

规格书编号

SPEC NO :

# 产品规格书

# SPECIFICATION

CUSTOMER 客户: \_\_\_\_\_  
PRODUCT 产品: \_\_\_\_\_ SAW FILTER \_\_\_\_\_  
MODEL NO 型号: \_\_\_\_\_ HDF445A1 SMD-3 \_\_\_\_\_  
MARKING 印字: \_\_\_\_\_ HDF513 \_\_\_\_\_  
PREPARED 编制: \_\_\_\_\_ CHECKED 审核: \_\_\_\_\_  
APPROVED 批准: \_\_\_\_\_ D A T E 日期: \_\_\_\_\_ 2008-7-23 \_\_\_\_\_

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



## 1. SCOPE

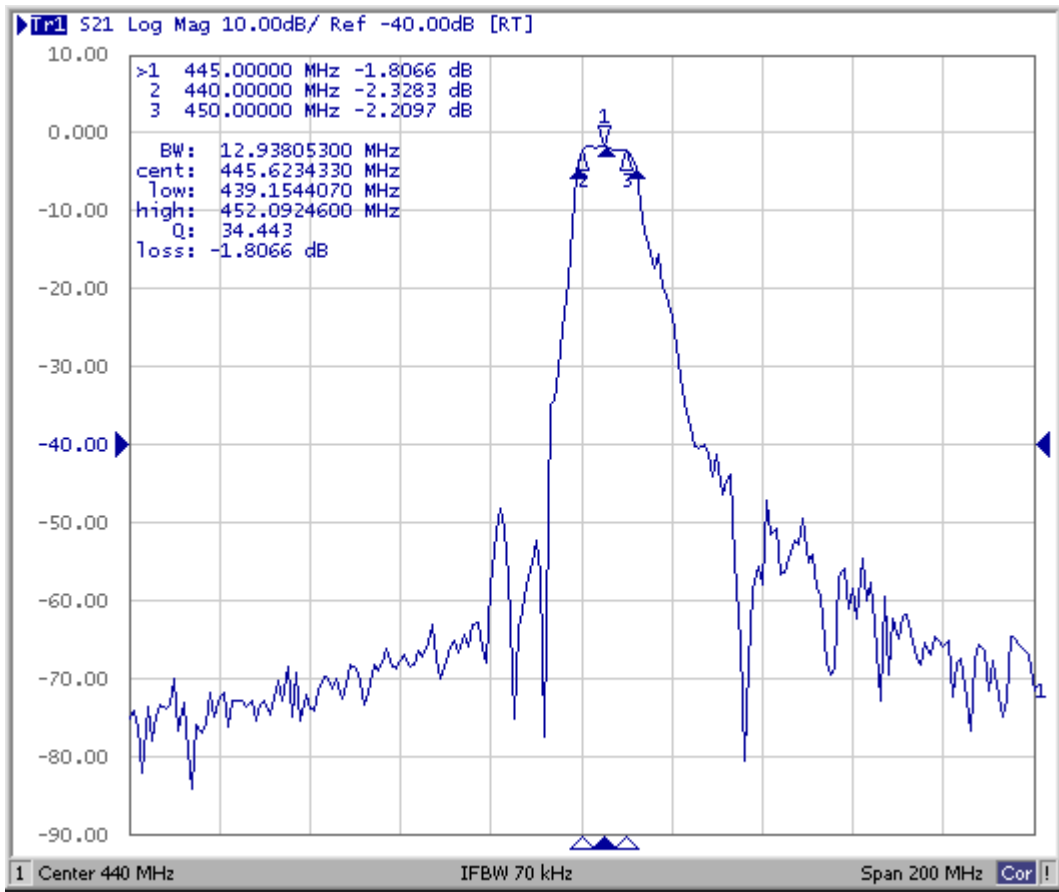
This specification shall cover the characteristics of SAW filter With F445A1 used for the page system.

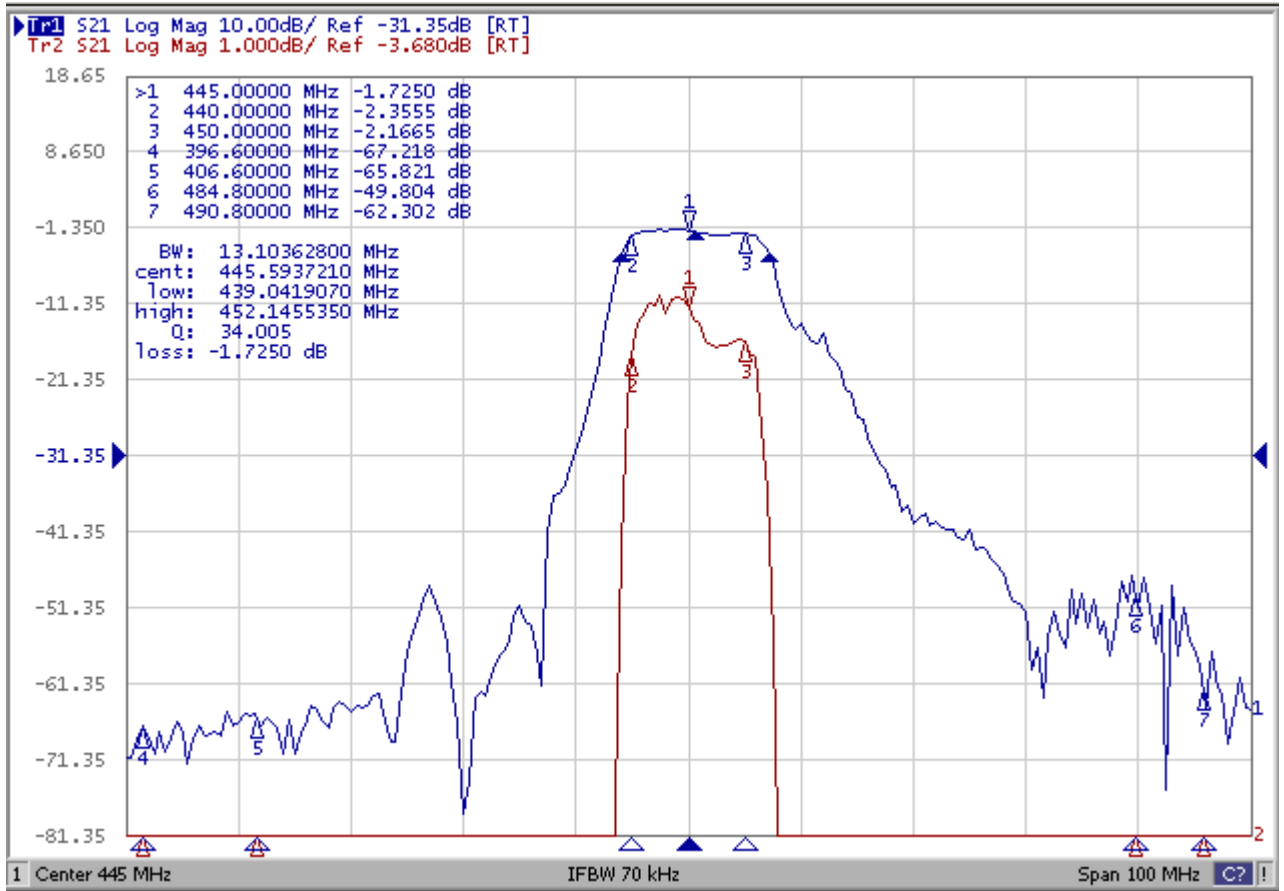
## 2. ELECTRICAL SPECIFICATION

DC Voltage VDC	10V
AC Voltage Vpp	10V50Hz/60Hz
Operation temperature	-40°C to +85°C
Storage temperature	-45°C to +85°C
RF Power Dissipation	0dBm

### Electronic Characteristics

#### 2-1. Typical frequency response

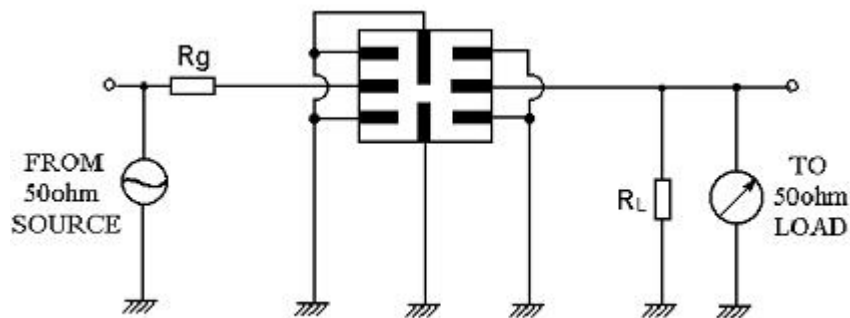




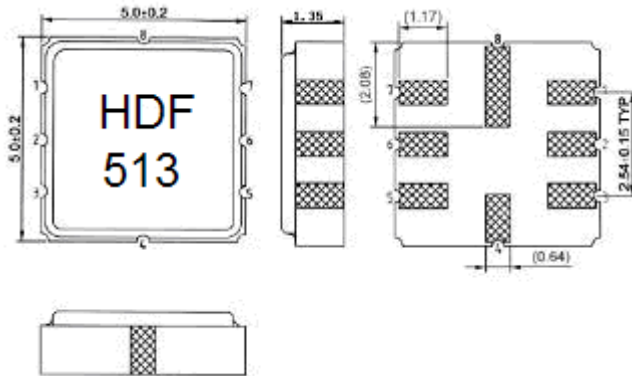
2-2.Electrical characteristics

Part number	F445A1	Unit
Nominal center frequency (Fo)	445	MHz
Insertion Loss 396.6MHz~406.6 MHz fo fo +39.8~ fo +45.8MHz	50min. 3.5max 45min	dB
Bandwidth (-3dB)	±5~±7	MHz
Ripple (with Fo ±5.0MHz)	2.0max	dB
Input/Output Impedance(Nominal)	50//0	Ω /pF

3. TEST CIRCUIT



**4. DIMENSION**



- |    |              |
|----|--------------|
| 1. | Ground       |
| 2. | Input/output |
| 3. | Ground       |
| 4. | Ground       |
| 5. | Ground       |
| 6. | Input/output |
| 7. | Ground       |
| 8. | Ground       |

**Marking: HDF513**

HD: Brand  
 F : Filter  
 513 : No.

**5. ENVIRONMENTAL CHARACTERISTICS**

**5-1 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 2-2.

**5-2 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 2-2.

**5-3 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 2-2.

**5-4 Resistance to solder heat**

Dip the device terminals no closer than 1.5mm into the solder bath at 260°C ±10°C for 10±1 sec. Then release the device into the room conditions for 4 hours. The device shall meet the specifications in 2-2.

**5-5 Solderability**

Subject the device terminals into the solder bath at 245°C ±5°C for 5s, More than 95% area of the terminals must be covered with new solder. It shall meet the specifications in 2-2.

**5-6 Mechanical shock**

Drop the device randomly onto the concrete floor from the height of 1m 3 times. the device shall fulfill the specifications in 2-2.

**5-7 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 2-2.

## **6. REMARK**

### 6.1 Static voltage

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

### 6.2 Ultrasonic cleaning

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

### 6.3 Soldering

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

## 7. Packing

### 7.1 Dimensions

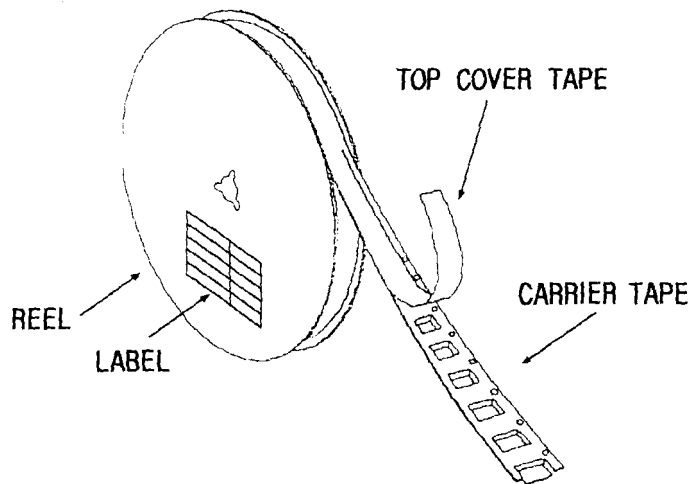
- (1) Carrier Tape: Figure 1
- (2) Reel: Figure 2
- (3) The product shall be packed properly not to be damaged during transportation and storage.

### 7.2 Reeling Quantity

- 1000 pcs/reel 7''  
3000 pcs/reel 13''

### 7.3 Taping Structure

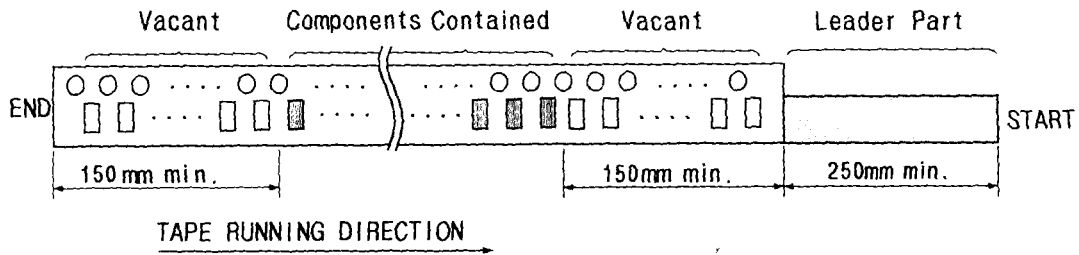
- (1) The tape shall be wound around the reel in the direction shown below.



- (2) Label

Device Name	
User Product Name	
Quantity	
Lot No.	

- (3) Leader part and vacant position specifications.

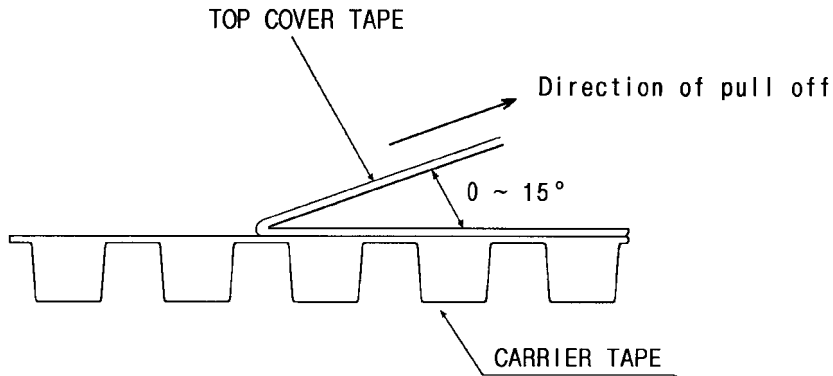


## 8. TAPE SPECIFICATIONS

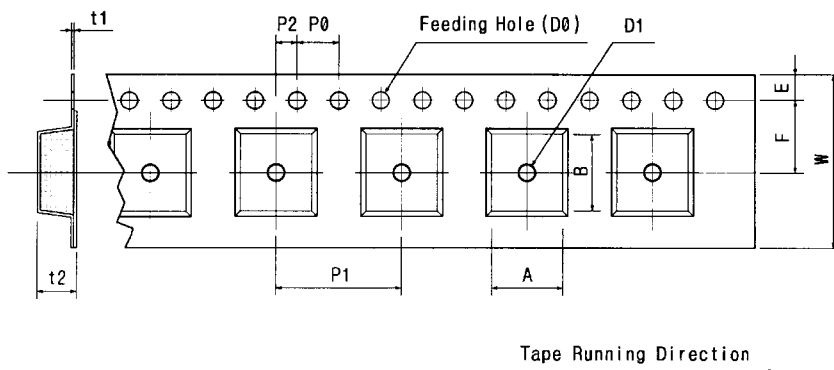
8.1 Tensile Strength of Carrier Tape: 4.4N/mm width

8.2 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



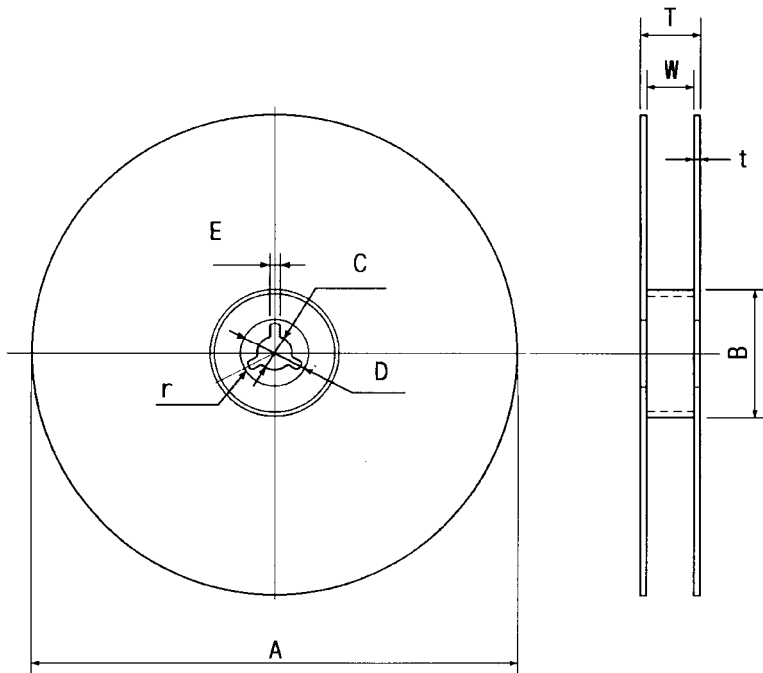


[Unit:mm]

W	F	E	P0	P1	P2	D0	D1	t1	t2	A	B
12.0	5.5	1.75	4.0	8.0	2.0	Ø1.5	Ø1.0	0.3	2.10	6.40	5.20
±0.3	±0.05	±0.1	±0.1	±0.1	±0.05	±0.1	±0.25	±0.05	±0.1	±0.1	±0.1

[Figure 2]

[Unit:mm]



A	B	C	D	E	W	t	r
Ø330	Ø100	Ø13	Ø21	2	13	3	1.0
±1.0	±0.5	±0.5	±0.8	±0.5	±0.3	max.	max.