<SPECIFICATION>

SPEC.No. ASDIQ-SPE-074(00)
Date： Jul.11,2022

To :

CUSTOMER'S PRODUCT NAME

ASDI PRODUCT NAME:
HXA1206F2SF-600T02

RECEIPT CONFIRMATION

UNCONDITIONAL CONSENT	CONDITIONAL CONSENT

APPROVED	CHECKED

ASDI SIGNATURE

APPROVED	CHECKED	PREPARED
Xianglong Li	Liang Wang	Jiayin Cai

REV.	DATE	DESCRIPTION	APPROVED	CHECKED	PREPARED
00	Jul.11,2022	New release	Xianglong Li	Liang Wang	Jiayin Cai

CAUTION WHEN HANDLING

Before use the products, please read this specification.

CAUTION FOR SAFETY USING

When use the products, be careful to mentioned below for safety using.

CAUTION

*The product should be used within 12 monthes.
Focus on the storage conditions.
Solderability may become weak if it exceeds the period.
*Do not use and store the product in condition of gas corrosion (Salt,Acid,Alkaline).
*The products must be preheated before soldering.
The operating temperature including self-generated heat must be within '-40~+85℃
*Rework by soldering iron;Please keep the mentioned conditions in this specification.
*In case of insert P.C. Board on chassis, do not add mechanical stress to the product.
*Be careful to arrange of non-magnetic field type inductors.
The error may be caused by magnetic field coupling.
*In case handle the products, please use wrist strap for ground static discharge on human body.
The product keeps away from magnet or magnetized things.
*Do not use the product beyond the mentioned conditions in this specification.
*About an application
The products listed on this specification sheet are intended for use in general electronic equipment
(AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.
*The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet.

1)Aerospace/Aviation equipment
2)Military equipment
3)Seabed equipment
4)Safety equipment
5)Medical equipment
6)Transportation control equipment
7)Power-generation control equipment which directly endanger human life
8)Atomic energy-related equipment
9)Other applications that are not considered general-purpose applications

If you intend to use the products in the following applications, please contact our sales office.
Transportation equipment (cars, electric trains, ships, etc.), Public information-processing equipment, Electric heating apparatus / burning equipment, Disaster prevention/crime prevention equipment
When using this product in general-purpose applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc., to ensure higher safety.

CUSTOMER	ASDI PART No. HXA1206F2SF-600T02	CUSTOMER'S DWG NO.

1.SCOPE

For Ethernet (RJ45 Port)

2.INDEX

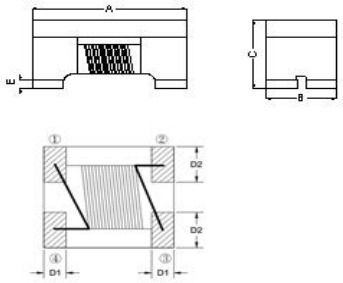
3.Manufacturing Location

China

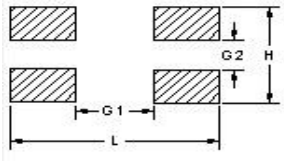
(1)Features

High common mode impedance at high frequency effects excellent noise suppression performance.
HXA1206F2SF series realizes small size and low profile. 3.2x1.6X2.0 mm.
100% Lead(Pb) & Halogen-Free and RoHS compliant.

(2)Dimensions



Recommended PC Board Pattern



PC board should be designed so that products are not sufficient under mechanical stress as warping the board.
Products shall be positioned in the sideway direction against the mechanical stress to prevent failure.

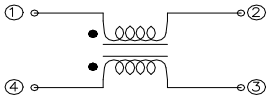
Series	A(mm)	B(mm)	C(mm)	D1(mm)	D2(mm	E(mm)	L(mm)	H(mm)	G1(mm)	G2(mm)
1206F2SF	3.4±0.2	1.6±0.2	2.0±0.2	0.64±0.1	0.66±0.1	0.12 (typ.)	3.7	1.7	2.3	0.5

(3)Part Numbering

HXA	1206	F	2	S	F	-	600	T	02
A	B	C	D	E	F		G	H	I

A: Series
B: Dimension
C: Material Ferrite Core
D: Number of Lines 2=2 lines
E: Type S=Shielded , N=Unshielded
F: Lead free
G: Inductance 600=60uH
H: Packaging T=Taping and Reel
I: Rated Current 02=200mA

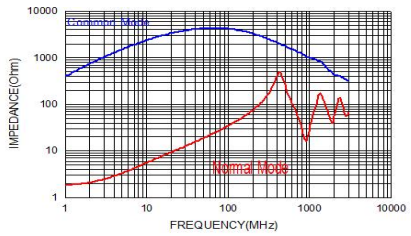
(4)Electrical Schematics



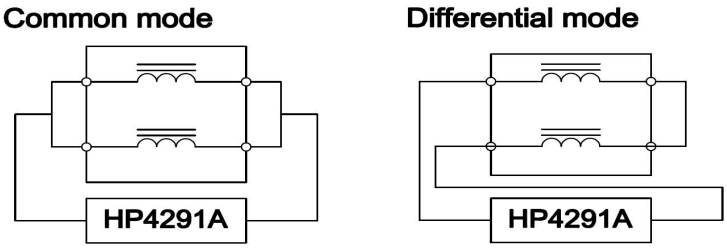
(5)Electrical Specifications
Table 1

ASDI Part Number	Inductance(uH) [100kHz/0.1V] Min.	Capacitance (pF)Max	DC Resistance (Ω)Max.	Rated Current (mA)	Rated Volt. (Vdc)	Withstand Volt. (Vdc) max.	IR(Ω) min.
HXA1206F2SF-600T02	60	18	1.7	200	50	125	10M

HXA1206F2SF-600T02

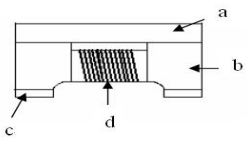


(6)Measuring Circuits 2Lline



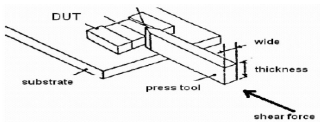
(7)Material List

No.	Description	Specification
a.	Upper Plate	Ferrite
b.	Core	Ferrite Core
c	Termination	Solder (Pb Free)
d	Wire	Enameled Copper Wire



(8)Reliability Tests

No.	Test item	Performance	Test details
1	Operating temperature	-40~+85℃ (Including self - temperature rise)	
2	Storage temperature	-40~+85℃ (on board)	
Electrical Performance Test			
3	L(common mode)	Refer to standard electrical characteristics list.	Agilent-4291A+ Agilent -16197A
4	DCR		Agilent-4338B
5	I.R.		Agilent4339
6	Temperature Rise Test	Rated Current < 1A ΔT 20℃Max Rated Current ≧ 1A ΔT 40℃Max	1.Applied the allowed DC current. 2.Temperature measured by digital surface thermometer
Reliability Test			
7	Life Test	Appearance：No damage. Impedance：within±15% of initial value RDC：within ±15% of initial value and shall not exceed the specification value	Preconditioning: Run through IR reflow for 2 times.(IPC/JEDECJ-STD-020DClassification Reflow Profiles) Temperature：85±2℃ Applied current：rated current Duration：1000±12hrs Measured at room temperature after placing for 24±2 hrs
8	Load Humidity		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDECJ-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
9	Moisture Resistance		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles 1. Baked at 50℃ 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.
10	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 Step3：85±2℃ 30±5min Number of cycles： 500 Measured at room temperature after placing for 24±2 hrs
11	Vibration		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)

<table>
<tr><th>No.</th><th>Test item</th><th>Performance</th><th>Test details</th></tr>
<tr><td>13</td><td>Bending</td><td rowspan="2">Appearance：No damage.
Inductance：within±10% of initial value
RDC：within ±15% of initial value and shall not exceed the specification value</td><td>Shall be mounted on a FR4 substrate of the following dimensions:
>=0805 inch(2012mm):40x100x1.2mm
<0805 inch(2012mm):40x100x0.8mm
Bending depth:
>=0805 inch(2012mm):1.2mm
<0805 inch(2012mm):0.8mm duration of 10 sec.</td></tr>
<tr><td>14</td><td>Shock</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>15</td><td>Solder ability</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>16</td><td>Resistance to Soldering Heat</td><td rowspan="2">Appearance：No damage.
Inductance：within±10% of initial value
RDC：within ±15% of initial value and shall not exceed the specification value</td><td>Depth: completely cover the termination<table><tr><th>Temperature(°C)</th><th>Time(s)</th><th>Temperature ramp/immersion and emersion rate</th><th>Number of heat cycles</th></tr><tr><td>260 ±5 (solder temp)</td><td>10 ±1</td><td>25mm/s ±6 mm/s</td><td>1</td></tr></table></td></tr>
<tr><td>17</td><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>
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(9)Soldering and Mounting

9-1,Soldering

Mildly activated rosin fluxes are preferred. ASDI terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

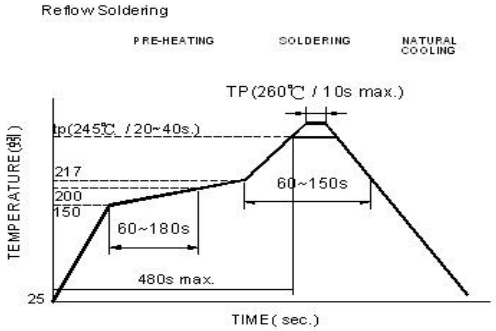
9-2,Solder re-flow

Recommended temperature profiles for re-flow soldering in Figure 1.

9-3,Soldering Iron

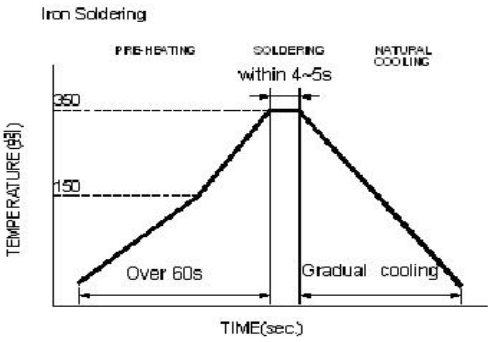
Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

·Preheat circuit and products to 150℃
·Never contact the ceramic with the iron tip
·Use a 20 watt soldering iron with tip diameter of 1.0mm
·355℃ tip temperature (max)
·1.0mm tip diameter (max)
·Limit soldering time to 4~5 sec.



Reflow times: 3 times max.

Fig.1

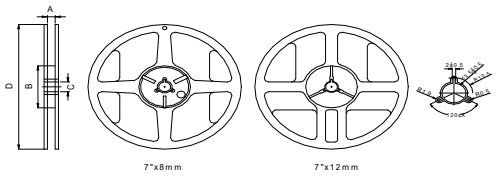


Iron Soldering times: 1 times max.

Fig.2

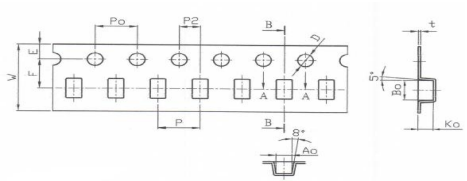
(10)Packaging Information

10-1,Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
7"x8mm	9.0±0.5	60±2	13.5±0.5	178±2

10-2,Tape Dimension

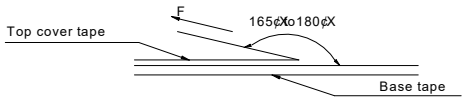


Type	P(mm)	Po(mm)	P2(mm)	Bo(mm)	Ao(mm)	Ko(mm)	W(mm)	t(mm)
HXA1206	4.00±0.10	4.00±0.10	2.00±0.05	3.50±0.10	1.88±0.10	2.20±0.10	8.00±0.10	0.26±0.05

10-3,Packaging Quantity

Chip size	Chip/Reel	Inner Box	Middle Box	Carton
HXA1206	2000	10000	50000	100000

10-4,Tearing Off Force



The force for tearing off cover tape is 15 to 80 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

(11)Note

·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: Temperature: 5 to 30deg.C, Humidity: 75% Max.
3. Recommended products should be used within 12 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.