TO：	文 件 编 号	HXA-L56-22(01)
	发 行 日 期	2022 年 01 月 15 日

承 认 规 格 书

种　　类：Wire Wound Molded SMD Power Inductors

系 列 号：HXTC-SERIES

客户料号：

客 户 承 认 栏	
承 认 日 期	年　　月　　日

(贵司承认后请签署一份返回艾申迪电子,谢谢!)

厦门艾申迪电子有限公司技术质量部

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SMD Power Choke Coil

HXTC-SERIES

ECN HISTORY LIST

REV	DATE	DESCRIPTION	APPROVED	CHECKED	DRAWN
1.0	22/01/15	新發行	龙梅	梁峰	王亮
備注					

1. Features

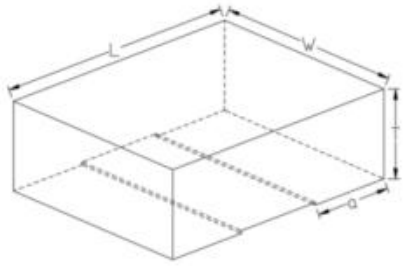
1. Soft saturation.
2. High current, low DCR, high efficiency.
3. Very low acoustic noise and very low leakage flux noise.
4. High reliability.
5. 100% Lead (Pb)-Free and RoHS compliant.
6. Operating temperature -55~+125℃(Including self-temperature rise)

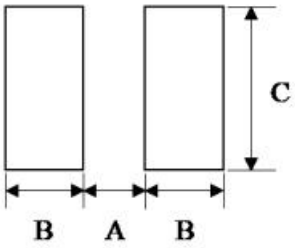
2. Applications

Note PC power system · incl. IMVP-6

DC/DC converter.

3. Dimensions





Series	L(mm)	W(mm)	T(mm)	a(mm)	A	B	C
HXTC160810A	1.6±0.2 [0.063±0.008]	0.8±0.2 [0.031±0.008]	1.0Max [0.039Max]	0.4±0.2 [0.016±0.008]	0.6~0.8	0.6~0.8	0.6~0.8
HXTC201208A	2.0±0.2 [0.079±0.008]	1.2±0.2 [0.047±0.008]	0.8Max [0.031Max]	0.6±0.2 [0.024±0.008]	0.8~1.2	0.8~1.2	1.2~2.0
HXTC201210A	2.0±0.2 [0.079±0.008]	1.2±0.2 [0.047±0.008]	1.0Max [0.039Max]	0.6±0.2 [0.024±0.008]	0.8~1.2	0.8~1.2	1.2~2.0
HXTC201610A	2.0±0.2 [0.079±0.008]	1.6±0.2 [0.063±0.008]	1.0Max [0.039Max]	0.6±0.2 [0.024±0.008]	0.8~1.2	0.8~1.2	1.2~2.0
HXTC252010A	2.5±0.2 [0.098±0.008]	2.0±0.2 [0.079±0.008]	1.0Max [0.039Max]	0.8±0.2 [0.031±0.008]	1.2~1.6	0.8~1.2	1.8~2.4

Note:

1. Inductance tolerance code (M=±20%).
2. Rated current: Isat or Irms, whichever is smaller.
3. Isat: Max.Value, DC current at which the inductance drops less than 30% from its value without current;
   Typ. Value, DC current at which the inductance drops 30% from its value without current.
4. Irms: DC current that will cause the temperature rise (ΔT) from 22°C ambient.
5. For Max. Value, ΔT＜40℃；for Typ. Value, ΔT is approximate 40℃.

4. Part Numbering

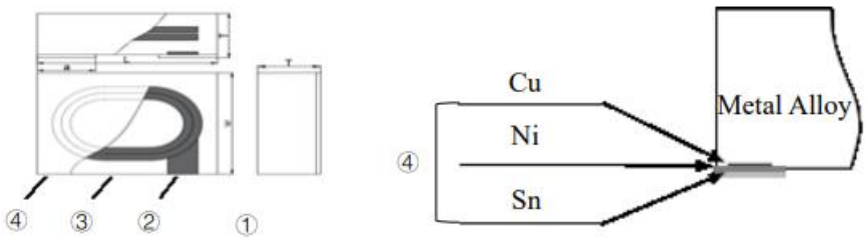
HXTC	201610	A	-	R47	M
A	B	C		D	E

A: Series
B: Dimension — A x C
C: Type
D: Inductance — R47=0.47uH
E: Inductance Tolerance — M = ±20%

5. Specification

ASDI Part Number	Inductance L0 (uH)±20% @ 0 A	I rms (A) Typ.	I rms (A) Max.	I sat (A) Max.	I sat (A) Typ.	DCR(mΩ) Max.	DCR(mΩ) Typ.	Thickness (mm)
HXTC160810A-1R0M	1.0	2.0	1.8	2.1	2.3	110	100	1.0Max
HXTC160810A-2R2M	2.2	1.1	1.0	1.2	1.3	290	272	1.0Max
HXTC201208A-1R0M	1.0	3.0	2.7	3.2	3.6	70	63	1.0Max
HXTC201208A-2R2M	2.2	1.6	1.3	1.8	2.2	155	144	1.0Max
HXTC201210A-R47M	0.47	4.5	4.1	4.6	5.1	27	24	1.0Max
HXTC201610A-R47M	0.47	4.8	4.4	4.8	5.3	22	19	1.0Max
HXTC201610A-1R0M	1.00	3.5	3.2	3.5	4.0	42	38	1.0Max
HXTC201610A-2R2M	2.20	2.3	2.0	2.4	2.7	95	85	1.0Max
HXTC252010A-R47M	0.47	5.5	5.0	6	6.7	20	17	1.0Max
HXTC252010A-1R0M	1.0	4.5	4.0	4.5	5	40	36	1.0Max

6. Material List



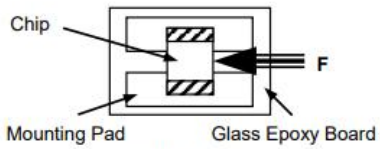
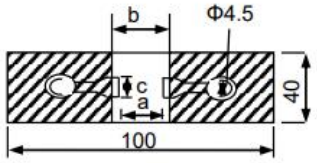
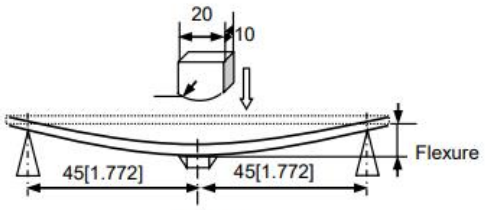
N0.	Description	Specification
①	Metal Alloy Body	Metal Alloy Powder
②	Inner Wire	Enameled Copper Wire
③	Pull-out Electrode	Cu
④	Terminal	Electro-Plating: Cu/Ni/Sn

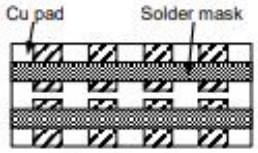
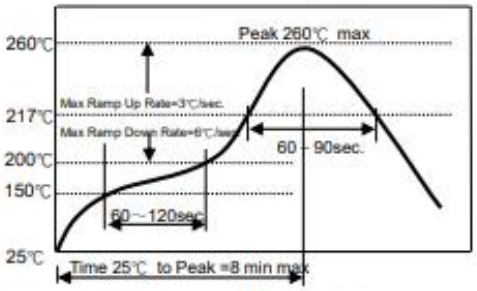
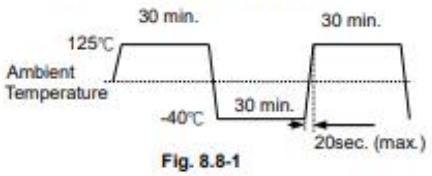
7. Electrical Test

Test Item	Performance	Test Condition
DC Resistance (DCR)	Refer to Electrical Characteristics.	Test equipment: High Accuracy Milliohmmeter-AX-1152D
Inductance (L)		a. Test equipment: High Accuracy RF Impedance Analyzer-WK 6500B. b. Test signal:1V. c. Test frequency refers to Electrical Characteristics.
		a. Set test current to be 0 mA. b. Measure initial temperature of chip surface.

Temperature Rise Current（Irms）	Approximately △T≦40℃.	c. Gradually increase voltage and measure chip temperature for corresponding current. d. Definition of Temperature Rise Current（Irms）: Irms is direct electric current as chip surface temperature rose just 40℃ against chip initial surface temperature.
Saturation Current（Isat）	△L≦30% typical.	a. Test equipment: High Accuracy RF Impedance Analyzer- WK 6500B. b. Measuring Frequency: 1MHz. c. Test Current: 1mA. d. Definition of Saturation Current（Isat）: Isat is the value of DC current as inductance L (μH) decreased just 30% against initial value
Self-Resonant Frequency (SRF)	Refer to Electrical Characteristics.	a. Test equipment: High Accuracy RF Impedance Analyzer--WK 6500B. b. Test signal: 1V.

8. Reliability Test

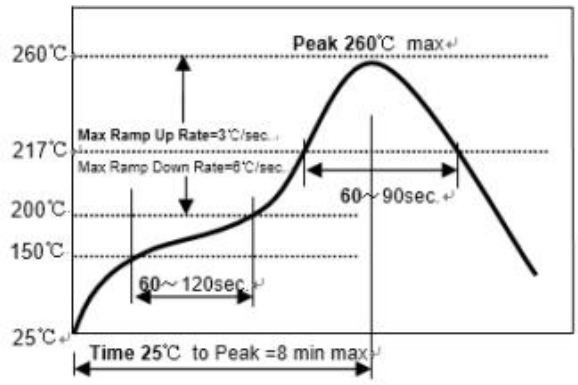
Items	Requirements	Test Methods and Remarks
8.1 Terminal Strength	No removal or split of the termination or other defects shall occur.  Fig. 8.1-1	① Solder the inductor to the testing jig (glass epoxy board shown in **Fig.8.1-1**) using eutectic solder. Then apply a 10N force in the direction of the arrow. ② Keep time: 10±1s. ③ Speed: 1.0mm/s.
8.2 Resistance to Flexure	No visible mechanical damage. Unit: mm [inch] Type / a / b / c 160808 / 0.6 / 2.2 / 1.2 201208 / 0.8 / 2.4 / 1.4 201210 / 0.8 / 2.4 / 1.4 201610 / 0.8 / 2.4 / 1.4 252010 / 1.3 / 3.0 / 2.3  Fig.8.2-1	① Solder the inductor to the test jig (glass epoxy board shown in **Fig.8.2-1**) Using a eutectic solder. Then apply a force in the direction shown **Fig. 8.2-2.** ② Flexure: 2mm. ③ Pressurizing Speed: 0.5mm/sec. ④ Keep time: 30 sec. ⑤ Test board size: 100×40×1.0.  Fig.8.2-2
8.3 Vibration	① No visible mechanical damage. ② Inductance change: Within ±10%.	① Solder the inductor to the testing jig (glass epoxy board shown in **Fig.8.3-1**) using eutectic solder.

	 Fig. 8.3-1	② The inductor 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 55 Hz. ③ The frequency range from 10 to 55 Hz and return to 10 Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3mutually perpendicular directions (total of 6 hours).
8.4 Dropping	① No visible mechanical damage. ② Inductance change: Within ±10%.	Drop chip inductor 10 times on a concrete floor from a height of 100 cm.
8.5 Temperature	Inductance change should be within ±20% of initial value measuring at 25℃.	Temperature range: -40℃~ +125℃ Reference temperature: +25℃
8.6 Solderability	① No visible mechanical damage. ② Wetting shall exceed 90% coverage.	① Solder temperature: 245±2℃ ② Duration: 3 sec. ③ Solder: Sn/3.0Ag/0.5Cu. ④ Flux: 25% Resin and 75% ethanol in weight.
8.7 Resistance to Soldering Heat	① No visible mechanical damage. ② Inductance change: Within ±10%.	① Re-flowing Profile: Please refer to **Fig. 8.7-1**. ② Test board thickness: 1.0mm ③ Test board material: glass epoxy resin ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring 
8.8 Thermal Shock	① No mechanical damage. ② Inductance change: Within ±10%.  Fig. 8.8-1	① Temperature, Time: (See **Fig.8.8-1**) -40℃ for 30±3 min→ 125℃ for 30±3min. ② Transforming interval: 20 sec.(Max.). ③ Tested cycle: 100 cycles. ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring.
8.9 Resistance to Low Temperature	① No mechanical damage. ② Inductance change: Within ±10%.	① Temperature: -40±2℃ ② Duration: 1000^{+24} hours. ③ The chip shall be stabilized at normal condition for 1~2 hours before measuring.
8.10 Resistance to High Temperature	① No mechanical damage. ② Inductance change: Within ±10%.	① Temperature: 125±2℃ ② Duration: 1000^{+24} hours. ③ The chip shall be stabilized at normal condition for 1~2 hours before measuring.

8.11 Damp Heat (Steady States)	① No visible mechanical damage. ② Inductance change: Within ±10%.	① Temperature: 60±2°C ② Humidity: 90% to 95% RH. ③ Duration: 1000^{+24} hours. ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring.
8.12 Loading Under Damp Heat	① No visible mechanical damage. ② Inductance change: Within ±10%.	① Temperature: 60±2°C ② Humidity: 90% to 95% RH. ③ Duration: 1000+24 hours. ④ Applied current: Rated current. ⑤ The chip shall be stabilized at normal condition for 1~2 hours before measuring.
8.13 Loading at High Temperature (Life Test)	① No visible mechanical damage. ② Inductance change: Within ±10%.	① Temperature: 85±2°C ② Duration: 1000+24 hours. ③ Applied current: Rated current. ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring.

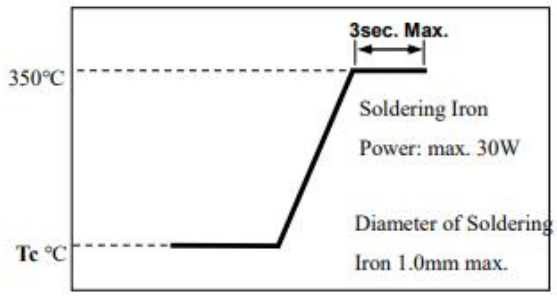
9. Soldering and Mounting

9.1 Reflow Profile:



Preheat condition	150 ~200°C/60~120sec
Allowed time above	217°C: 60~90sec
Max temp	260°C
Max time at Max temp	10sec
Solder paste	Sn/3.0Ag/0.5Cu
Allowed Reflow time	2x Max

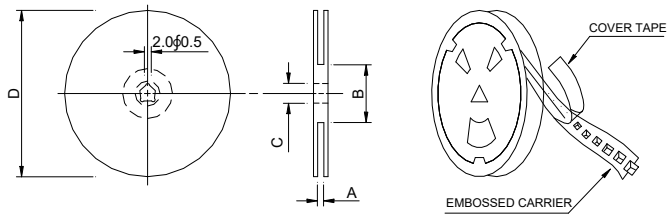
9.2 Reflow Profile:



Iron soldering power	Max.30W
Pre-heating	150 ℃ / 60sec
Soldering Tip temperature	350℃Max
Soldering time	3sec Max
Solder paste	Sn/3.0Ag/0.5Cu
Max	1 times for iron soldering

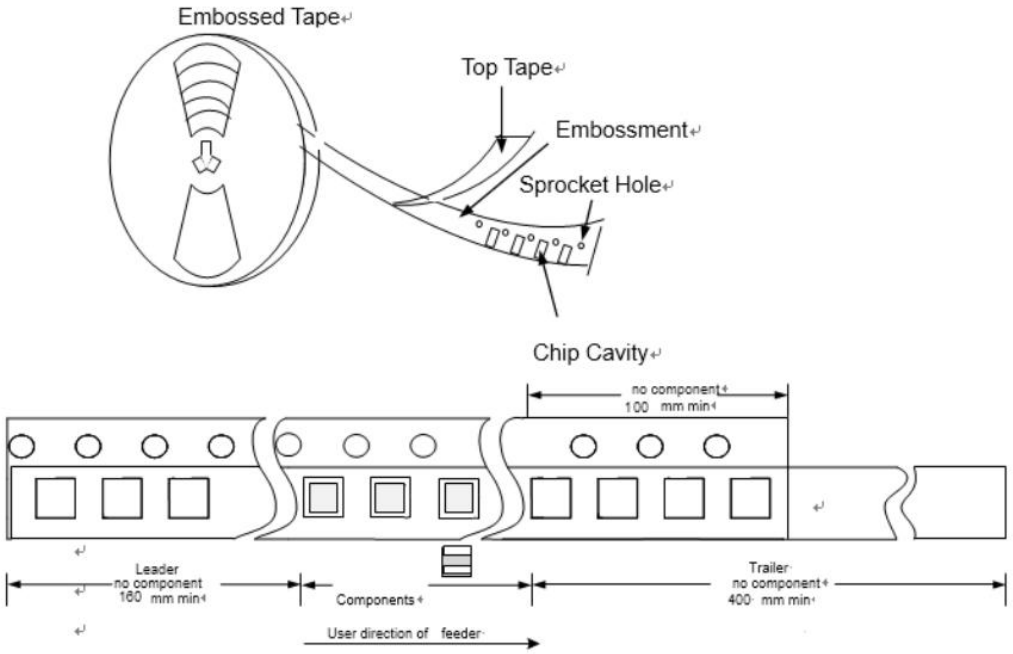
10. Packaging Information

(1) Reel Dimension



A(mm)	B(mm)	C(mm)	D(mm)
8.4	58	13.5	178

(2) Tape Dimension

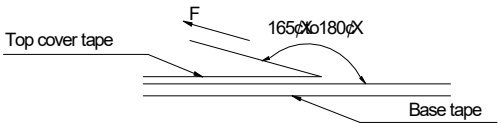


Type	Ao	Bo	P	Po	P1	Ko max	t max	W
160810	1.10±0.1	1.90±0.1	4.0±0.1	4.0±0.1	2.0±0.05	1.3	0.3	8.0±0.1
201208	1.50±0.1	2.30±0.1	4.0±0.1	4.0±0.1	2.0±0.05	1.1	0.3	8.0±0.1
201210	1.50±0.1	2.30±0.1	4.0±0.1	4.0±0.1	2.0±0.05	1.3	0.3	8.0±0.1
201610	1.90±0.1	2.30±0.1	4.0±0.1	4.0±0.1	2.0±0.05	1.3	0.3	8.0±0.1
252010	2.30±0.1	2.80±0.1	4.0±0.1	4.0±0.1	2.0±0.05	1.3	0.3	8.0±0.1

(3) Packaging Quantity

HXTC	160810	201208	201210	201610	252010
Chip / Reel	4000	4000	4000	4000	3000

(4) Tearing Off Force



The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions (referenced ANSI/EIA-481-C-2003 of 4.11 standard).

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

Application Notice

·Storage Conditions
To maintain the solderability of terminal electrodes:
1. ASDI products meet IPC/JEDEC J-STD-020D standard-MSL, level 1.
2. Temperature and humidity conditions: Less than 30℃ and 70% RH.
3. Recommended products should be used within 6 months form the time of delivery.
4. The packaging material should be kept where no chlorine or sulfur exists in the air.

·Transportation
1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

单击下面可查看定价，库存，交付和生命周期等信息

>>ASDI