

规格书编号

**SPEC NO : HDDB05NSBP4SP01**

# 产品规格书

# SPECIFICATION

CUSTOMER 客户: \_\_\_\_\_

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

MODEL NO 型号: \_\_\_\_\_ HDDB05NSB-P4 \_\_\_\_\_

MARKING 印字: \_\_\_\_\_ HD C008 \_\_\_\_\_

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

APPROVED 批准: \_\_\_\_\_ D A T E 日期: \_\_\_\_\_ 2016-5-3 \_\_\_\_\_

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

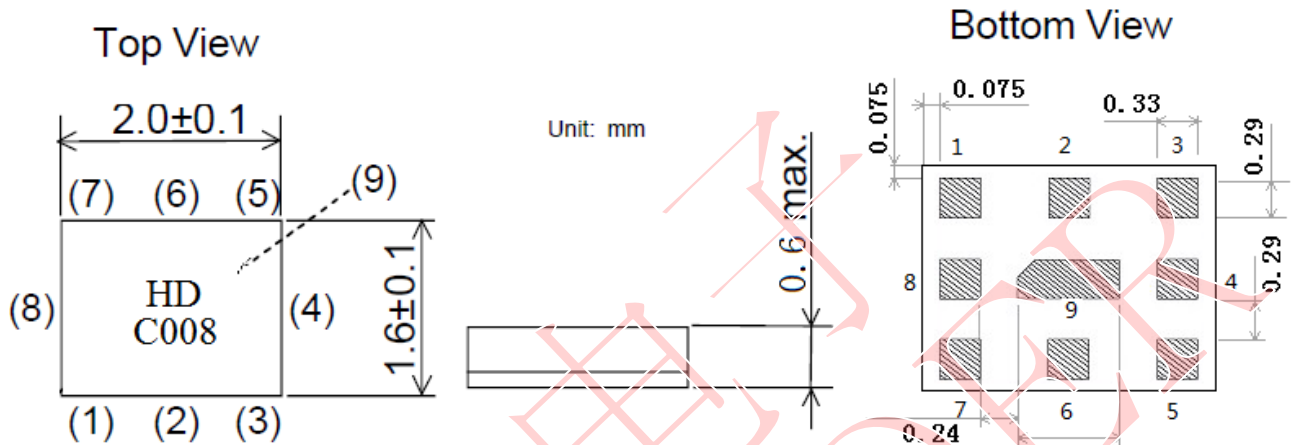
Factory Address: NO. 115, Gaoyun Road, Binhu Economic & Technology Development Area, Wuxi, Jiangsu, China. Tel: 86-510-85629111  
Country of origin: China



**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.
- Single ended to balanced transformation in Antenna - Rx path
- RoHS compatible

**2. DIMENSION (PKG SIZE 2.0 x 1.6 x 0.6mm)**



**Marking:**  
 HD: Brand  
 C008 : Model code

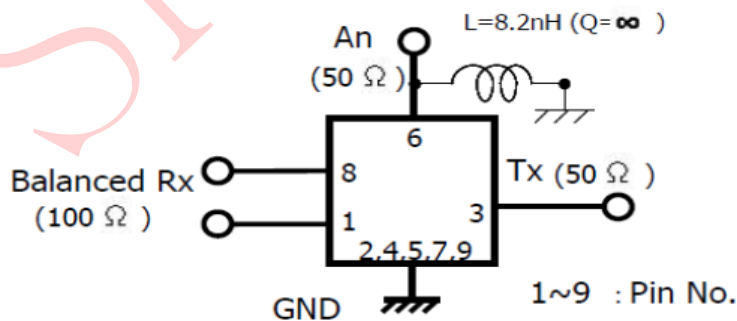
**Pin configuration**

- 3. Tx
- 1,8 Rx balanced
- 6. Antenna
- 2,4,5,7 To be grounded

**3. Maximum Rating**

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

**4. TEST CIRCUIT**



## 5. ELECTRICAL SPECIFICATION

**Table1. Electrical Specification**

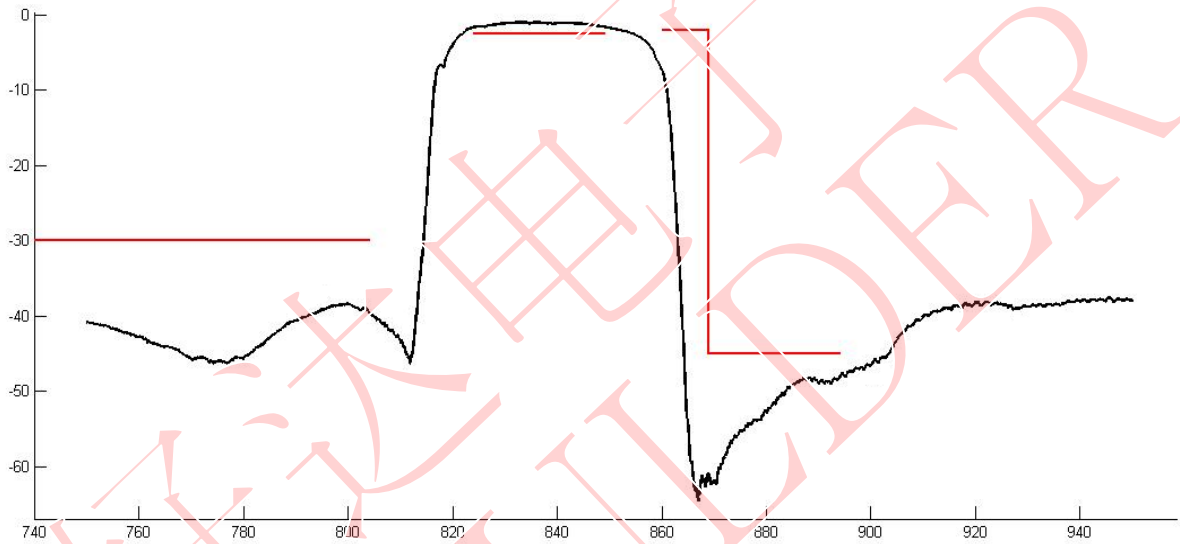
Item		Condition (MHz)	Specification			Unit	Remarks
			Min	Typ	Max		
TX to ANT	Insertion loss		824~849	-	1.7	2.5	dB
	VSWR	ANT	824~849	-	1.7	2	-
		Tx			-	1.9	2.2
	Input Power		824~849	+29dBm Ta=+50°C 5000h,CW			-
	Absolute attenuation		10~420	30	42	-	dB
			420~494	35	40	-	dB
			494~804	30	36	-	dB
			860~869	2	8	-	dB
			869~894	45	53	-	dB
			1574~1577	43	50	-	dB
			1638~1708	35	46	-	dB
			1844.9~1990	30	39	-	dB
			2110~2170	27	37	-	dB
			2400~2557	25	33	-	dB
			3285~3406	20	31	-	dB
		4110~4255	5	14	-	dB	
		4934~5350	3	8	-	dB	
	5725~5953	3	12	-	dB		
ANT to RX	Insertion loss		869~894	-	1.8	2.7	dB
	Phase balance		869~894	-10	-1/+2	10	deg
	Amplitude balance		869~894	-1.0	-0.2/+0.1	1	dB
	VSWR	ANT	869~894	-	1.8	2.1	-
		Rx			-	1.6	2.0
	Absolute attenuation		0.2~447	45	85	-	dB
			447~824	30	60	-	dB
			824~849	50	60	-	dB
			849~854	10	54	-	dB
			909~1000	10	18	-	dB
		1000~1850	35	60	-	dB	
		1850~1920	40	60	-	dB	
	1920~4480	35	46	-	dB		

**Table2. Electrical Specification**

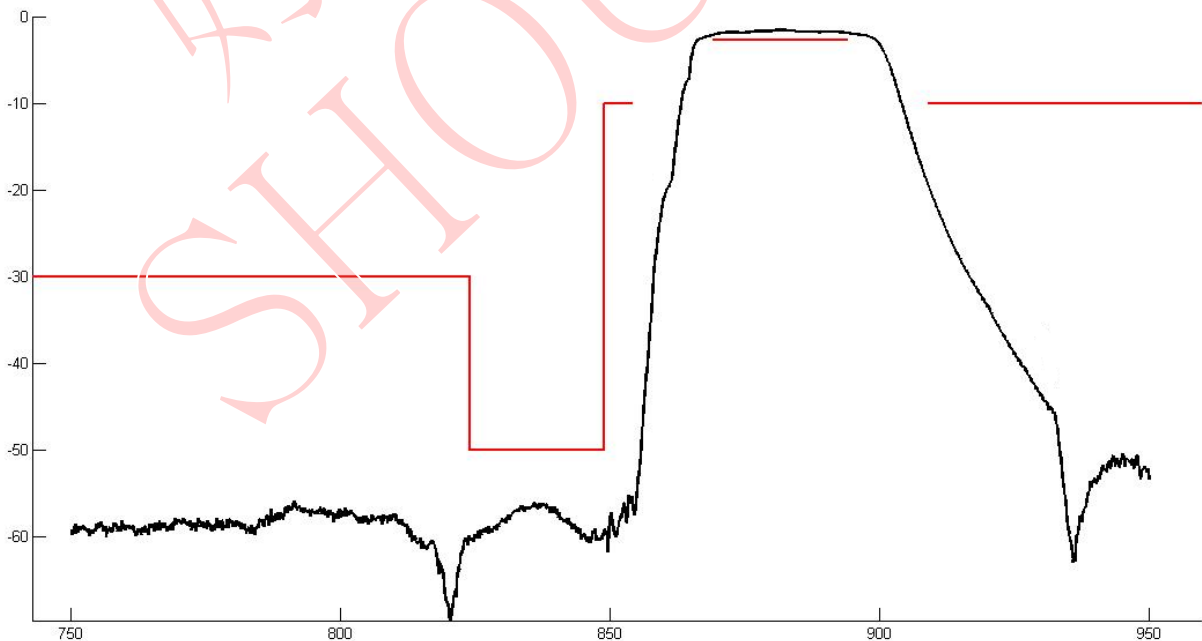
Item		Condition (MHz)	Specification			Unit	Remarks
			Min	Typ	Max		
TX to RX	Isolation	824~849	52	55	-	dB	
		869.7~893.37	48	53	-	dB	
Terminating Impedance		Tx port	50			Ohm	Single-ended
		Rx port	100			Ohm	Differential
		Ant port	50//8.2nH			Ohm	Single-ended
Operating Temperature			-30 to +85			oC	

**6. Typical frequency response**

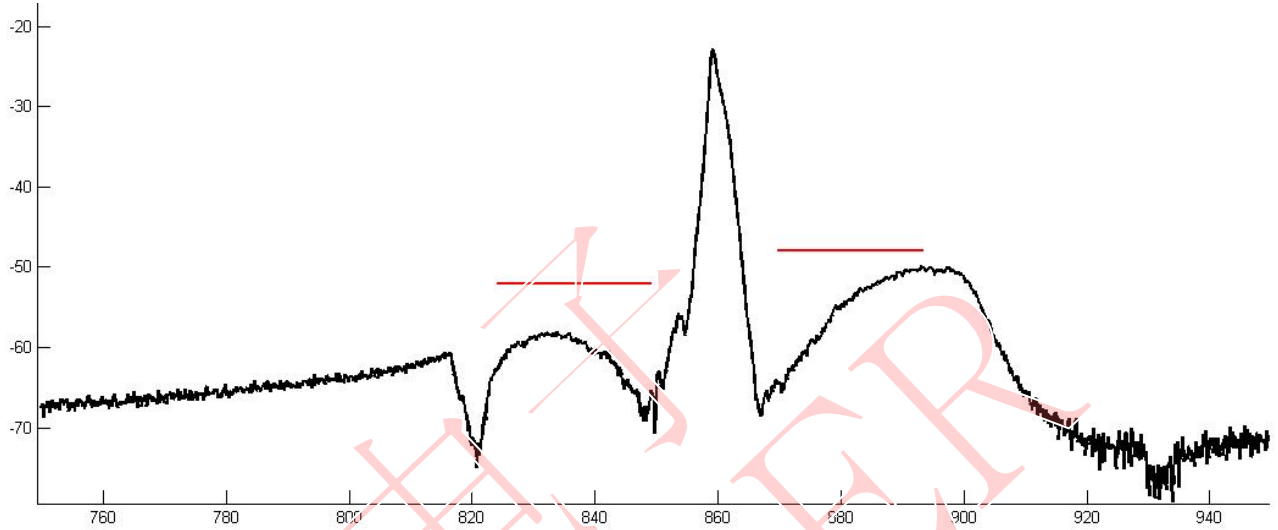
**Tx to Ant**



**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.

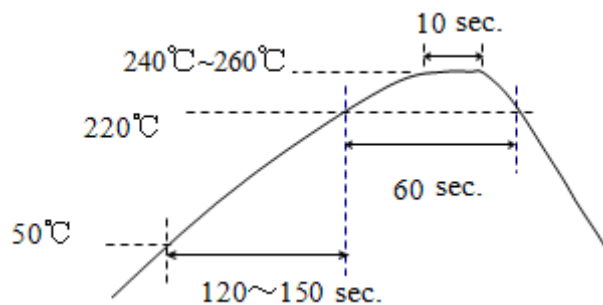
**7.4 Resistance to solder heat**

- 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

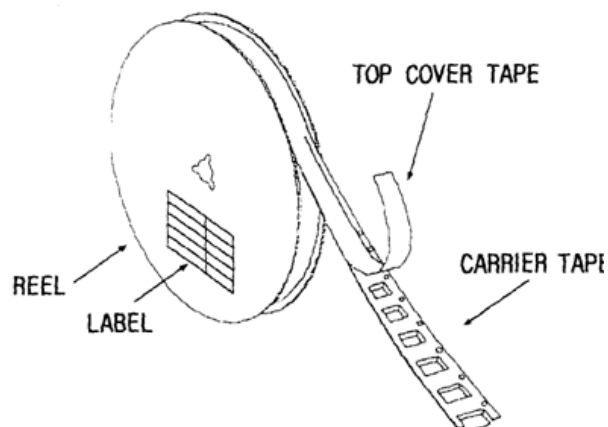
(3) The product shall be packed properly not to be damaged during transportation and storage.

#### 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.

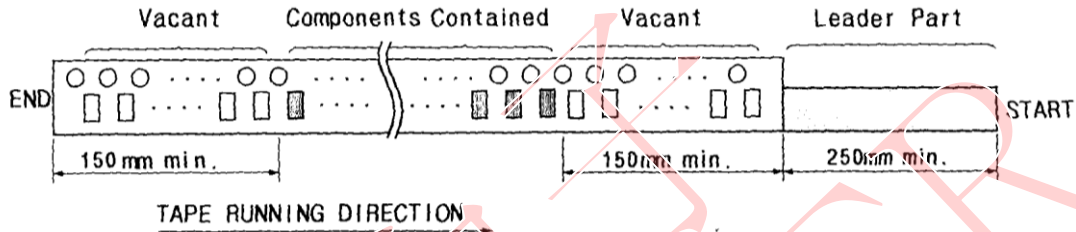


(2) Label

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

Marking	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.

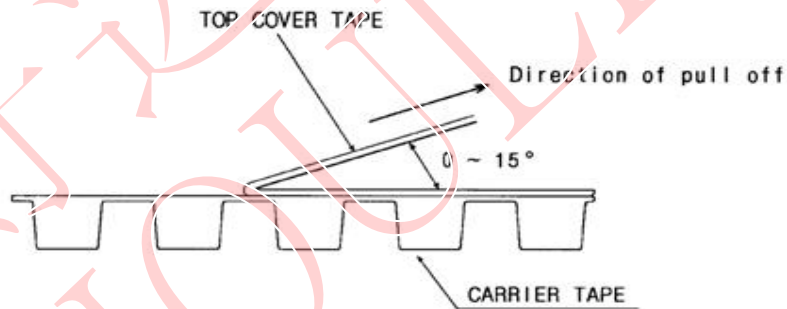


**10. TAPE SPECIFICATIONS**

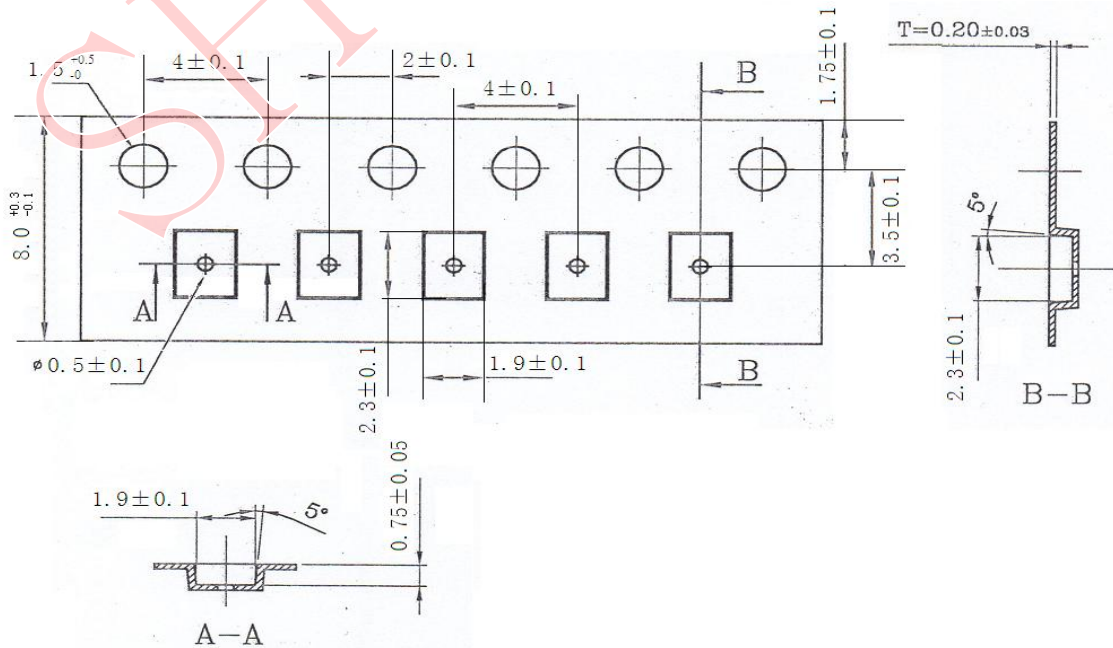
10.1 Tensile Strength of Carrier Tape: 4.4N/mm width

10.2 Top Cover Tape Adhesion (See the below figure)

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

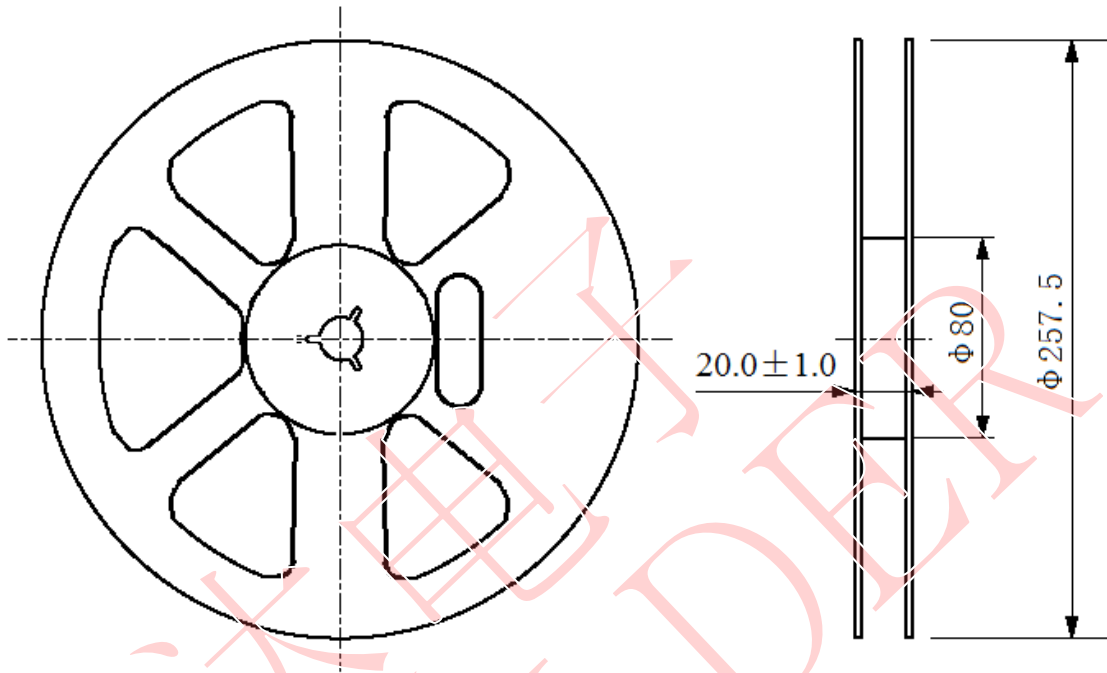


**[Figure 1] Carrier Tape Dimensions**





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



$\phi$  257.5 Reel Dimension

(in mm)