

规格书编号

**SPEC NO : HDDB20NSBB11SP01**

# 产品规格书

# SPECIFICATION

CUSTOMER 客户: \_\_\_\_\_  
PRODUCT 产品: \_\_\_\_\_ SAW DUPLEXER \_\_\_\_\_  
MODEL NO 型号: \_\_\_\_\_ HDDB20NSB-B11 \_\_\_\_\_  
MARKING 印字: \_\_\_\_\_ B175 \_\_\_\_\_  
PREPARED 编制: \_\_\_\_\_ CHECKED 审核: \_\_\_\_\_  
APPROVED 批准: \_\_\_\_\_ DATE 日期: \_\_\_\_\_ 2016-10-17 \_\_\_\_\_

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

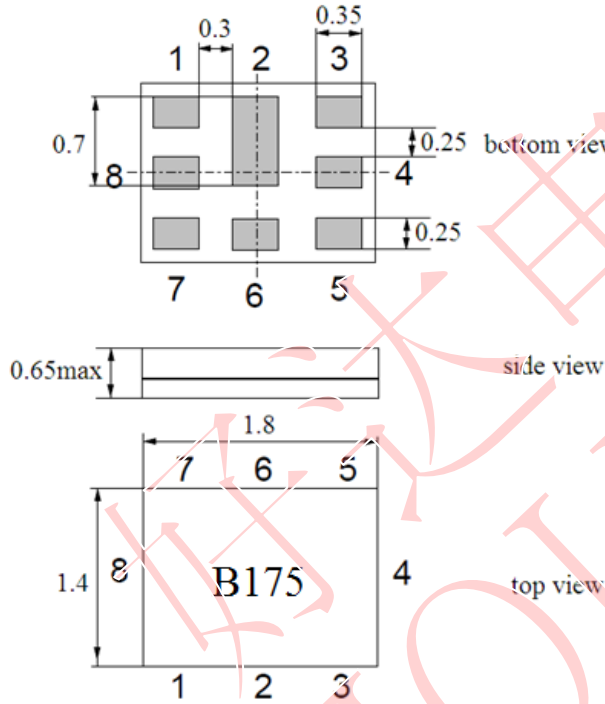
Factory Address: NO. 115, Gaoyun Road, Binhu Economic & Technology Development Area, Wuxi, Jiangsu, China. Tel: 86-510-85629111  
Country of origin: China



**1. Application**

- Low-loss Saw duplexer for LTE Band 20 systems
- Usable passband 30MHz
- High isolation between Tx and Rx.
- Single ended to balanced transformation in Antenna - Rx path
- RoHS compatible

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



**Marking: B057**

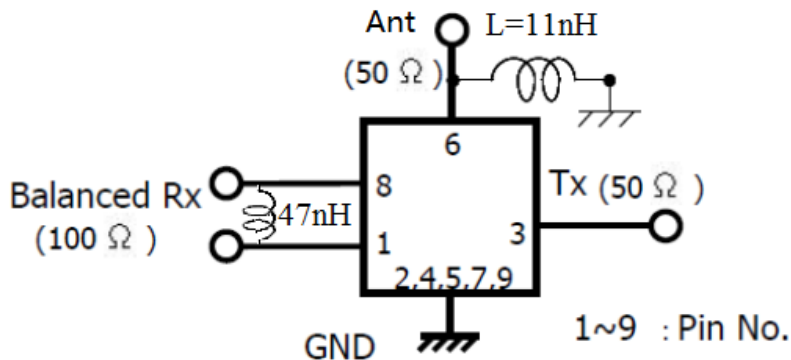
**Pin configuration**

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

**3. Maximum Rating**

Items	Conditions
Operation temperature rang	-30℃ ~ +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

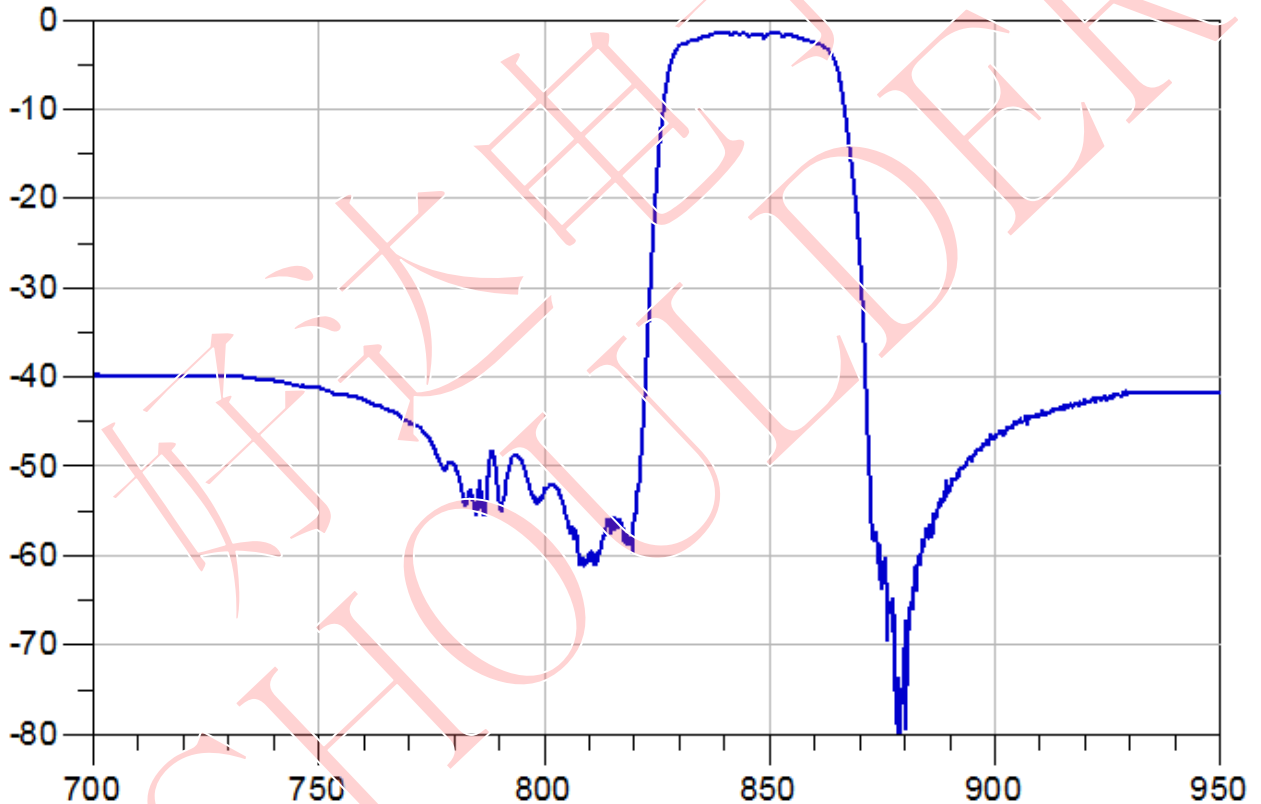
**Table1. Electrical Specification**

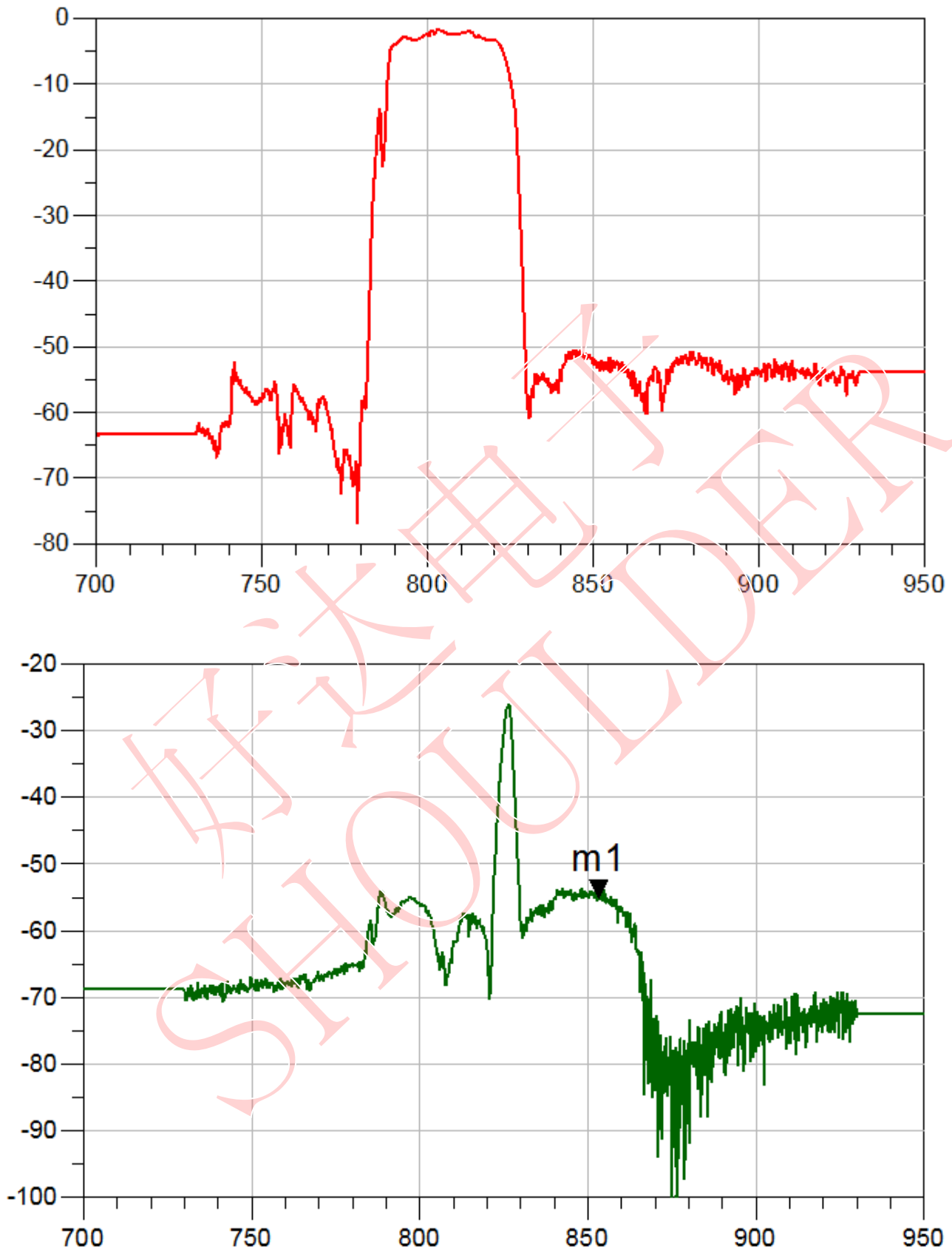
Item		Condition (MHz)	Specification			Unit	
			Min	Typ	Max		
TX to ANT	Center frequency		-	847	-	MHz	
	Insertion loss	832~862	-	2.6	3.0	dB	
	Amplitude ripple	832~862	-	1.2	2.0		
	VSWR	ANT	832~862	-	1.6	2.0	-
		Tx		-	1.6	2.0	-
	Input Power	832~862	+29dBm Ta=+50°C 5000h,CW			-	
	Absolute attenuation	10~771	35	38	-	dB	
		771~791	35	45	-	dB	
		791~821	45	50	-	dB	
		873~903	13	35	-	dB	
		925~960	30	40	-	dB	
		1565~1606	40	45	-	dB	
		1664~2170	35	45	-	dB	
		2400~2620	33	38	-	dB	
2620~2690		35	50	-	dB		
3328~3448		35	42	-	dB		
4000~6000	13	18	-	dB			
ANT to RX	Center frequency		-	806	-	MHz	
	Insertion loss	791~821	-	2.7	3.6	dB	
	Pass band ripple	791~821	-	1.2	2.5	dB	
	VSWR	ANT	791~821	-	1.7	2.0	-
		Rx		-	1.8	2.2	-
	Absolute attenuation	10~770	45	55	-	dB	
		770~782	10	45	-	dB	
		832~833.5	35	60	-	dB	
		833.5~862	50	52	-	dB	
		873~903	40	52	-	dB	
1623~1683		45	55	-	dB		
2400~2545		45	50	-	dB		
2545~4000		45	55	-	dB		
4000~6000	30	35	-	dB			

**Table2. Electrical Specification**

Item		Condition (MHz)	Specification			Unit	Remarks
			Min	Typ	Max		
TX to RX	Isolation	791~821	50	55	-	dB	
		832~834	40	55	-	dB	
		834~862	52	55	-	dB	
Terminating Impedance		Tx port	50Ω			Ohm	Single-ended
		Rx port	100Ω (balanced)//47nH			Ohm	Differential
		Ant port	50//11nH			Ohm	Single-ended
Operating Temperature			-15 to +85			oC	

**6. Typical frequency response**





## 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**

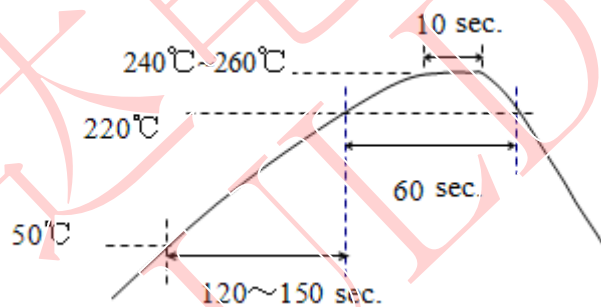
Subject the device to a low temperature of -40°C for 30 minutes. Following by a high temperature of +85°C for 30 Minutes. Then release the device into the room conditions for 24 hours prior to the measurement. It shall meet the specifications in 5.

**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  $\pm$  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

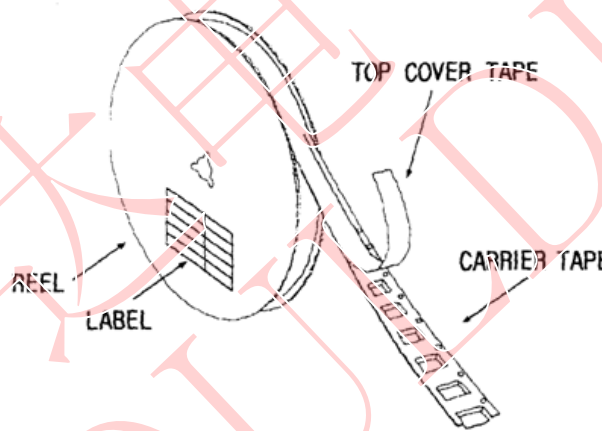
(3) The product shall be packed properly not to be damaged during transportation and storage.

9.2 Reeling Quantity

10000 pcs/reel  $\phi$  257.5mm

9.3 Taping Structure

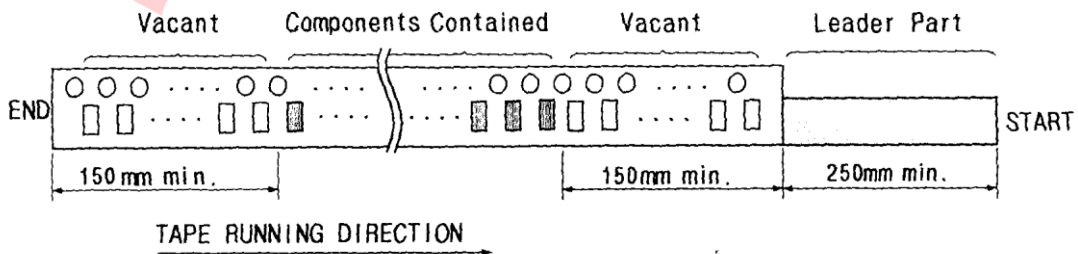
(1) The tape shall be wound around the reel in the direction shown below.



(2) Label

Device Name	
Marking	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.



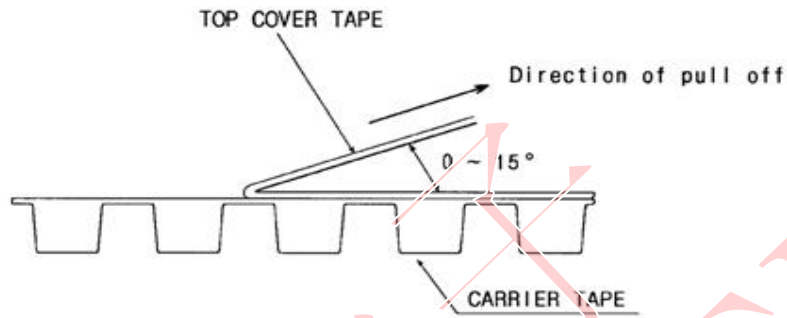
**10. TAPE SPECIFICATIONS**

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

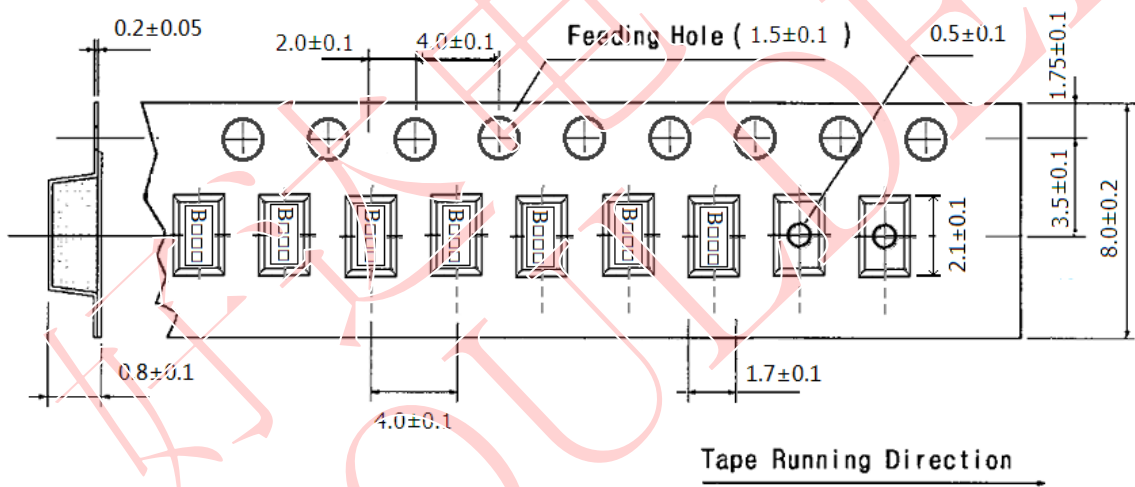
10.2 Top Cover Tape Adhesion (See the below figure)



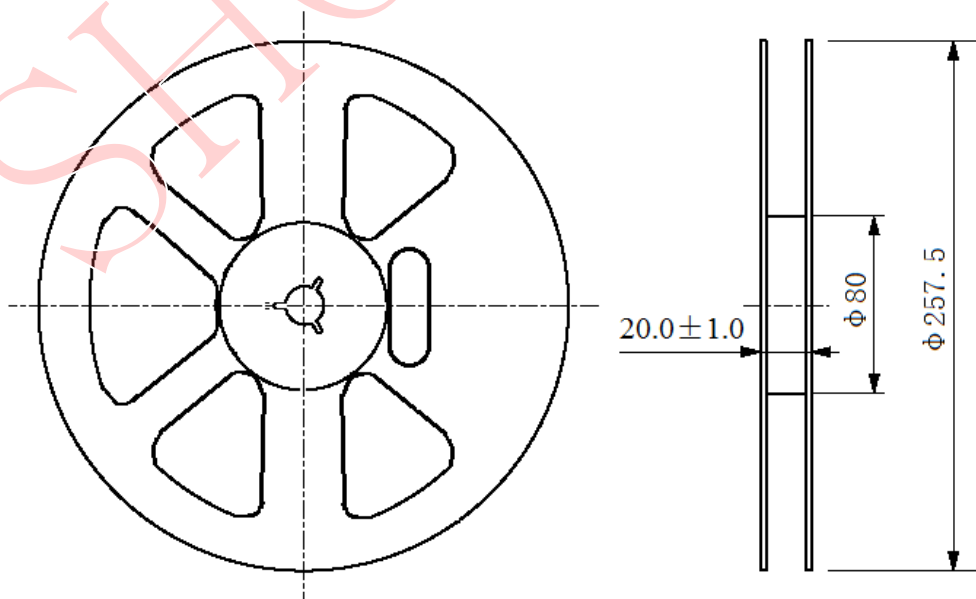
- (1) pull off angle: 0~15°
- (2) speed: 300mm/min.
- (3) force: 20~70g



**[Figure 1] Carrier Tape Dimensions**



**[Figure 2] 10000 pcs/reel φ 257.5mm**



**φ 257.5 Reel Dimension**

(in mm)