

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

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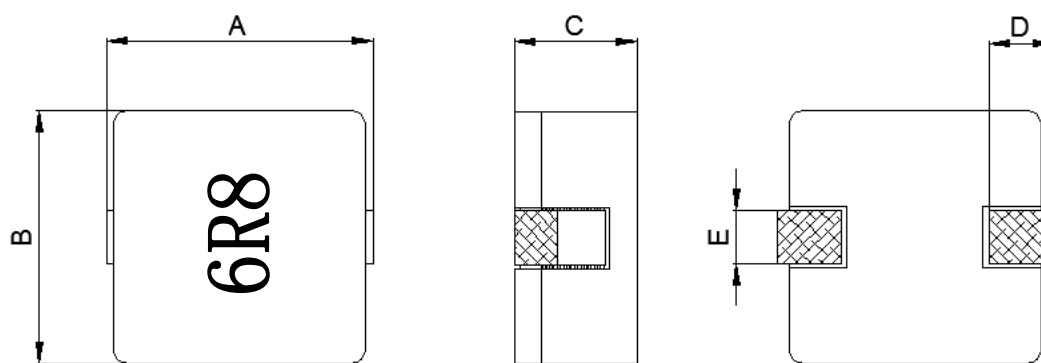
Http://www.ceaiya.com

Tel: 0769-89333213

【Version of Changed Record】

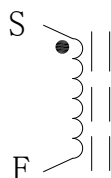
Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2024.11.19	New release	/	Li qing hui

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℃	HIOKI 3540
Isat	31.0A ($\Delta L/L0=30\%$ Typ.)	100KHz/0.5V	Microtest 6377&6220
Irms	18.5A($\Delta T=40^\circ\text{C}$ Typ.)	25℃	Microtest 6377&6220

※ All data is tested based on 25℃ ambient temperature.

a. Inductance measure condition at 100kHz, 0.5V.

b. Isat : the actual value of DC current when the inductance decrease 30% of its initial value.

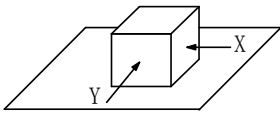
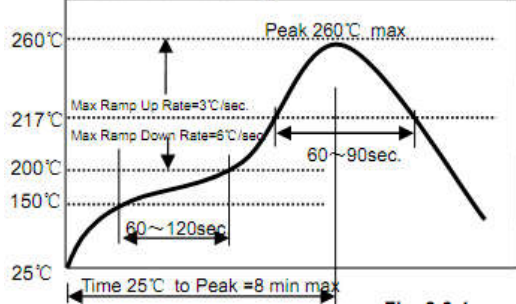
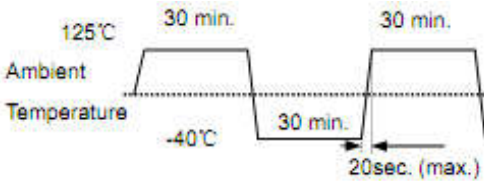
c. Irms : the actual value of DC current when the temperature rise is $\Delta T=40^\circ\text{C}$ ($T_a=25^\circ\text{C}$).

d. 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.

e. Operating temperature range (individual chip without packing): $-40^\circ\text{C} \sim +125^\circ\text{C}$ (Including Self-heating)

f. Storage temperature range (packaging conditions): $-10^\circ\text{C} \sim +40^\circ\text{C}$ and RH 70% (Max.).

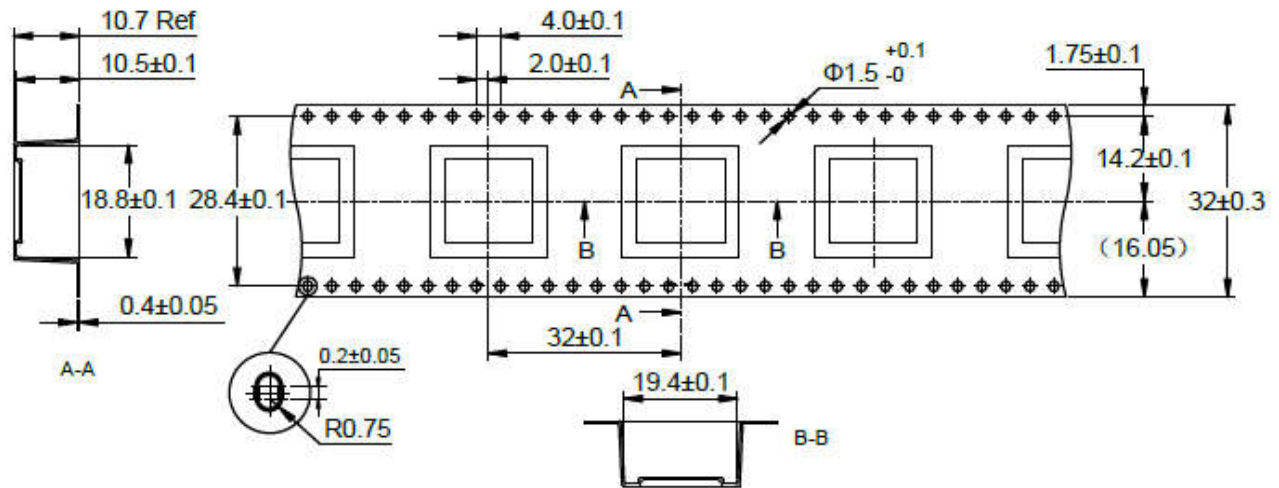
4. Reliability Test

Items	Requirements	Test Methods and Remarks
Terminal Strength	<p>No removal or split of the termination or other defects shall occur.</p>  <p>Fig.4.1-1</p>	<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	<p>① No visible mechanical damage.</p> <p>② Inductance change: Within $\pm 10\%$</p>	<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	<p>① No visible mechanical damage.</p> <p>② Inductance change: Within $\pm 10\%$</p>  <p>Fig.4.6-1</p>	<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	<p>① No visible mechanical damage.</p> <p>② Inductance change: Within $\pm 10\%$</p>  <p>Fig.4.7-1</p>	<p>① Temperature and time: $-40 \pm 3^\circ\text{C}$ for $30 \pm 3\text{ min}$ → 125°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>

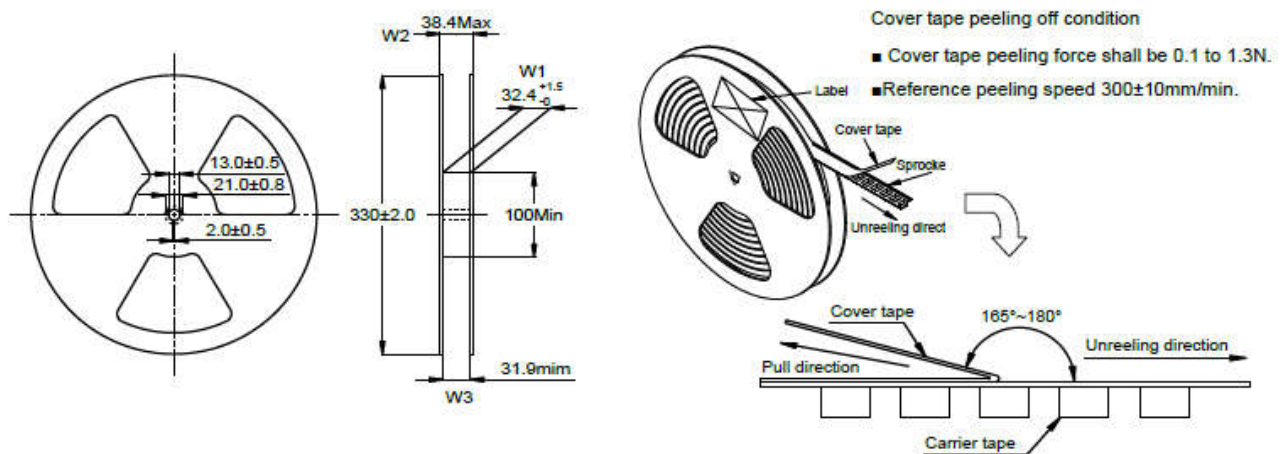
Resistance to Low Temperature	① No visible mechanical damage ② Inductance change: Within $\pm 10\%$	① Temperature and time: $-40\pm 3^{\circ}\text{C}$ ② Duration: 96 ± 4 hours ③ The chip shall be stabilized at normal condition for 1~2 hours before measuring
Resistance to High Temperature	① No visible mechanical damage ② Inductance change: Within $\pm 10\%$	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	① No visible mechanical damage ② Inductance change: Within $\pm 10\%$	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	① No visible mechanical damage ② Inductance change: Within $\pm 10\%$	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 norm 24 ± 4 hours

5. Packaging Specification:

5-1 Camier Tape Dimensions(mm)



5-2 Reel Dimensions(mm)



5-3 Packing Quantity

150PCS/卷