SHOULDER

规格书编号

SPEC NO: HDF1588EB5SP02

产品规格书
SPECIFICATION

CUSTOMER 客 户:			
PRODUCT 产 品:	SAW FILTER		
MODEL NO 型 号:	HDF1588E-B2		
MARKING 印 字:	B044		
PREPARED 编 制:		CHECKED 审 核:	
APPROVED 批 准:		D A T E 日 期:	2016-4-13

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

好达电子 SHOULDER

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
2016-4-13	SP02	HDF1588E-B2		Complete specifications. Add product application, reliability and other information.	

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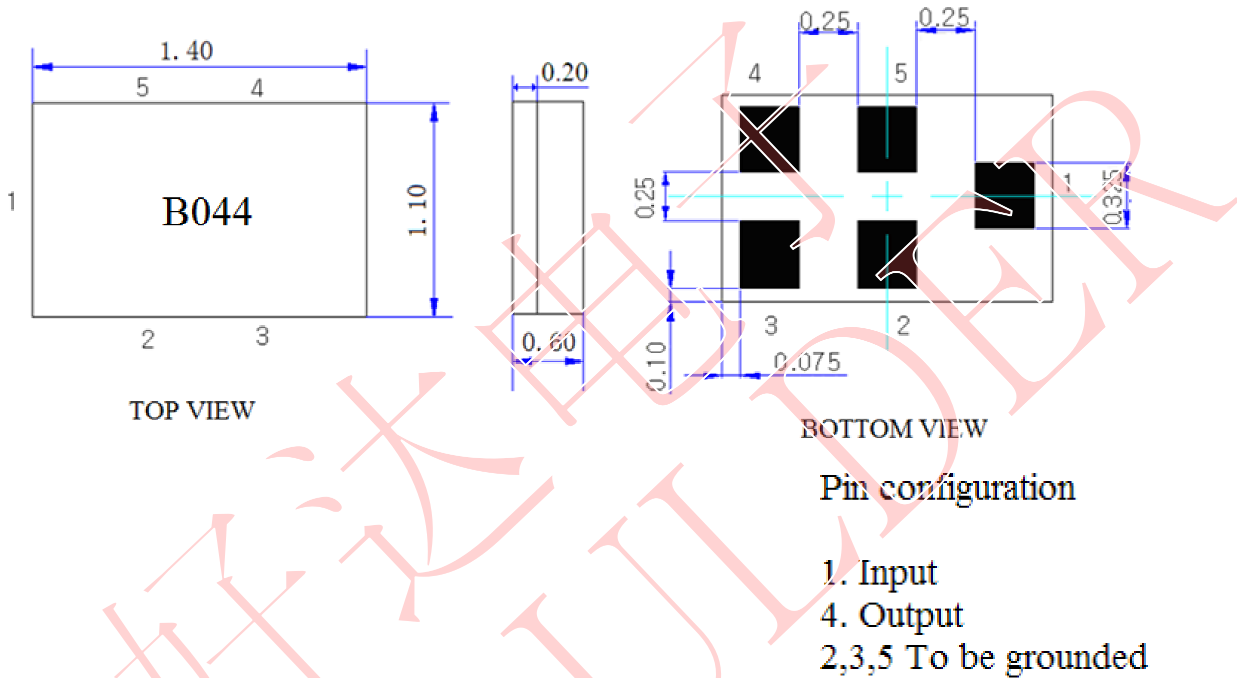
1. Application

- Low-loss RF GPS + COMPASS + GLONASS filter
- Usable passband: 2.0 MHz for GPS, 4.092 MHz for COMPASS and 8.34 MHz for GLONASS
- Impedance 50 ohm input and output
- Unbalanced to unbalanced operation
- RoHS compatible

2. Package Dimension (PKG SIZE 1.4 x 1.1mm)



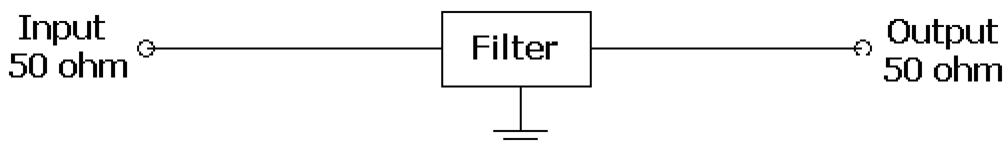
Pin configuration

1. Input
4. Output
2,3,5 To be grounded

3. Maximum Rating

Items	Conditions
Operation temperature rang	-30℃ ~ +85℃
Storage temperature rang	-40℃ ~ +85℃
ESD voltage Sensitive discharge device	ESD(MM) : 50VDC ESD(HBM) : 175VDC
DC Voltage VDC	5V
Max Input Power	15dBm 2000h
Moisture Sensitivity Level	MSL 2

4. Test Circuit



5. ELECTRICAL SPECIFICATION

	Unit	Minimum	Typical	Maximum
Center Frequency	MHz	-	1582.4	-
Insertion Loss				
1574.42~1576.42 MHz	dB		1.3	1.5
1559.05~1563.15 MHz	dB		1.8	2.0
1573.37~1577.47 MHz	dB		1.5	2.0
1597.78~1605.66 MHz	dB		1.8	2.0
VSWR				
1574.42~1576.42 MHz	dB		1.2	2.0
1559.05~1563.15 MHz	dB		1.6	2.0
1573.37~1577.47 MHz	dB		1.4	2.0
1597.78~1605.66 MHz	dB		1.6	2.0
Group delay ripple				
1597.78~1605.66 MHz	ns		4	12
Attenuation				
10~824 MHz	dB	47	51	-
824~925 MHz	dB	47	51	-
1427~1453 MHz	dB	40	45	-
1710~1785 MHz	dB	40	45	-
1850~1910 MHz	dB	40	44	-
1920~1980 MHz	dB	39	44	-
2400~2500 MHz	dB	43	45	-
2500~2570 MHz	dB	37	42	-
2600~3000 MHz	dB	30	38	-
4900~5850 MHz	dB	15	24	-
Input/Output Impedance	Ohms		50	

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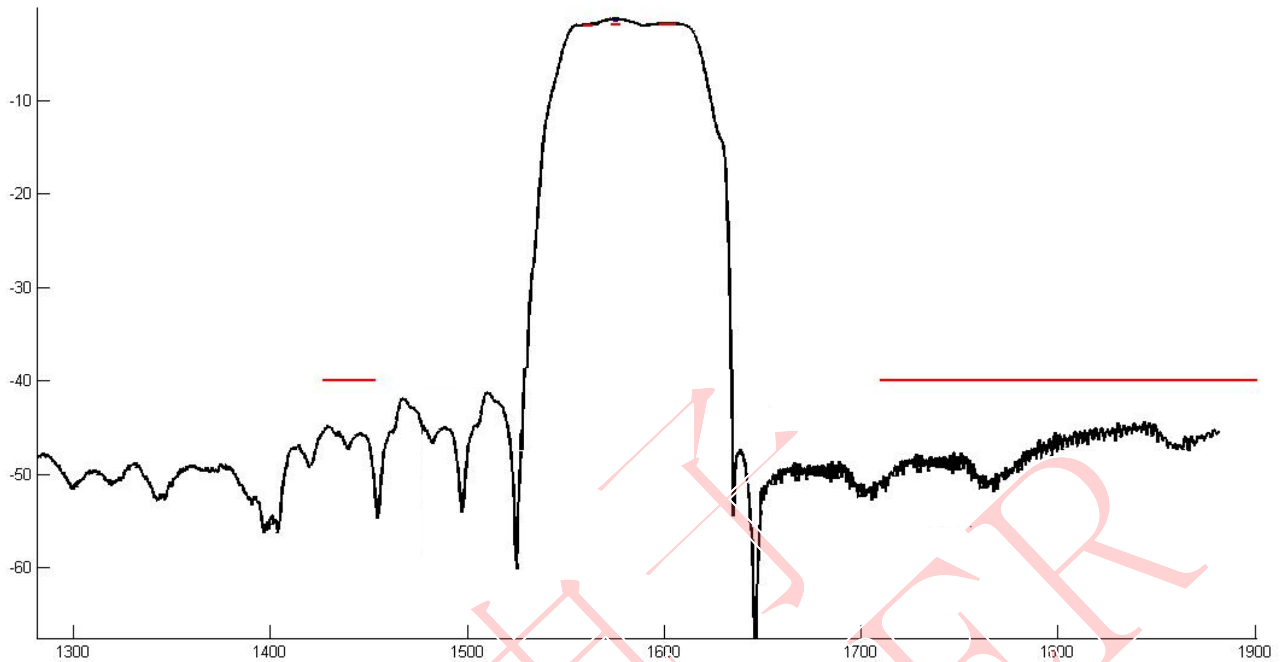
6. Frequency Characteristics



7. ENVIRONMENTAL CHARACTERISTICS

7.1 High temperature exposure

Subject the device to +85℃ 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℃ 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℃ for 30 minutes. Following by a high temperature of +85℃ 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

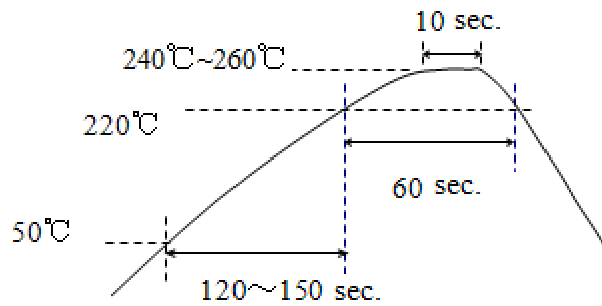
1、immerge the solder bath at 260℃ for 10 sec.

2、the iron at 370℃ for 3 sec

7.5 Solderability

Submerge the device terminals into the solder bath at 245℃ ±5℃ 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.

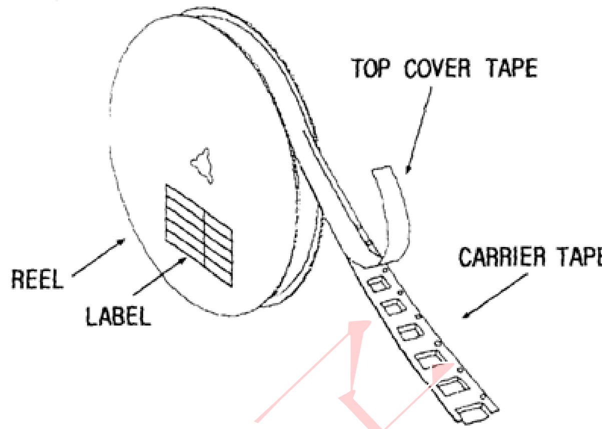
9.2 Reeling Quantity

3000 pcs/reel φ 178mm

10000 pcs/reel φ 259mm

9.3 Taping Structure

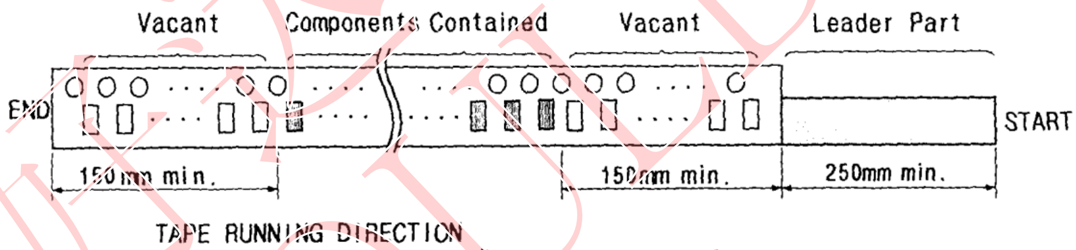
(1) The tape shall be wound around the reel in the direction shown below.



(2) Label

Device Name	
Marking	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.



10. TAPE SPECIFICATIONS

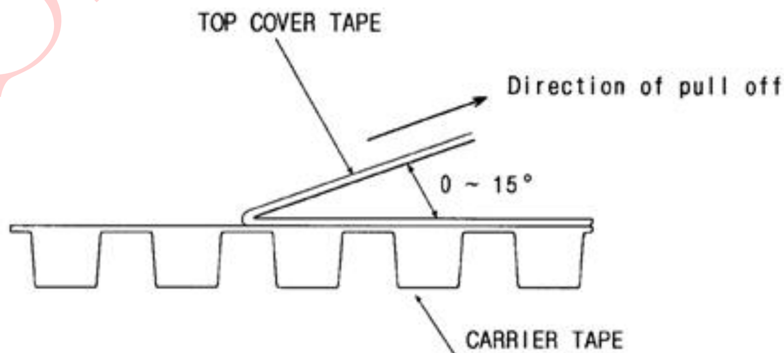
10.1 Tensile Strength of Carrier Tape: 4.4N/mm width

10.2 Top Cover Tape Adhesion (See the below figure)

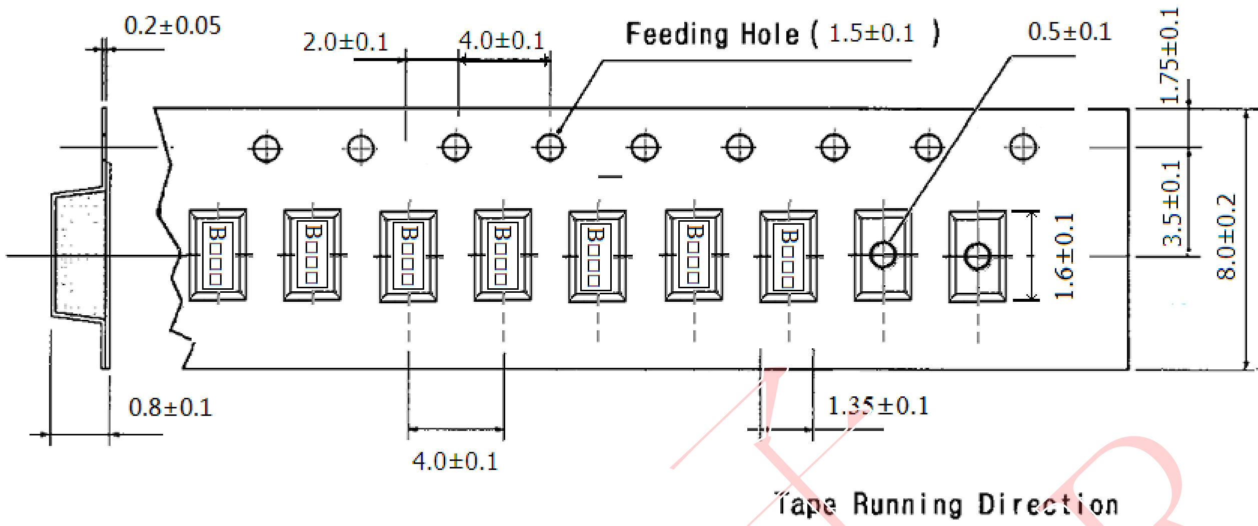
(1) pull off angle: 0~15°

(2) speed: 300mm/min.

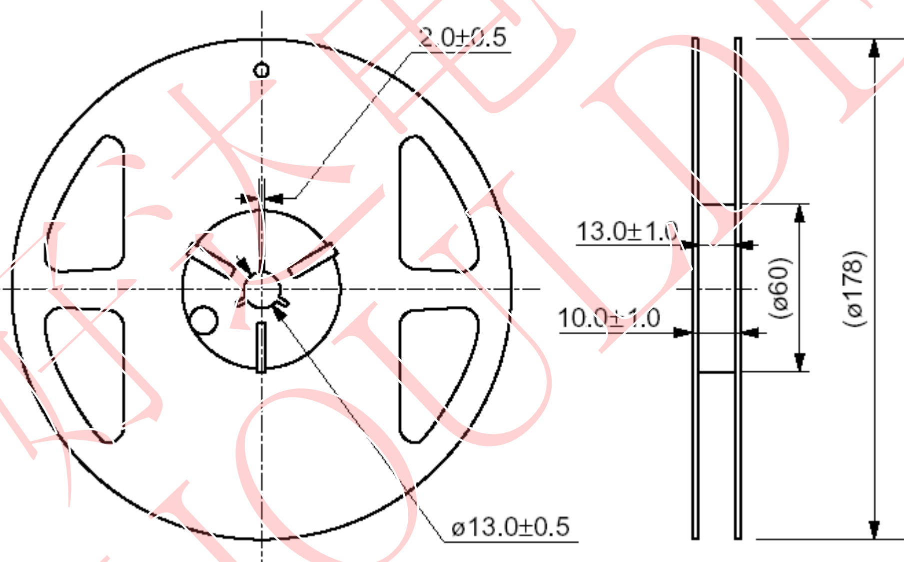
(3) force: 20~70g



[Figure 1] Carrier Tape Dimensions



[Figure 2] 3000 pcs/reel φ 178mm



ø178 Reel Dimension

(in mm)

10000 pcs/reel φ 257.5mm

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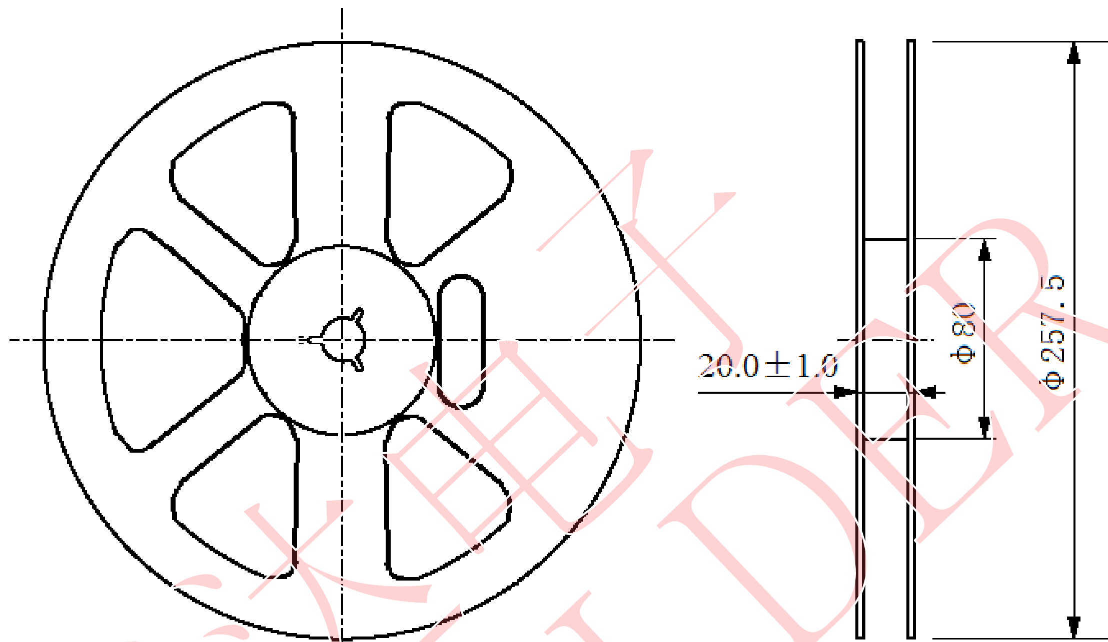

Φ257.5 Reel Dimension

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