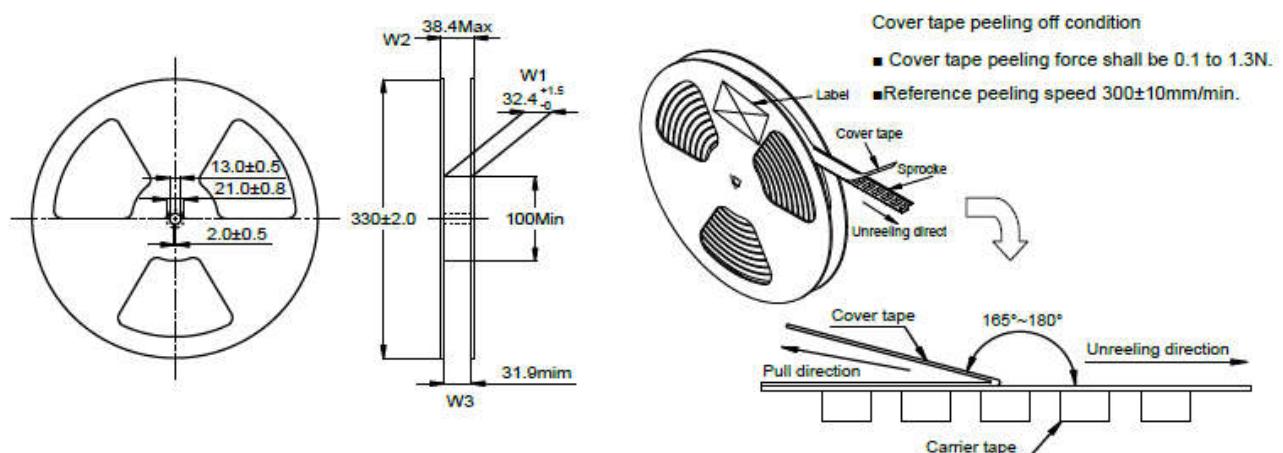
Resistance to Low Temperature	<ul style="list-style-type: none"> ① No visible mechanical damage ② Inductance change: Within $\pm 10\%$ 	<ul style="list-style-type: none"> ① Temperature and time: $-40 \pm 3^\circ\text{C}$ ② Duration: 96 ± 4 hours ③ The chip shall be stabilized at normal condition for 1~2 hours before measuring
Resistance to High Temperature	<ul style="list-style-type: none"> ① No visible mechanical damage ② Inductance change: Within $\pm 10\%$ 	<ul style="list-style-type: none"> ① Temperature and time: $125 \pm 3^\circ\text{C}$ ② Duration: 96 ± 4 hours ③ The chip shall be stabilized at normal condition for 1~2 hours before measuring
Humidity test	<ul style="list-style-type: none"> ① No visible mechanical damage ② Inductance change: Within $\pm 10\%$ 	<ul style="list-style-type: none"> ① Temperature and time: $60 \pm 2^\circ\text{C}$ ② Humidity: 90% to 96% RH ③ Duration: 96 ± 4 hours ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring
Loading at High Temperature	<ul style="list-style-type: none"> ① No visible mechanical damage ② Inductance change: Within $\pm 10\%$ 	<ul style="list-style-type: none"> ① Temperature and time: $85 \pm 2^\circ\text{C}$ ② Applied current: Rated current ③ Duration: 96 ± 4 hours ④ The chip shall be stabilized at norm24 ± 4 hours

5. Packaging Specification:

5-1 Camier Tape Dimensions(mm)



5-2 Reel Dimensions(mm)



5-3 Packing Quantity

150PCS/卷