<SPECIFICATION>

SPEC.No. ASDIQ-SPE-151(00)
Date： Aug.23,2022

To :

CUSTOMER'S PRODUCT NAME

ASDI PRODUCT NAME:
ADMI2012F2SF-SERIES

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	Aug.23,2022	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~+125℃
*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.

1.INDEX

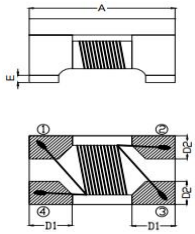
2.Manufacturing Location

China

(1)Features

1. High common mode impedance at high frequency effects excellent noise suppression performance.
2. ADMI2012F2SF series realizes small size and low profile. 2.0x1.2x1.2 mm.
3. 100% Lead(Pb) & Halogen-Free and RoHS compliant.

(2)Dimensions



Product damage width

When the damaged area is less than 0.3㎟, the

Series	A(mm)	B(mm)	C(mm)	D1(mm)	D2(mm)	E(mm)
2012F2SF	2.0±0.2	1.2±0.2	1.2±0.2	0.55±0.1	0.46±0.1	0.15±0.1

(3)Part Numbering

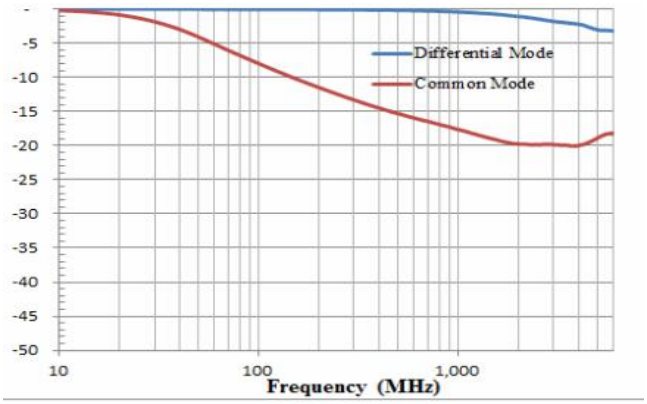
ADMI	2012	F	2	S	F	-	900	T	04
A	B	C	D	E	F		G	H	I

A: Series
B: Dimension
C: Material — Ferrite
D: Number of Lines — 2=2 lines
E: Type — S=Shielded , N=Unshielded
F: Lead free
G: Impedance — 900=90Ω
H: Packaging — T=Taping and Reel, B=Bulk
I: Rated Current — 04=400mA

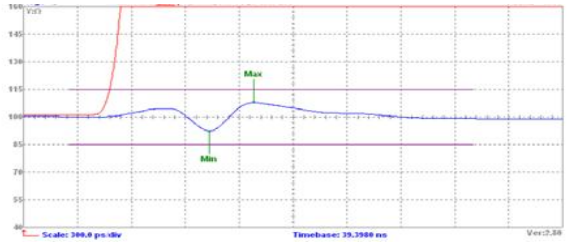
(4)Electrical Specification
Table 1

ASDI Part Number	Common mode Impedance (Ω)	Test Frequency (MHz)	DC Resistance (mΩ) max.	Rated Current (mA).	Rated Volt. (Vdc)	Withstand Volt. (Vdc)	IR (Ω) min.	Cut off Frequency (GHz)typ.
AMDI2012F2SF-900T04	90±25%	100	0.30	400	50	125	10M	6

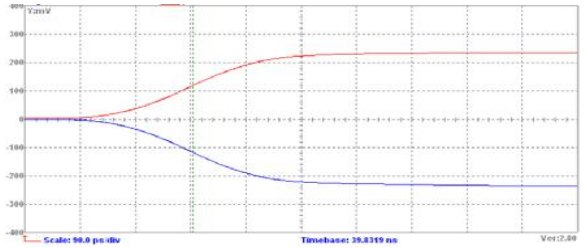
Insertion loss of AMDI2012F2SF-900T04



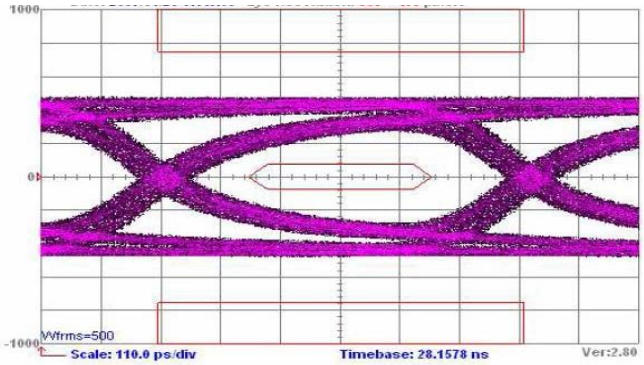
TDR TEST



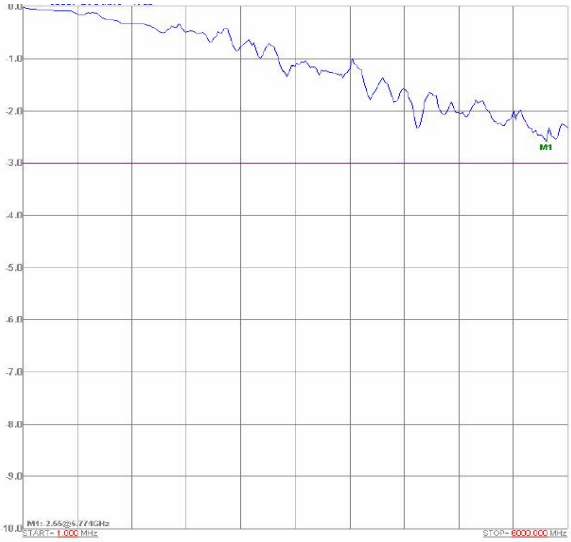
Intra Pair Skew Test



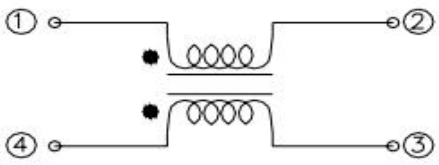
Eye Digram Graphic Test



Insertion Loss Test

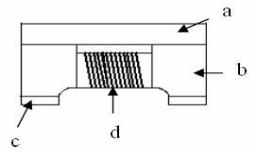


(5)Schematic Diagram

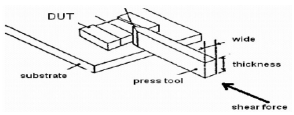


(6)Material List

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



(7)Reliability Tests

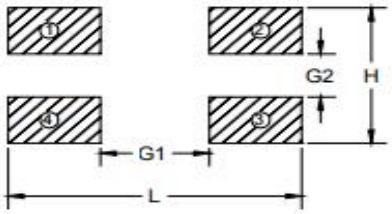
No.	Test item	Performance	Test details
Electrical Characteristics Test			
1	Operating temperature	-40℃~+125℃	
2	Storage temperature	-40℃~+85℃(For products in unopened tape package, less than 40℃)	
3	Z(common mode)	Refer to standard electrical characteristics list.	Agilent-4291A+ Agilent -16197A
4	DCR		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
Mechanical Performance Test			
7	Solderability Test	More than 95% of the terminal electrode should be covered with solder	Preheat: 150℃,60sec.。 Solder: Sn99.5%-Cu0. 5%。 Temperature: 245±5℃。 Flux for lead free: Rosin. 9.5%。 Dip time: 4±1sec。 Depth: completely cover the termination
8	Solder Heat Resistance	Appearance：No damage. Impedance：within±15% of initial value Q：Shall not exceed the specification value. RDC：within ±15% of initial value and shall not exceed the specification value	<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> Depth: completely cover the termination
9	Terminal Strength		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020D Classification 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. 

No.	Test item	Performance	Test details
Reliability Test			
10	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/JEDEC J-STD-020D Classification Reflow Profiles Temperature：125±2℃(Bead) Temperature： 85±2℃(Inductor) Applied current：rated current Duration：1000±12hrs Measured at room temperature after placing for 24±2 hrs
11	Thermal shock		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles Step1：-40±2℃ 30±5min Step2：25±2℃ ≦0.5min Step3：105±2℃ 30±5min Number of cycles： 500 Measured at room fempraturc after placing for 24±2 hrs
12	Humidity Resistance Test		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020D Classification 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
13	Vibration Test		Preconditioning:Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles 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).

(8)Soldering and Mounting

8-1,Recommended PC Board Pattern

	ADMI2012
L(mm)	2.60
H(mm)	1.20
G1(mm)	1.20
G2(mm)	0.50



PC board should be designed so that products can prevent damage from mechanical stress when warping the board.
Products shall be positioned in the sideway direction against the mechanical stress to prevent failure.

8-2,Soldering

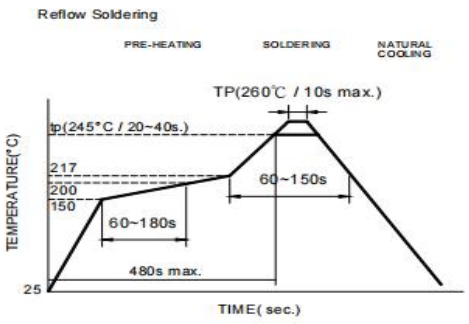
Mildly activated rosin fluxes are preferred. ASDI terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

8-3,Lead Free Solder re-flow:

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

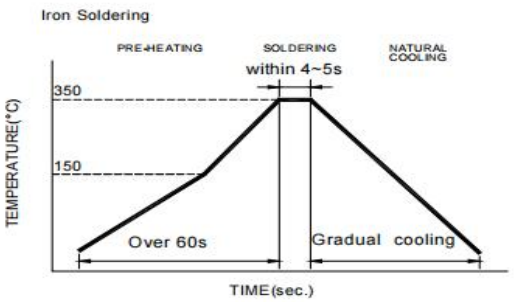
8-4,Soldering Iron(Figure 2):

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

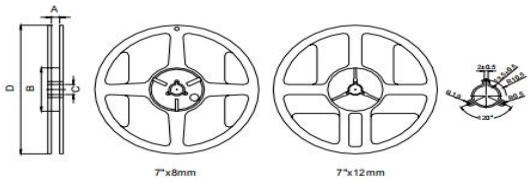


Iron Soldering times: 1 times max.

Fig.2

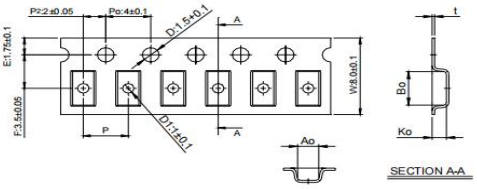
(9)Packaging Information

9-1,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

9-2,Tape Dimension/8mm

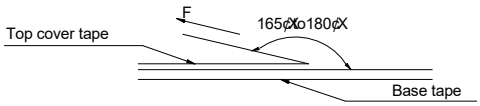


Series	Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	t(mm)
ADMI2012F2S	201212	2.25±0.1	1.50±0.1	1.35±0.1	4.0±0.1	0.24±0.05

9-3,Packaging Quantity

Chip size	Chip/Reel	Inner Box	Middle Box	Carton
ADMI2012F2S	2000	10000	50000	100000

9-4,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

(10)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.