

规格书编号

**SPEC NO : HDDB01NSBB11SP01**

# 产品规格书

# SPECIFICATION

CUSTOMER 客户: \_\_\_\_\_  
PRODUCT 产品: \_\_\_\_\_ SAW DUPLEXER \_\_\_\_\_  
MODEL NO 型号: \_\_\_\_\_ HDDB01NSB -B11 \_\_\_\_\_  
MARKING 印字: \_\_\_\_\_ B080 \_\_\_\_\_  
PREPARED 编制: \_\_\_\_\_ CHECKED 审核: \_\_\_\_\_  
APPROVED 批准: \_\_\_\_\_ DATE 日期: \_\_\_\_\_ 2016-3-31 \_\_\_\_\_

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

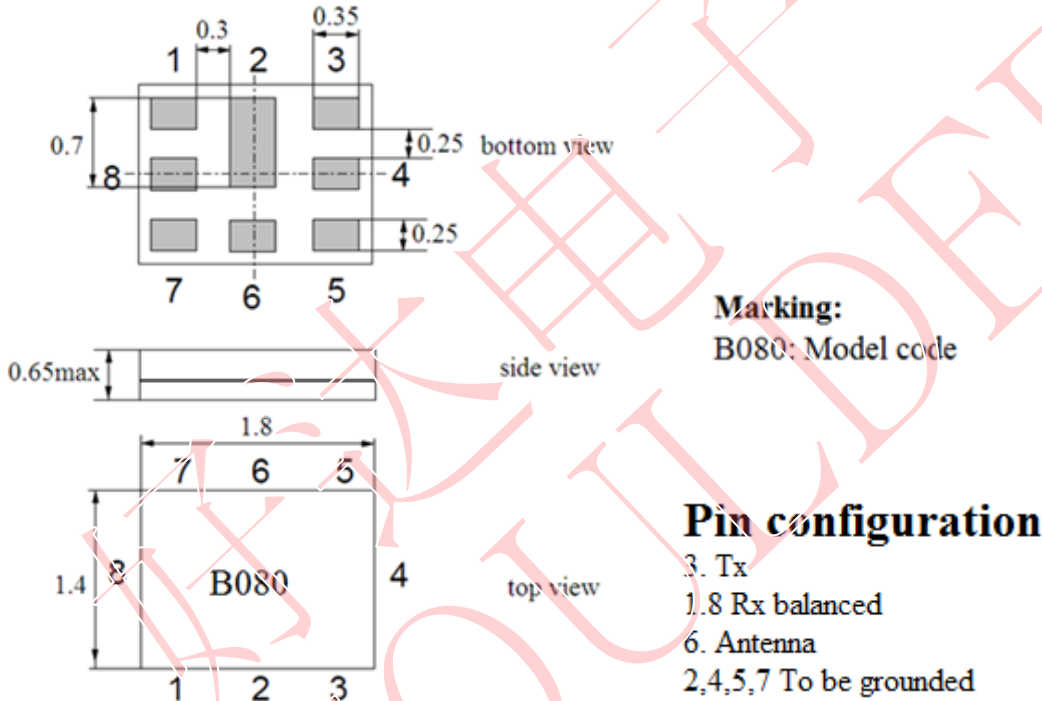
## 更改历史记录 History Record

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
2015-7-28	SP00	HDDB01NSB -B11		The new specification	
2016-3-31	SP01	HDDB01NSB -B11		Complete specifications. Add product application, reliability and other information.	

**1. Application**

- Low-loss Saw duplexer for mobile telephone LTE and WCDMA Band1 systems.
- Low insertion attenuation and low passband ripple.
- Usable passband 60MHz
- High isolation between Tx and Rx.
- RoHS compatible

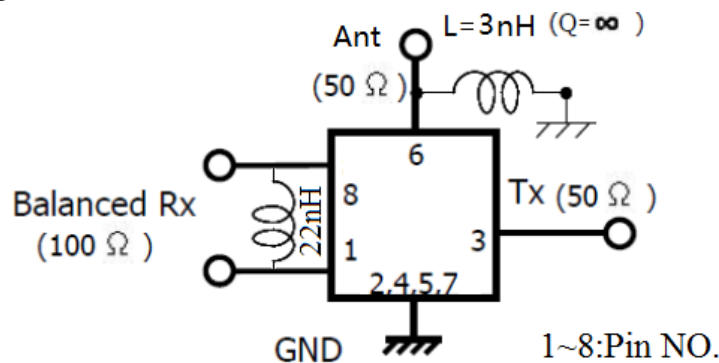
**2. DIMENSION (PKG SIZE 1.8 x 1.4 x 0.6mm)**



**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**

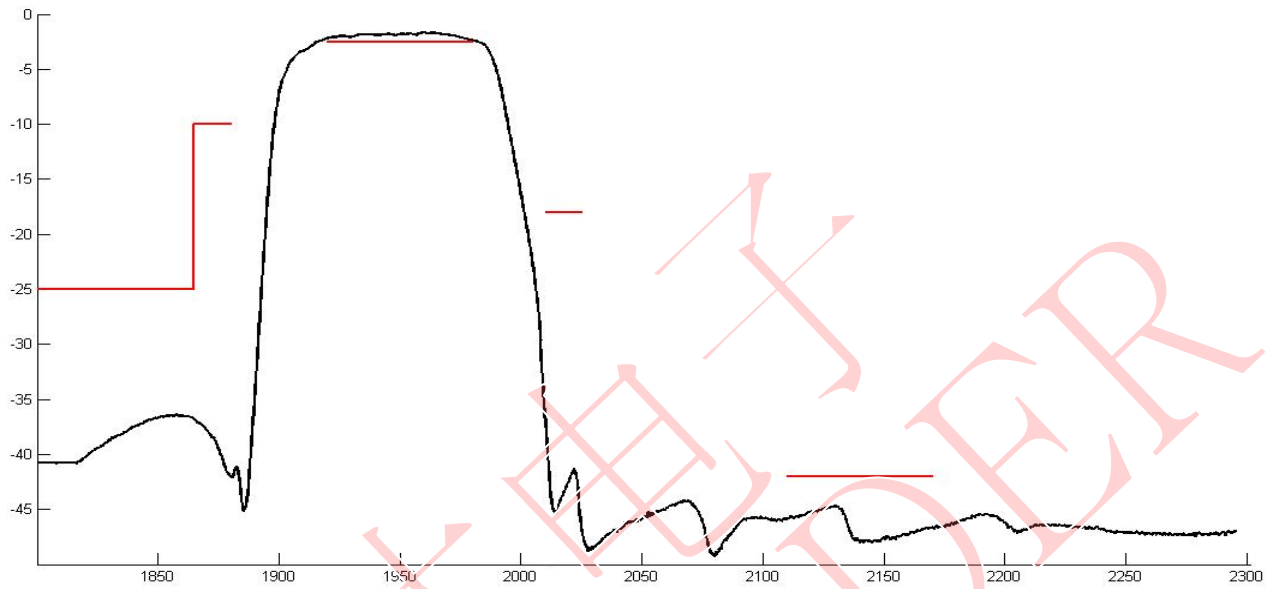
Item		Condition (MHz)	Specification			Unit	
			Min	Typ	Max		
TX to ANT	Insertion loss	1920~1980		2.0	2.5	dB	
	Pass band ripple	1920~1980	-	0.5	1.0	dB	
	VSWR	ANT	1920~1980	-	1.6	2.0	-
		Tx		-	1.6	2.0	-
	Input Power		1920~1980	+29dBm Ta=+50°C 5000h,CW			-
	Absolute attenuation		420~494	44	53	-	dB
			843~894	40	43	-	dB
			1566~1574	38	42	-	dB
			1574~1605	40	43	-	dB
			1605~1865	25	36	-	dB
			1865~1880	10	37	-	dB
			2010~2025	18	25	-	dB
			2110~2170	42	47	-	dB
			2400~2500	33	36	-	dB
		2620~2690	30	33	-	dB	
	3840~3960	26	33	-	dB		
	5150~5940	18	22	-	dB		
ANT to RX	Insertion loss	2110~2170	-	2.0	2.5	dB	
	Pass band ripple	2110~2170		0.3	1.0	dB	
	VSWR	ANT	2110~2170	-	1.6	2.0	-
		Rx		-	1.6	2.0	-
	Absolute attenuation		1920~1980	45	58	-	dB
			1980~2025	27	37	-	dB
		2250~2400	15	44	-	dB	
		2400~2484	30	45	-	dB	
	2484~6000	35	45	-	dB		

**Table2. Electrical Specification**

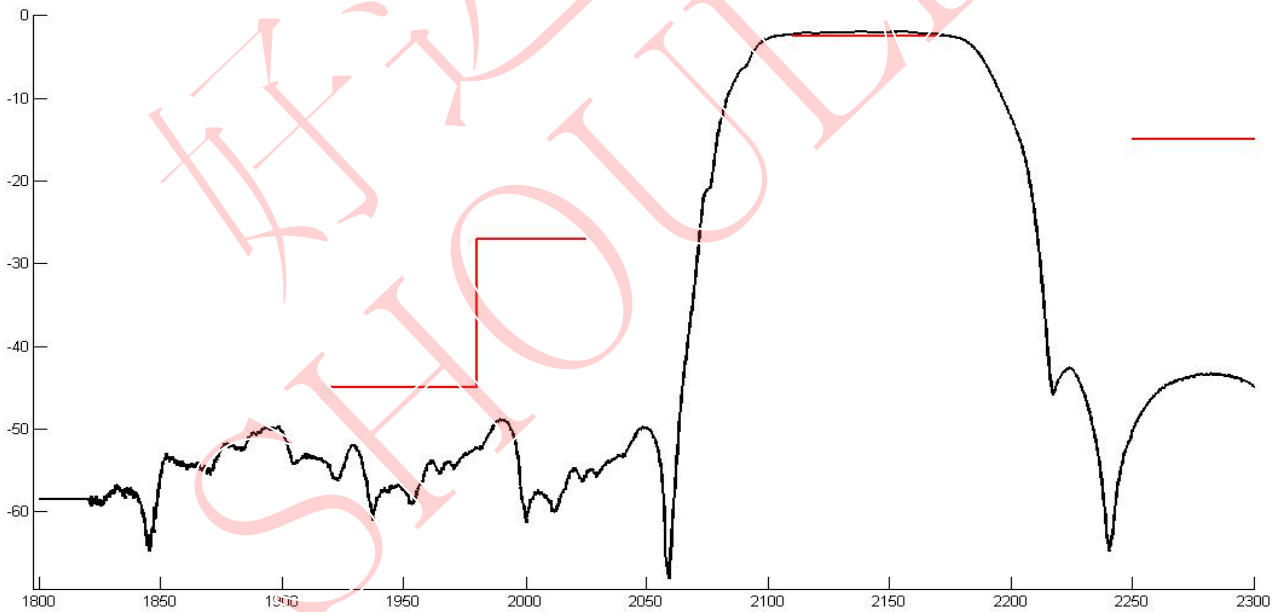
Item		Condition (MHz)	Specification			Unit
			Min	Typ	Max	
TX to RX	Isolation	1920~1980	55	57	-	dB
		2110~2170	50	57	-	dB
Terminating Impedance	Tx port	50Ω				
	Rx port	100Ω (balanced)//22nH				
	Ant port	50Ω //3.0nH				
Operating Temperature		-30 to +85°C				

## 6. Typical frequency response

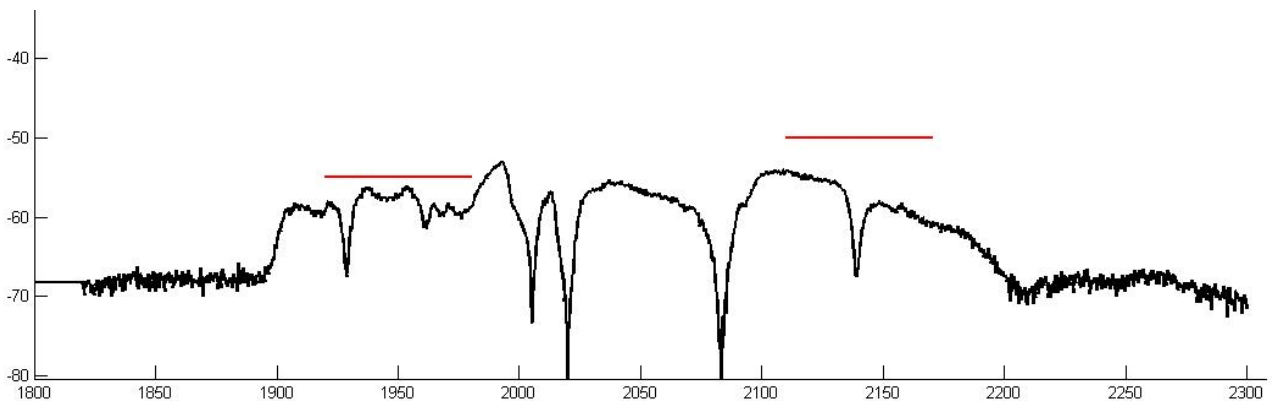
Tx to Ant



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.

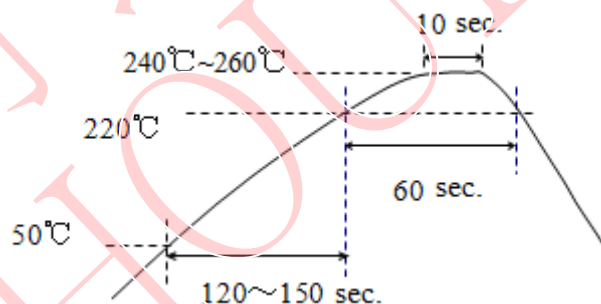
### 7.4 Resistance to solder heat

- 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 solded. Please avoid soldering another part of component.

**9. Packing**

9.1 Dimensions

(1) Carrier Tape: Figure 1

(2) Reel: Figure 2

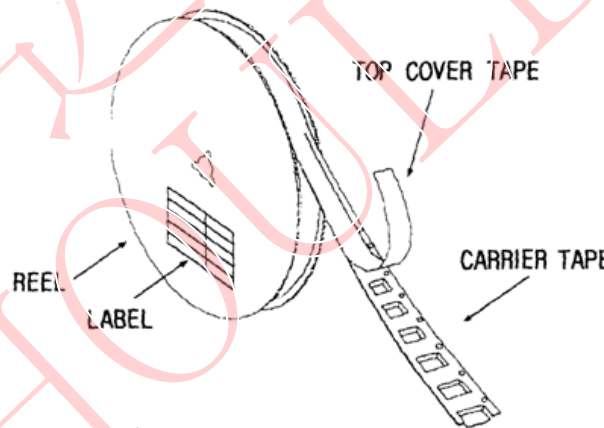
(3) The product shall be packed properly not to be damaged during transportation and storage.

9.2 Reeling Quantity

10000 pcs/reel     $\phi$  257.5mm

9.3 Taping Structure

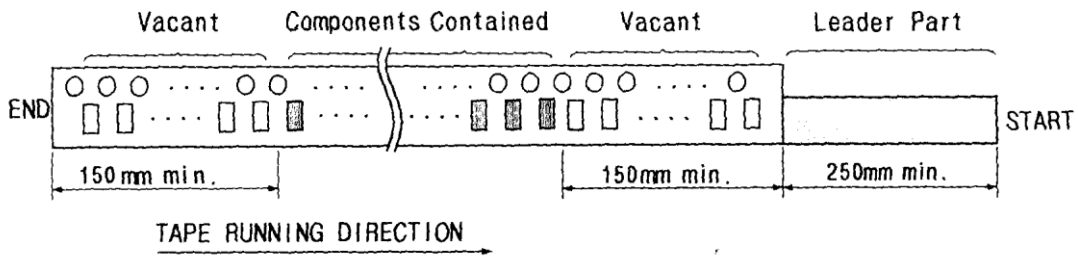
(1) The tape shall be wound around the reel in the direction shown below.



(2) Label

Device Name	
Marking	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.

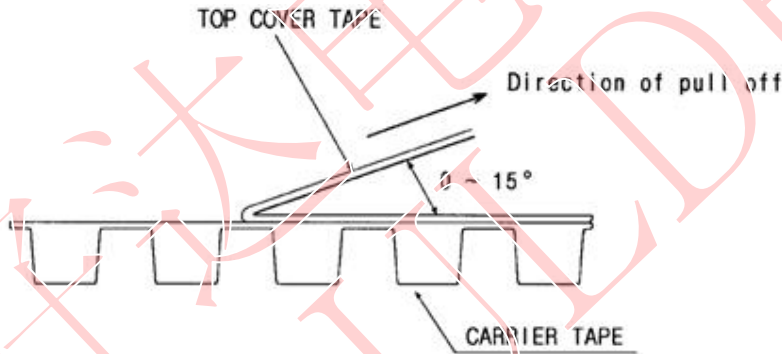


**10. TAPE SPECIFICATIONS**

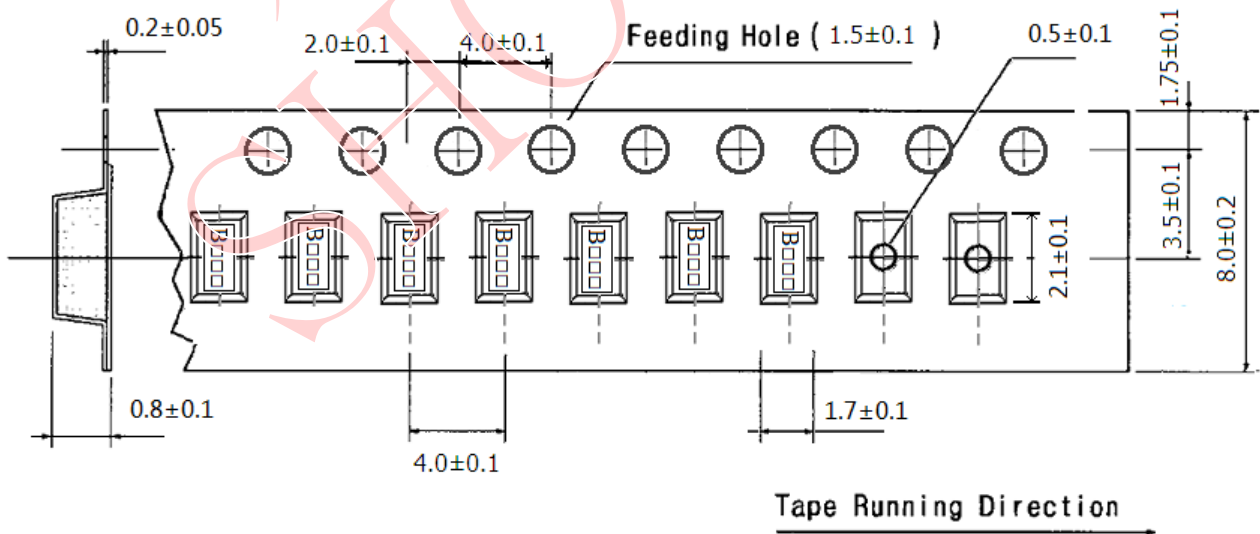
10.1 Tensile Strength of Carrier Tape: 4.4N/mm width

10.2 Top Cover Tape Adhesion (See the below figure)

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

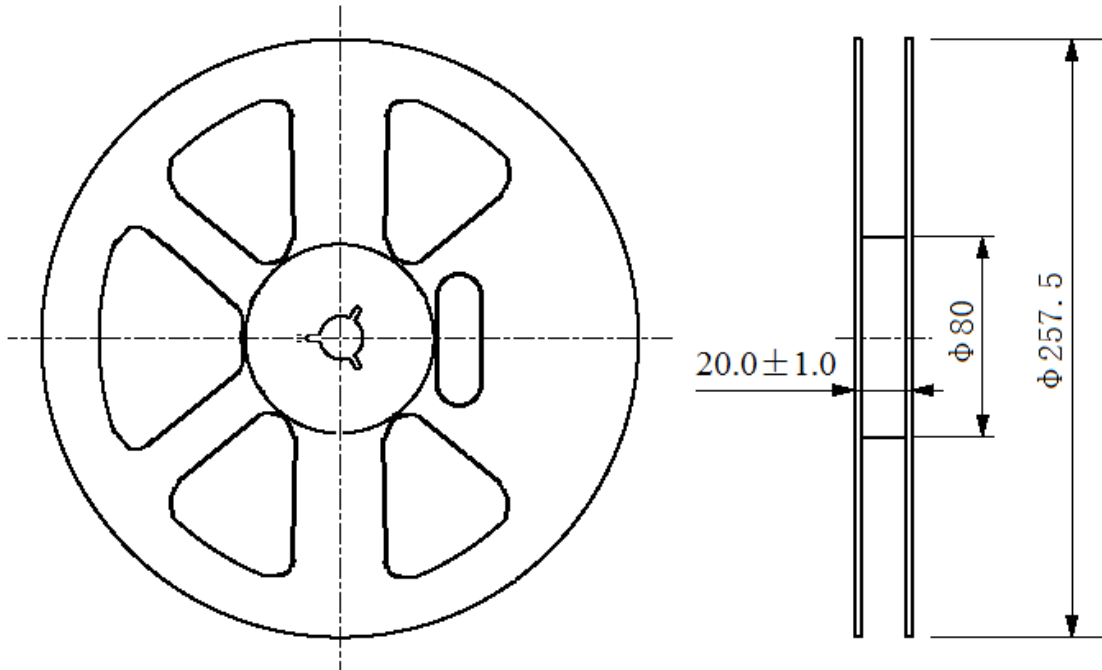


**[Figure 1] Carrier Tape Dimensions**





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



$\phi$  257.5 Reel Dimension

(in mm)