

规格书编号

**SPEC NO : HDDB05NSSB11SP01**

# 产品规格书

# SPECIFICATION

CUSTOMER 客户: \_\_\_\_\_

PRODUCT 产品: \_\_\_\_\_ SAW DUPLEXER \_\_\_\_\_

MODEL NO 型号: \_\_\_\_\_ HDDB05NSS-B11 \_\_\_\_\_

MARKING 印字: \_\_\_\_\_ B078 \_\_\_\_\_

PREPARED 编制: \_\_\_\_\_ CHECKED 审核: \_\_\_\_\_

APPROVED 批准: \_\_\_\_\_ D A T E 日期: \_\_\_\_\_ 2016-1-10 \_\_\_\_\_

客户确认 CUSTOMER RECEIVED:		
审核 CHECKED	批准 APPROVED	日期 DATE

无锡市好达电子有限公司  
Shoulder Electronics Limited

Factory Address: NO. 115, Gaoyun Road, Binhu Economic & Technology Development Area, Wuxi, Jiangsu, China. Tel: 86-510-85629111  
Country of origin: China

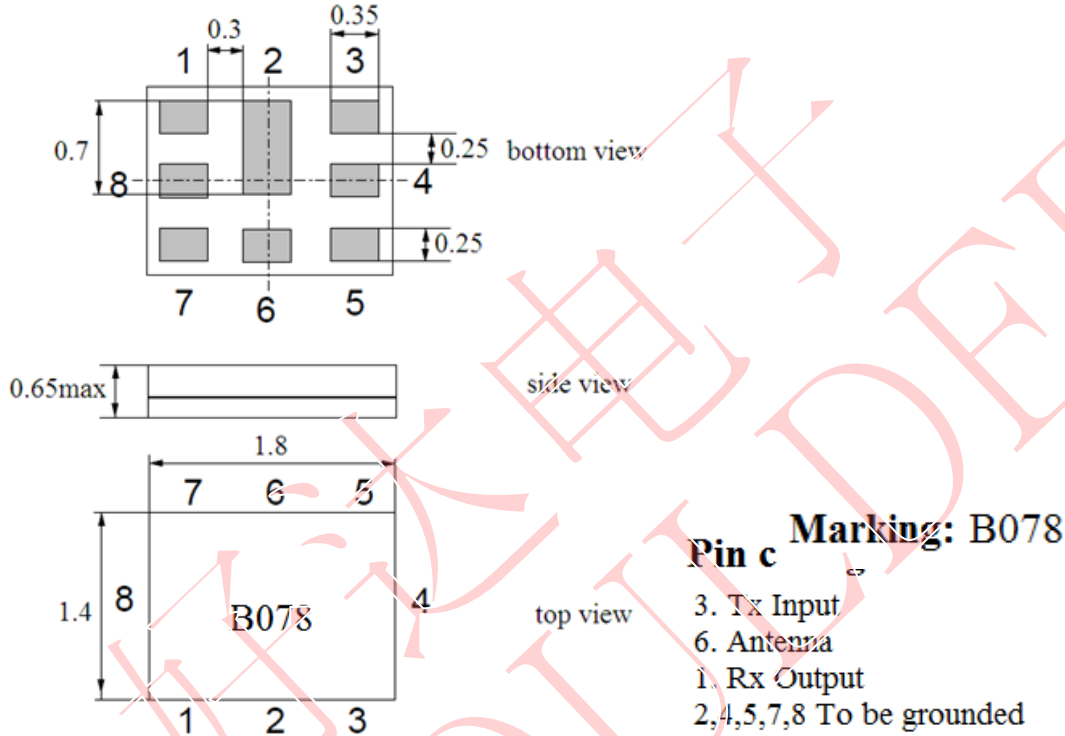
更改历史记录  
History Record

更改日期 Date	规格书编号 Spec. No.	产品型号 Part No.	客户产品型号 Customer No.	更改内容描述 Modify Content	备注 Remark
2015-7-29	SP00	HDDB05NSS -B11		The new specification	
2016-1-10	SP01	HDDB05NSS -B11		Complete specifications. Add product application, reliability and other information. Add downlink power.	

**1. Application**

- Low-loss Saw duplexer for mobile telephone LTE and WCDMA Band V systems.
- Low insertion attenuation and low passband ripple.
- Usable passband 25MHz
- High isolation between Tx and Rx.
- RoHS compatible

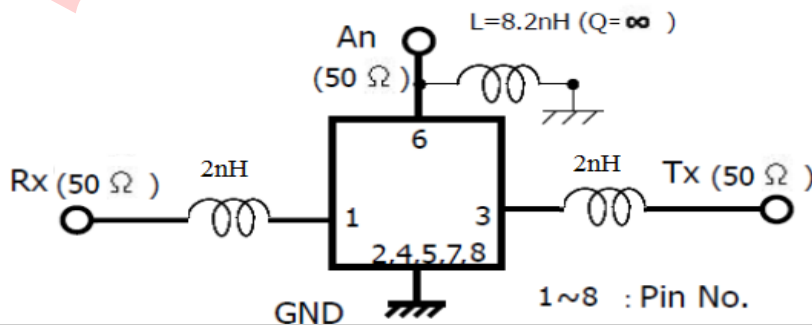
**2. DIMENSION (PKG SIZE 1.8 x 1.4 x 0.65mm)**



**3. Maximum Rating**

Items	Conditions
Operation temperature rang	-30℃ ~ +85℃
Storage temperature rang	-40℃ ~ +85℃
ESD voltage	ESD(MM) : 50VDC
Sensitive discharge device	ESD(HBM) : 175VDC
DC Voltage VDC	3V (25+/-2 deg.C)
Moisture Sensitivity Level	MSL 2

**4. TEST CIRCUIT**



## 5. ELECTRICAL SPECIFICATION

**Table1. Electrical Specification**

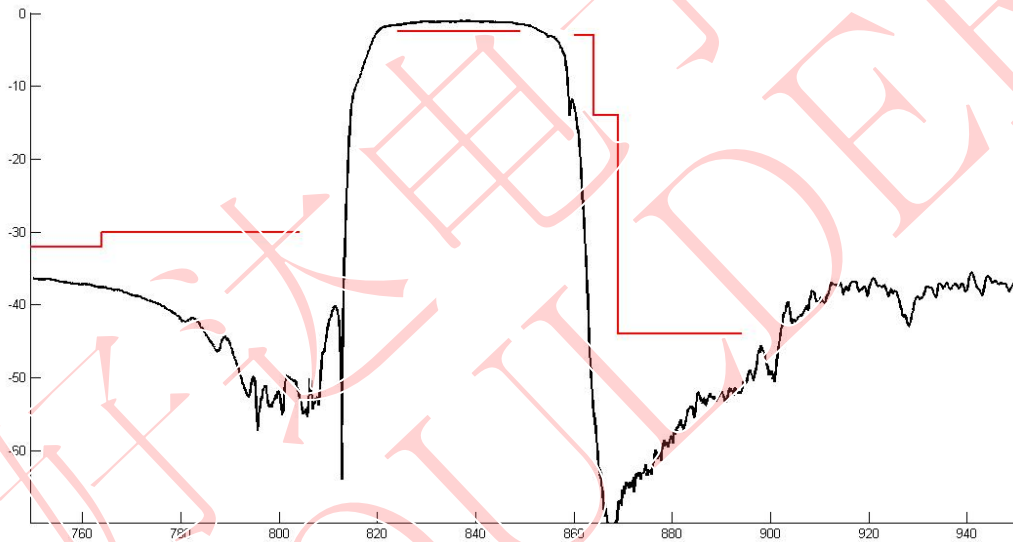
Item		Condition (MHz)	Specification			Unit	
			Min	Typ	Max		
TX to ANT	Insertion loss		824~849	-	1.7	2.5	dB
	Amplitude ripple		824~849	-	0.6	1.5	dB
	VSWR	ANT	824~849	-	1.3	2	-
		Tx		-	1.4	2	-
	Input Power		824~849	+29dBm Ta=+50°C 5000h,CW			-
	Absolute attenuation		10~420	35	43	-	dB
			420~494	35	40	-	dB
			494~764	32	35	-	dB
			764~804	30	37	-	dB
			860~864	3	10	-	dB
			864~869	14	35	-	dB
			869~894	44	50	-	dB
			1559~1708	39	42	-	dB
			1844.9~1919.6	40	47	-	dB
			1930~1990	44	49	-	dB
			2110~2170	44	47	-	dB
			2400~2547	36	39	-	dB
			3286~3406	30	35	-	dB
4110~4255	20	35	-	dB			
4900~5950	24	30	-	dB			
ANT to RX	Insertion loss		869~894	-	1.8	2.6	dB
	Amplitude ripple		869~894	-	0.5	1.5	dB
	VSWR	ANT	869~894	-	1.4	2.0	-
		Rx		-	1.2	2.0	-
	Absolute attenuation		10~447	50	60	-	dB
			447~824	50	58	-	dB
			824~849	45	58	-	dB
			849~854	30	55	-	dB
			909~920	10	20	-	dB
			920~979	25	35	-	dB
			979~1710	45	52	-	dB
			1710~1785	50	53	-	dB
1785~1980			45	53	-	dB	
1980~2500			40	50	-	dB	
2517~5364	40	48	-	dB			

**Table2. Electrical Specification**

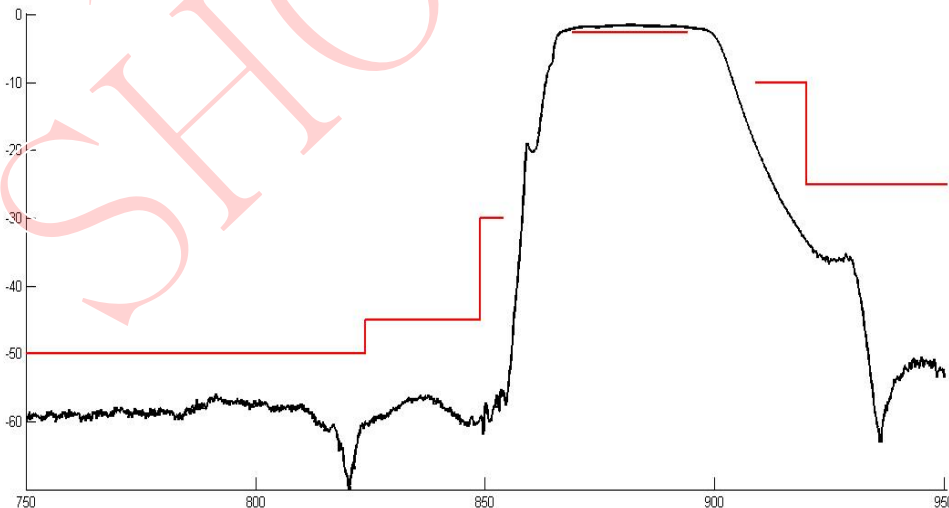
Item		Condition (MHz)	Specification			Unit
			Min	Typ	Max	
TX to RX	Isolation	824~849	55	60	-	dB
		869~894	50	53	-	dB
		1574~1577	40	55	-	dB
		1638~1708	20	50	-	dB
		2462~2557	20	50	-	dB
Terminating Impedance		Tx port	50ohm+2nH			
		Rx port	50ohm+2nH			
		Ant port	50ohm//8.2nH			
Operating Temperature			-30 to +85 °C			

**6. Typical frequency response**

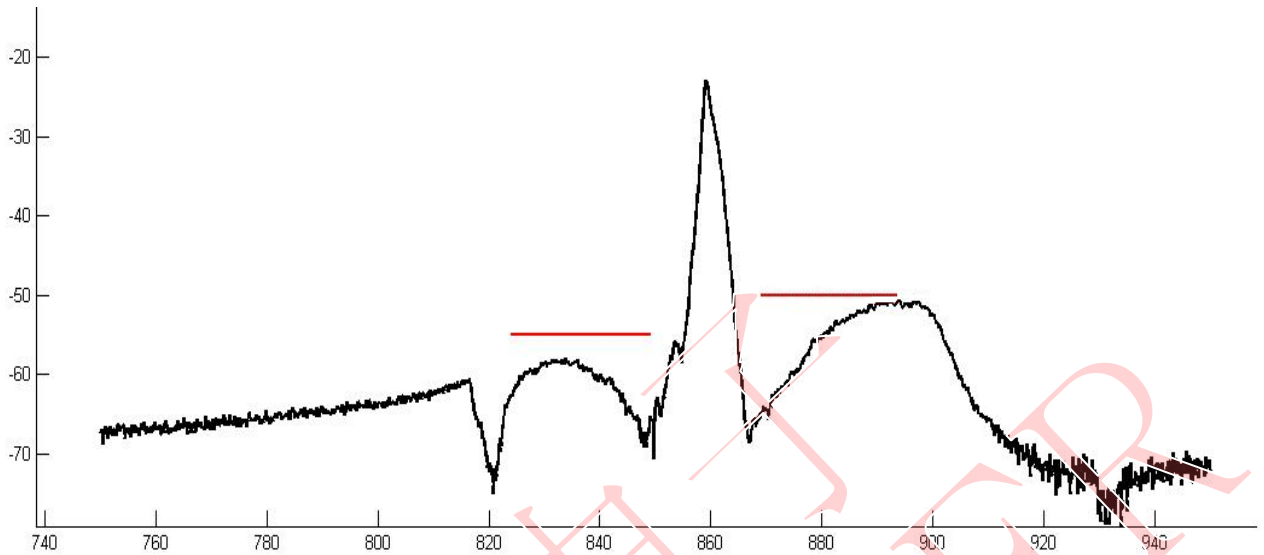
**Tx to Ant**



**Ant to Rx**



**Tx to Rx Isolation**



**7. ENVIRONMENTAL CHARACTERISTICS**

**7.1 High temperature exposure**

Subject the device to +85°C for 16 hours. Then release the filter into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in 5.

**7.2 Low temperature exposure**

Subject the device to -40°C for 16 hours. Then release the device into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in 5.

**7.3 Temperature cycling**

Subject the device to a low temperature of -40°C for 30 minutes. Following by a high temperature of +85°C for 30 Minutes. Then release the device into the room conditions for 24 hours prior to the measurement. It shall meet the specifications in 5.

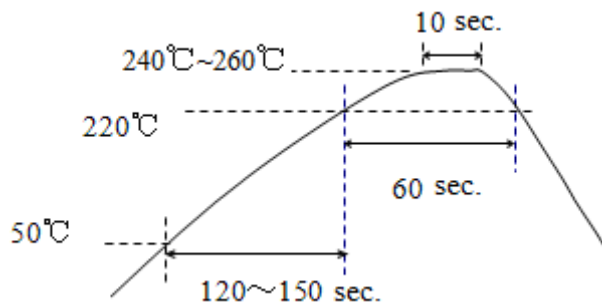
**7.4 Resistance to solder heat**

- 1、immerge the solder bath at 260°C for 10 sec.
- 2、 the iron at 370°C for 3 sec

**7.5 Solderability**

Submerge the device terminals into the solder bath at 245°C ±5°C for 5s, More than 95% area of the soldering pad must be covered with new solder. It shall meet the specifications in 5.

**7.6 Reflow soldering**



The specimen shall be passed through the reflow furnace with the condition shown in the above profile for 1 time.

The specimen shall be stored at standard atmospheric conditions for 1h, after which the measurement shall be made. Test board shall be 1.6 mm thick. Base material shall be glass fabric base epoxy resin.

**7.7 Mechanical shock**

Drop the device randomly onto the concrete floor from the height of 1m 3 times. the device shall fulfill the specifications in 5.

**7.8 Vibration**

Subject the device to the vibration for 1 hour each in x,y and z axes with the amplitude of 1.5 mm at 10 to 55 Hz. The device shall fulfill the specifications in 5.

**8. REMARK**

**8.1 Static voltage**

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

**8.2 Ultrasonic cleaning**

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning

**8.3 Soldering**

Only pad component may be soldered. Please avoid soldering another part of component.

**9. Packing**

**9.1 Dimensions**

(1) Carrier Tape: Figure 1

(2) Reel: Figure 2

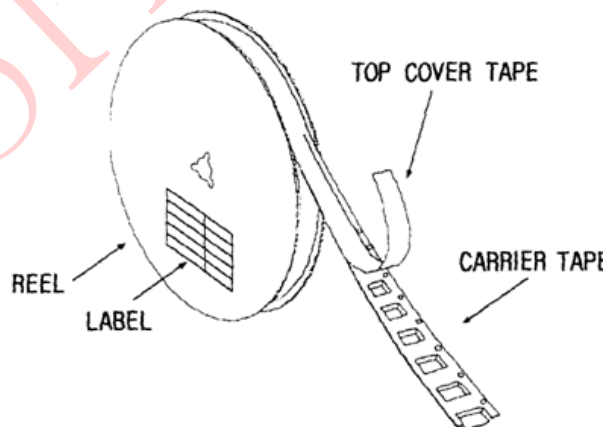
(3) The product shall be packed properly not to be damaged during transportation and storage.

**9.2 Reeling Quantity**

10000 pcs/reel     $\phi$  257.5mm

**9.3 Taping Structure**

(1) The tape shall be wound around the reel in the direction shown below.

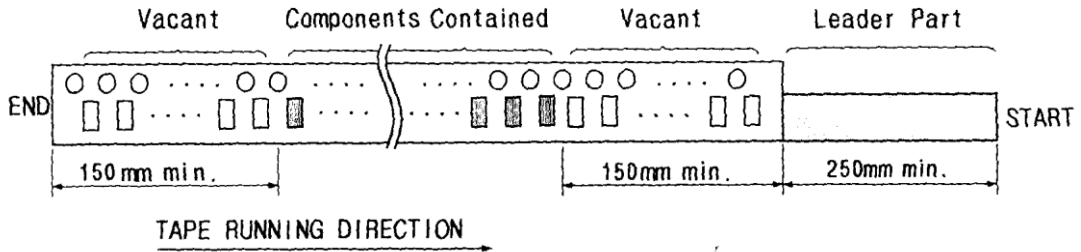


(2) Label

Device Name	
-------------	--

Marking	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.

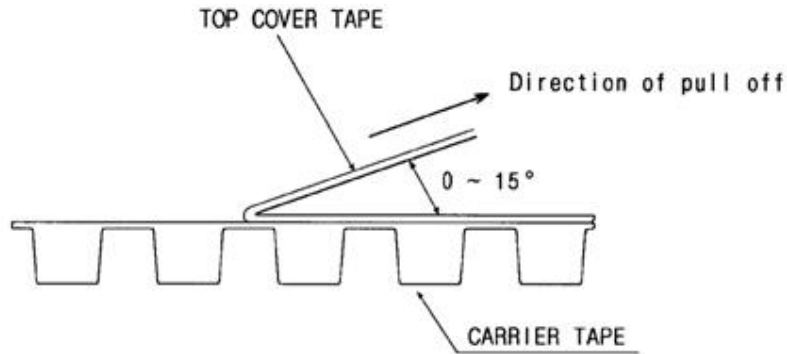


### 10. TAPE SPECIFICATIONS

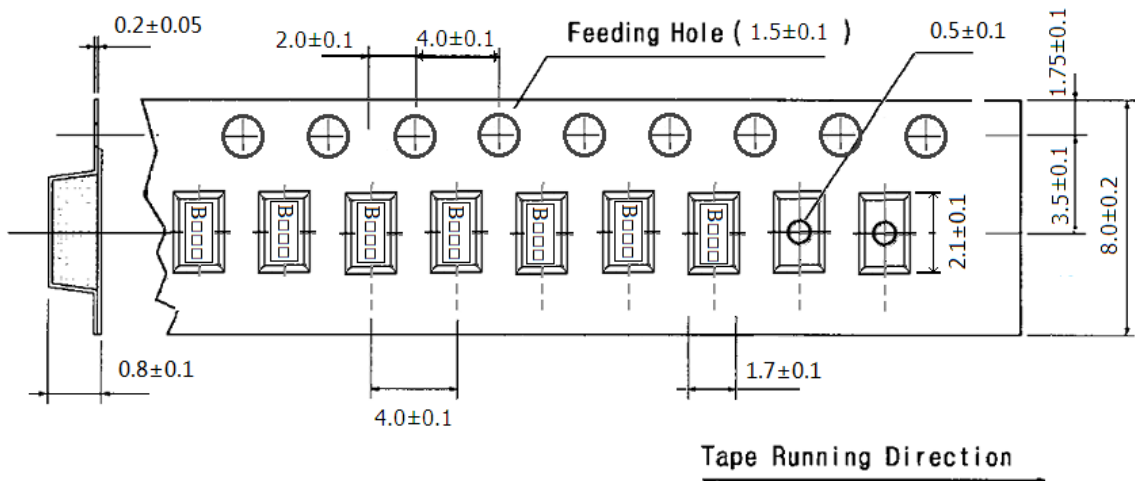
10.1 Tensile Strength of Carrier Tape: 4.4N/mm width

10.2 Top Cover Tape Adhesion (See the below figure)

- (1) pull off angle: 0~15°
- (2) speed: 300mm/min.
- (3) force: 20~70g

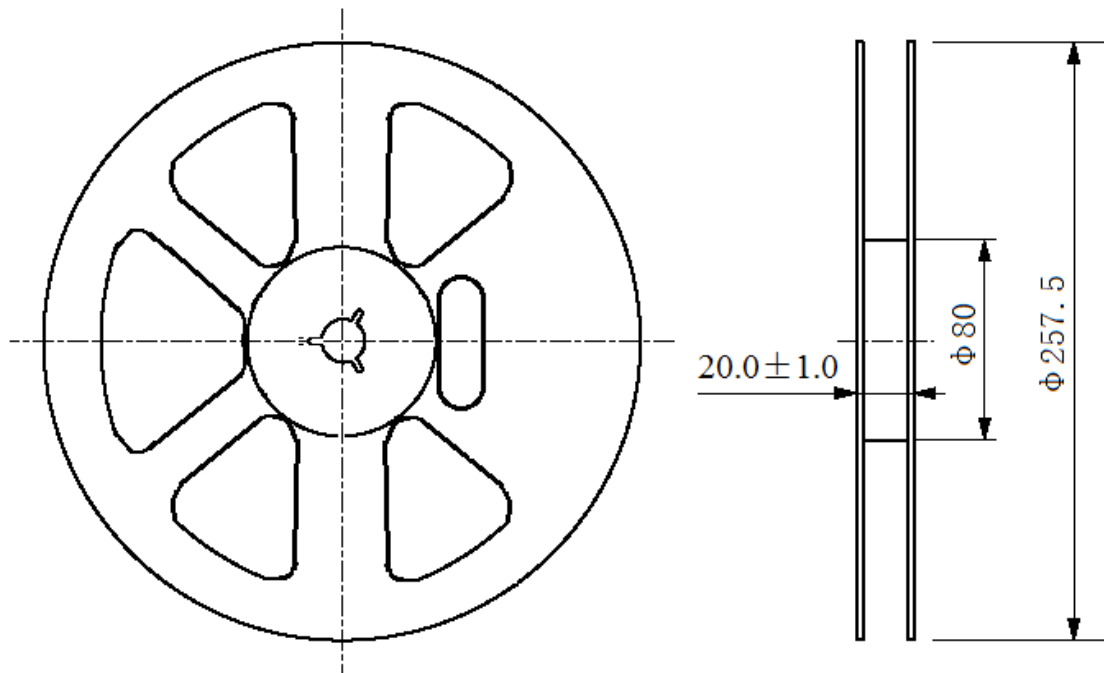


[Figure 1] Carrier Tape Dimensions





[Figure 2] 10000 pcs/reel  $\phi$  257.5mm



$\phi$  257.5 Reel Dimension

(in mm)