

<SPECIFICATION>

SPEC.No. ASDIQ-SPE-190(00)
Date: Nov.16,2022

To :

CUSTOMER'S PRODUCT NAME

ASDI PRODUCT NAME:
STPM0403A-SERIES

RECEIPT CONFIRMATION

UNCONDITIONAL CONSENT

CONDITIONAL CONSENT

APPROVED	CHECKED

ASDI SIGNATURE

APPROVED	CHECKED	PREPARED
Xianglong Li	Liang Wang	Jiayin Cai



Xiamen ASDI Electronics Co.,Ltd.

REV.	DATE	DESCRIPTION	APPROVED	CHECKED	PREPARED
00	Nov.16,2022	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.

*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 | 6)Transportation control equipment |
| 2)Military equipment | 7)Power-generation control equipment |
| 3)Seabed equipment | which directly endanger human life |
| 4)Safety equipment | 8)Atomic energy-related equipment |
| 5)Medical 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.

Xiamen ASDI Electronics Co.,Ltd.

DWG.No.
ASDIQ-SPE-190(00)

ISSUE

CUSTOMER

ASDI PART No.
STPM0403A-SERIES

CUSTOMER'S DWG NO.

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2.Manufacturing Location

China

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Xiamen ASDI Electronics Co.,Ltd.

(1)Introduction

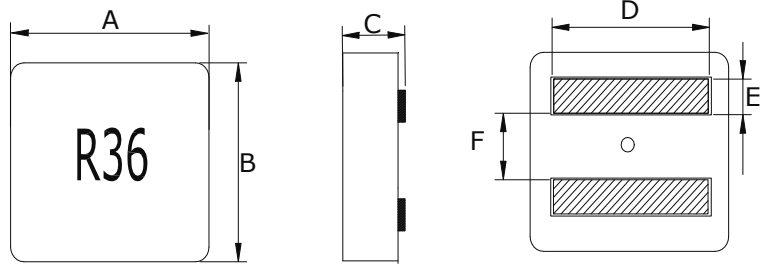
- Soft saturation.
- High current,low DCR,high efficiency.
- Very low acoustic noise and very low leakage flux noise.
- High reliability.
- 100% Lead(Pb)-Free and RoHS compliant.
- Operating temperature -55~+125℃(Including self - temperature rise).

(2)Applications

- Note PC power system, incl. IMVP-6
- DC/DC converter

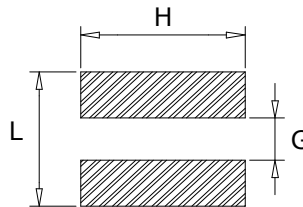
(3)Dimensions

Code	Dimensions(mm)
A	4.1±0.25
B	4.1±0.25
C	2.8±0.3
D	3.4±0.3
E	0.88±0.3
F	1.6±0.3



Recommend Land Pattern Unit : mm

G	1.4 typ
L	3.4 typ
H	3.8 typ

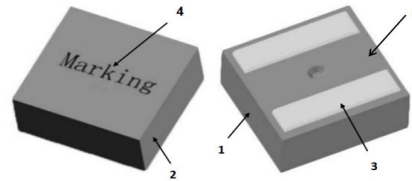


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(4)Structure and Components

No.	Components	Material
1	Core	Alloy Powder
2	Wire	Polyester Wire or equivalent
3	Clip	100% Pb free solder
4	Ink	Halogen-free ketone
5	paint	Epoxy resin



(5)Specification

ASDI Part No.	L0	DCR	Tolerance	Isat (A)	Irms (A)Typ	Test frequency
	(μ H) \pm 20%	(m Ω) MAX	(%)	Typ	40 $^{\circ}$ C rise	KHz/V
STPM0403A-R36M	0.36	4.20	\pm 20	19.00	19.00	100KHz/0.1V
STPM0403A-R47M	0.47	4.60	\pm 20	15.50	15.60	100KHz/0.1V

*Isat: DC current (A) that will cause L0 to drop approximately 30% TYP
 *Irms: DC current (A) that will cause an temperature rise Δ T approximate to 40 $^{\circ}$ C
 *All test data is referenced to 25 $^{\circ}$ C ambient
 *Absolute maximum voltage 30VDC
 Operating temperature range - 55 $^{\circ}$ C to + 125 $^{\circ}$ C(Including self - temperature rise) .
 Storage temperature and humidity range (product with tapping):-10 $^{\circ}$ C~+40 $^{\circ}$ C,RH70% M_a

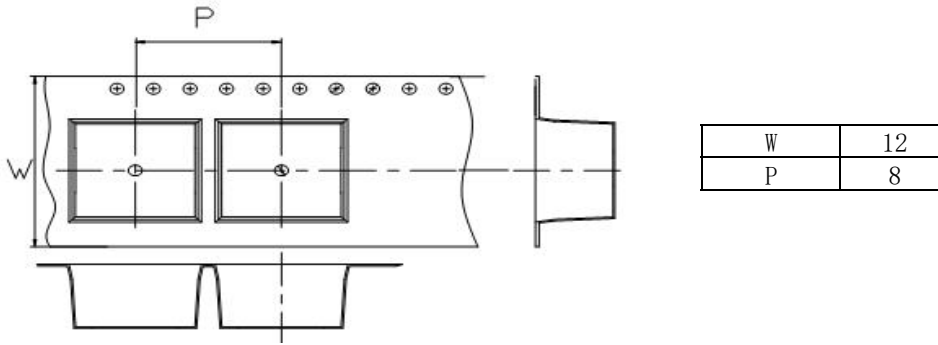
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(6)Reliability Tests

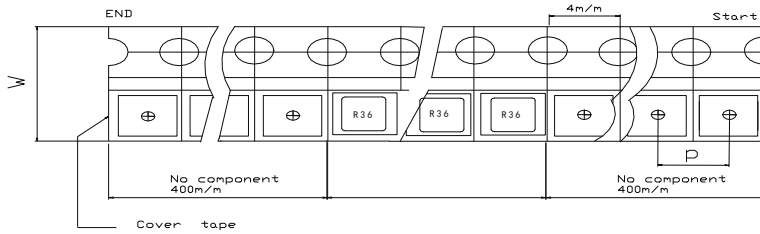
Mechanical Reliability																	
TEST ITEM	SPECIFICATION	TEST DETAILS															
Mechanical shock	1. No case deformation or change in appearance 2. $\Delta L/L_0 \leq \pm 10\%$	1. Acceleration: 100G 2. Pulse time: 6ms 3. Direction: $\pm X \pm Y \pm Z$ 4. 3 times in each positive and negative direction of 3 mutual perpendicular directions															
Mechanical vibration	1. No case deformation or change in appearance 2. $\Delta L/L_0 \leq \pm 10\%$	1. Reflow: 2 times 2. Frequency: 10HZ ~ 55HZ ~ 10HZ, 20 Min/Cycles 3. Amplitude: 1.52 mm 4. Directions: X, Y, Z 5. Time: 12 cycle / direction															
Solderability	1. No case deformation or change in appearance 2. New solder coverage More than 95%	1. Preheat: $155^\circ\text{C} \pm 5^\circ\text{C}$, 60S \pm 2S 2. Tin: lead-free. 3. Temperature: $240^\circ\text{C} \pm 5^\circ\text{C}$, flux 3.0S \pm 0.5S.															
Endurance Reliability																	
Thermal Shock	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. First -55°C for 30 minutes, last 125°C for 30 minutes as 1 cycle. Go through 1000 cycles. 2. Max transfer time is 3 minutes. 3. Measured at room temperature after placing for 24 ± 2 hours															
		<table border="1"> <thead> <tr> <th></th> <th>Temperature</th> <th>Duration</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>$-55 \pm 2^\circ\text{C}$ (Thermostat No.1)</td> <td>30 min.</td> </tr> <tr> <td>2</td> <td>Standard atmospheric</td> <td>Within 3 minutes No.1 \rightarrow No.2</td> </tr> <tr> <td>3</td> <td>$125 \pm 2^\circ\text{C}$ (Thermostat No.2)</td> <td>30 min.</td> </tr> <tr> <td>4</td> <td>Standard atmospheric</td> <td>Within 3 minutes No.2 \rightarrow No.1</td> </tr> </tbody> </table>		Temperature	Duration	1	$-55 \pm 2^\circ\text{C}$ (Thermostat No.1)	30 min.	2	Standard atmospheric	Within 3 minutes No.1 \rightarrow No.2	3	$125 \pm 2^\circ\text{C}$ (Thermostat No.2)	30 min.	4	Standard atmospheric	Within 3 minutes No.2 \rightarrow No.1
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3	$125 \pm 2^\circ\text{C}$ (Thermostat No.2)	30 min.															
4	Standard atmospheric	Within 3 minutes No.2 \rightarrow No.1															
Humidity Resistance	Inductance change: Within $\pm 10\%$ Without distinct damage in	1. Reflow 2 times, 2. 85°C , 85%RH, 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours															
Low temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in	1. Temperature: $-55 \pm 2^\circ\text{C}$ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours															
High temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in	1. Temperature: $+125 \pm 2^\circ\text{C}$ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours															

(7) Packaging

7-1, Carrier tape Dimensions(mm)

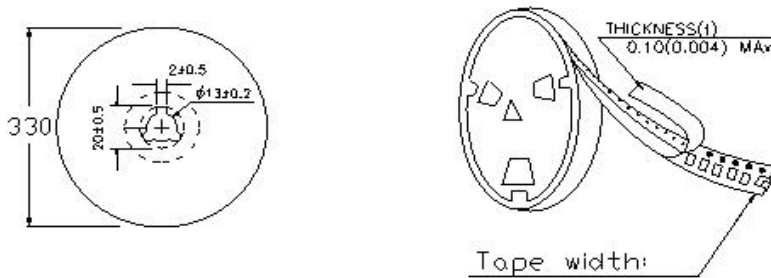


7-2, Taping Dimensions(mm)



Note: The outer layer of the coil is 400mmMIN, and the inner layer is 400mmMIN.

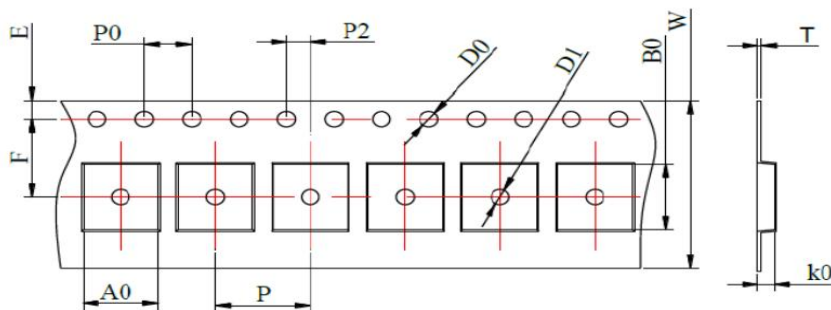
7-3, Reel Dimensions (mm)



7-4, Quantity

2000pcs/Reel

7-5, Tape Packaging Dimensions (Unit: mm)



Tape dimensions (mm)											
W	P	P0	P2	D0	D1	T	A0	B0	K0	E	F
12	8	4	2	1.5	1.5	0.35	4.4	4.4	3.3	1.75	5.5
±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.1	±0.1	±0.1	±0.1	±0.1

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单击下面可查看定价，库存，交付和生命周期等信息

[>>ASDI](#)