

<SPECIFICATION>

SPEC.No. ASDIQ-SPE-088(00)

Date: May.6,2022

To :

CUSTOMER'S PRODUCT NAME

ASDI PRODUCT NAME:

MVHF100505HQ-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.

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 $-40\sim+125^{\circ}\text{C}$

*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
which directly endanger human life |
| 3)Seabed equipment | 8)Atomic energy-related equipment |
| 4)Safety equipment | 9)Other applications that are not
considered general-purpose applications |
| 5)Medical equipment | |

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.
MVHF100505HQ-Series

CUSTOMER'S DWG NO.

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2.Manufacturing Location

China

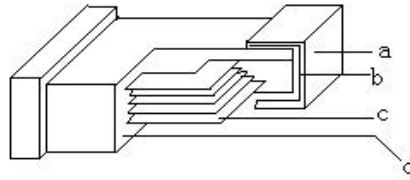
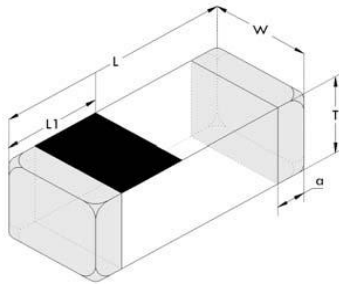
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(1)Dimension & Inner-configuration



a	Ni/Sn plating
b	Ag layer
c	Inner electrode
d	Body

No.	Component	Material
1	Body	MVHF inductor: ceramic system Al_2O_3
2	Inner electrode	Ag
3	Terminal electrode	Ag layer
		Ni/Sn plating
		Ni layer-Sn layer

Unit: mm (inch)

Size	L	W	T	a	L1
100505	1.0±0.15 (0.040±0.006)	0.5±0.15 (0.020±0.006)	0.5±0.15 (0.020±0.006)	0.25±0.1 (0.010±0.004)	0.5±0.15 (0.020±0.006)

(2)Product Spec. Model

MVHF **100505** **HQ** **1N0** **S** **T**
 A B C D E F

A: Product type: MVHF
 B: Dimensions: (L×W×T) (1.0×0.5×0.5mm)
 C: Material code: HQ
 D: Inductance: 1N0=1.0nH
 E: Tolerance: S (±0.3nH)
 F:Packaging: Tape & Reel: T

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(3)Electrical Characteristics List

ASDI Part Number	Customer P/N	Inductance (nH)	Q Value (min)	RDC (Ω)max	Test frequency (MHz)	Test voltage (mV)	SRF (MHz) min	Rated current (mA)max
MVHF100505HQ1N0 □T		1.00	8	0.06	100	50	10000	1000
MVHF100505HQ1N1 □T		1.10	8	0.07	100	50	10000	1000
MVHF100505HQ1N2 □T		1.20	8	0.07	100	50	10000	1000
MVHF100505HQ1N3 □T		1.30	8	0.07	100	50	10000	1000
MVHF100505HQ1N5 □T		1.50	8	0.08	100	50	6000	1000
MVHF100505HQ1N6 □T		1.60	8	0.08	100	50	6000	1000
MVHF100505HQ1N8 □T		1.80	8	0.08	100	50	6000	900
MVHF100505HQ2N0 □T		2.00	8	0.09	100	50	6000	900
MVHF100505HQ2N2 □T		2.20	8	0.09	100	50	6000	900
MVHF100505HQ2N4 □T		2.40	8	0.10	100	50	6000	800
MVHF100505HQ2N7 □T		2.70	8	0.12	100	50	6000	800
MVHF100505HQ3N0 □T		3.00	8	0.12	100	50	6000	800
MVHF100505HQ3N3 □T		3.30	8	0.13	100	50	6000	800
MVHF100505HQ3N6 □T		3.60	8	0.15	100	50	4000	700
MVHF100505HQ3N9 □T		3.90	8	0.16	100	50	4000	700
MVHF100505HQ4N3 □T		4.30	8	0.16	100	50	4000	700
MVHF100505HQ4N7 □T		4.70	8	0.16	100	50	4000	700
MVHF100505HQ5N1 □T		5.10	8	0.16	100	50	4000	600
MVHF100505HQ5N6 □T		5.60	8	0.20	100	50	4000	600
MVHF100505HQ6N2 □T		6.20	8	0.20	100	50	3900	600
MVHF100505HQ6N8 □T		6.80	8	0.20	100	50	3900	600
MVHF100505HQ7N5 □T		7.50	8	0.24	100	50	3700	500
MVHF100505HQ8N2 □T		8.20	8	0.24	100	50	3600	500
MVHF100505HQ9N1 □T		9.10	8	0.26	100	50	3400	500
MVHF100505HQ10N □T		10.0	8	0.26	100	50	3200	500
MVHF100505HQ12N □T		12.0	8	0.50	100	50	2700	400
MVHF100505HQ15N □T		15.0	8	0.50	100	50	2300	400
MVHF100505HQ18N □T		18.0	8	0.60	100	50	2100	350
MVHF100505HQ20N □T		20.0	8	0.60	100	50	2000	350
MVHF100505HQ22N □T		22.0	8	0.60	100	50	1900	350
MVHF100505HQ27N □T		27.0	8	0.70	100	50	1600	300
MVHF100505HQ33N □T		33.0	8	0.80	100	50	1300	300
MVHF100505HQ39N □T		39.0	8	1.00	100	50	1200	250
MVHF100505HQ43N □T		43.0	8	1.10	100	50	1100	250
MVHF100505HQ47N □T		47.0	8	1.10	100	50	1000	250
MVHF100505HQ56N □T		56.0	8	1.20	100	50	750	200
MVHF100505HQ68N □T		68.0	8	1.40	100	50	750	200
MVHF100505HQ82N □T		82.0	8	1.60	100	50	750	200
MVHF100505HQR10 □T		100.0	8	2.00	100	50	700	200
MVHF100505HQR12 □T		120.0	8	2.50	100	50	600	150
MVHF100505HQR15 □T		150.0	8	3.00	100	50	550	150
MVHF100505HQR18 □T		180.0	8	3.50	100	50	500	150
MVHF100505HQR22 □T		220.0	8	3.70	100	50	450	100
MVHF100505HQR27 □T		270.0	8	4.50	100	50	400	100
MVHF100505HQR33 □T		330.0	6	5.00	50	50	350	80
MVHF100505HQR36 □T		360.0	6	6.00	50	50	300	80

□Represents inductance tolerance: Ls<6.8nH, □Please select "B/C/S" level, Ls≥6.8nH, □Please select "H/J" level; B ($\pm 0.1nH$), C ($\pm 0.2nH$), S ($\pm 0.3nH$), H ($\pm 3\%$), J ($\pm 5\%$) level.

Explain:

MVHF100505HQ series products have no compensation value, that is, the product test center value is equal to the nominal value of the product.

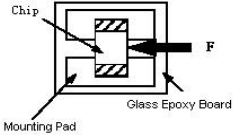
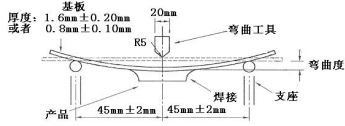
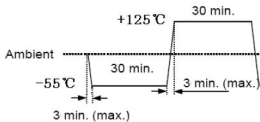
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(4)Reliability Testing Items

No.	Items	Requirements	Test Methods and Remarks
1	Operating Temperature Range	-55℃~+125℃	
2	Solder ability	At least 95% of terminal electrode should be covered with solder	Preheating temperature:120℃ to 150℃ Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: 245±5℃ Immersion tin depth:10mm Duration : 5±1s Dip performance to a flux of about:3 ~ 5 s
3	Resistance to Soldering	At least 95% of terminal electrode should be covered with solder. No mechanical damage. Inductance : H : change within ±10% Q value change(ceramic): within ±20%	Preheating temperature: 120℃ to 150℃ Preheating time: 60s Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder. Solder temperature: 260℃±5℃ Immersion tin depth:10mm Duration : 10±1s Dip performance to a flux of about:3 ~ 5 s
4	Adhesion of electrode	The termination and body should be no damage.	Applied force: 5N force for 1005 series. Keep time : 10±1S 
5	Low temperature resistance	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	Temperature: -55±2℃ +24 Testing time: 1000 ⁰ h
6	Bending strength	No mechanical damage	Testing board: glass epoxy-resin substrate For 0.5 mm/s compression speed, curvature: 2mm, hold time 20s±1s 
7	Vibration	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	Amplitude modulation: 1.5mm Test time: A period of 2h in each of 3 mutually perpendicular directions. Frequency range: 10Hz to 55Hz to 10Hz for 1min.
8	High temperature resistance	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	+24 Testing time: 1000 ⁰ h Temperature: 125℃±2℃
9	Static Humidity	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	Humidity: 90% to 95% RH Temperature: 60℃±2℃ +24 Testing time: 1000 ⁰ h
10	High temperature load	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	impose current: at room +24 Testing time: 1000 ⁰ h Temperature: 125℃±2℃
11	Temperature Shock	No mechanical damage. Inductance change: within ±10% Q value change(ceramic): within ±20%	Temperature: -55℃ for 30±3min +125℃ for 30±3min Number of cycles: 100 
Note: When there are questions concerning, measurement shall be made after 24±2hrs of recovery under the standard condition.			

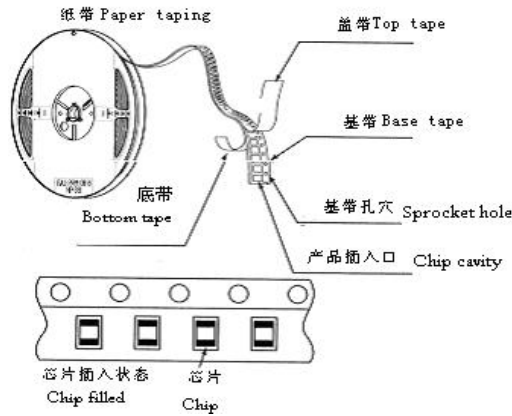
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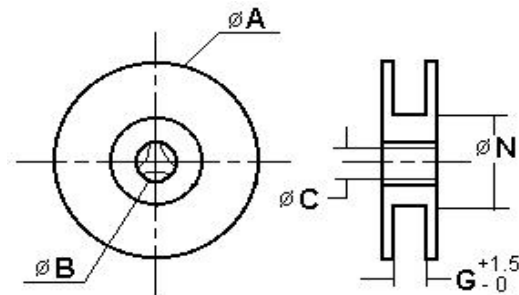
(5)Packaging

5-1,Taping drawings

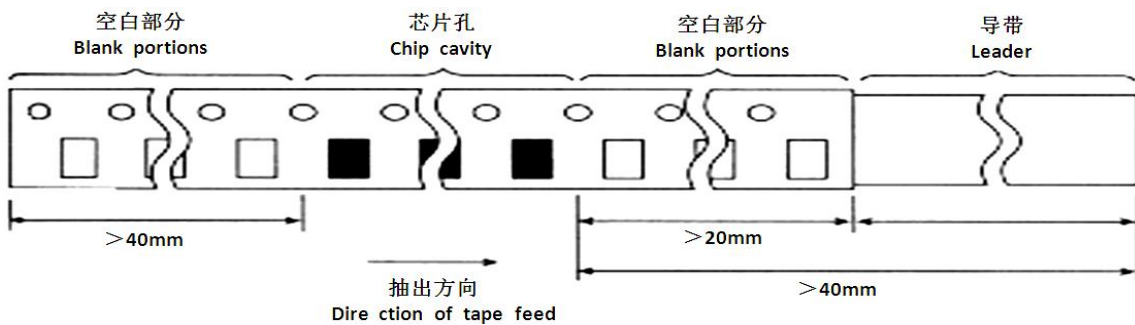


5-2,Reel dimensions (Unit: mm)

Size	A	B	C	N	G
CF-8	178±2.0	22.0±2.0	12.5±1.5	57±2.0	8

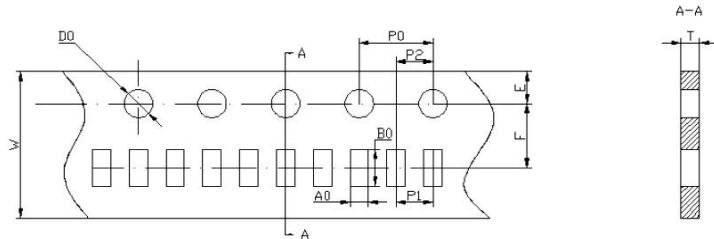


5-3,Leader and blank portion



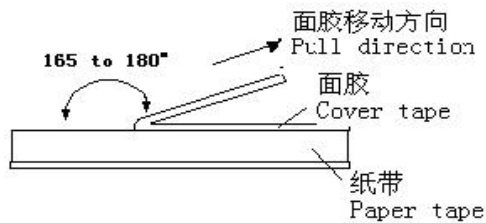
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5-4, Taping dimensions (Unit: mm)
· Paper tape



Size	A0	B0	W	F	E	P1	P2	P0	D0	T
100505	0.65±0.1	1.15±0.1	8.0±0.2	3.5±0.1	1.75±0.2	2.0±0.1	2.0±0.1	4.0±0.2	1.55±0.1	0.60±0.1

5-5, Peeling off force



- ① Peeling force should be 0.1~0.7N pulling in the direction of arrow.
- ② Speed of peeling off: 300mm/min.
- ③ The cover bond should not be damaged and bond the tape when it peeled off.

5-6, Packaging number (Unit: Pcs)

Size	100505
REEL	10000
BOX	100000
CASE	600000

5-7, Label stick station



(6) Recommend Soldering Conditions

6-1, Soldering Conditions

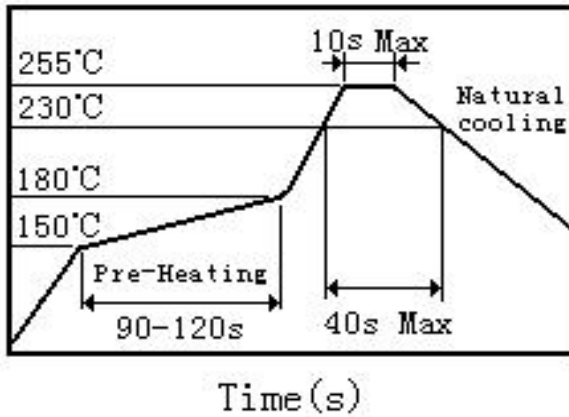
Products can be applied to reflow soldering.

① Soldering conditions

·Pre-heating should be in such a way that the temperature difference between solder and ferrite surface is limited to 150℃ max. Also cooling into solvent after soldering should be in such way that the temperature difference is limited to 100℃ max. Un-enough pre-heating may cause cracks on the ferrite, resulting in the deterioration of product quality.

·Products should be soldered within the following allowable range indicated by the slanted line. The excessive soldering conditions may cause the corrosion of the electrode. When soldering is repeated, allowable time is the accumulated time.

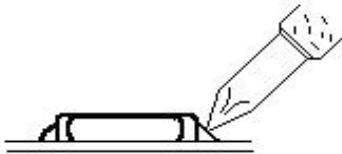
6-2,Reflow soldering profile



6-3,Iron soldering

Perform soldering at 350°C on 30W max.

Soldering Time: < 5S (Take care not to apply the tip of the soldering iron to the terminal electrodes)



(7)Cleaning

7-1,Cleaning Conditions

Cleaning temperature : 60°C max

Cleaning time: 1 minute min.

Ultrasonic output power: 200W max

(8)Storage Requirements

8-1,Storage period

Products which inspected inductor company over 1 year ago should be examined and used, which can be confirmed with inspection No. marked on the container. Solder ability should be checked if this period is exceeded.

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8-2,Storage conditions

(1)Products should be storage in the warehouse on the following conditions:

Temperature : -10~+40℃ Humidity: 30~70% relative humidity

(2)Don't keep products in corrosive gases such as sulfur, chlorine gas or acid,oxidization of Electrodes resulting in poor solder ability.

(3)Products should be stored on the palette for the prevention of the influence from humidity, dust and so on.

(4)Products should be stored in the warehouse without heat shock, vibration, direct sunlight and so on.

(5)Products should be stored under the airtight packaged condition.

(9)Usage Of ODS

For ODS listed below , we don't use in process.

ODS: CCl4, HCFC, etc.

(10)Notes

(1) If the parcel label on product is "Unitary lead free" that indicate the products in accord with ROHS appointed requests.

(2) This product specification guarantees the quality of our product as a single unit, Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.

(3) We can't warrant against failure caused by any use of our product that deviates from the intended use as described in this product specification.

单击下面可查看定价，库存，交付和生命周期等信息

[>>ASDI](#)