

# Shoulder 好达

SHOULDER ELECTRONICS LIMITED

## SAW Components Data Sheet

PRODUCT 产品: SAW FILTER

MODEL NO 型号: HDF1220A1 SMD-7

PREPARED 编制:

CHECKED 审核:

APPROVED 批准:

DATE 日期: 2007-01-25

# 1. SCOPE

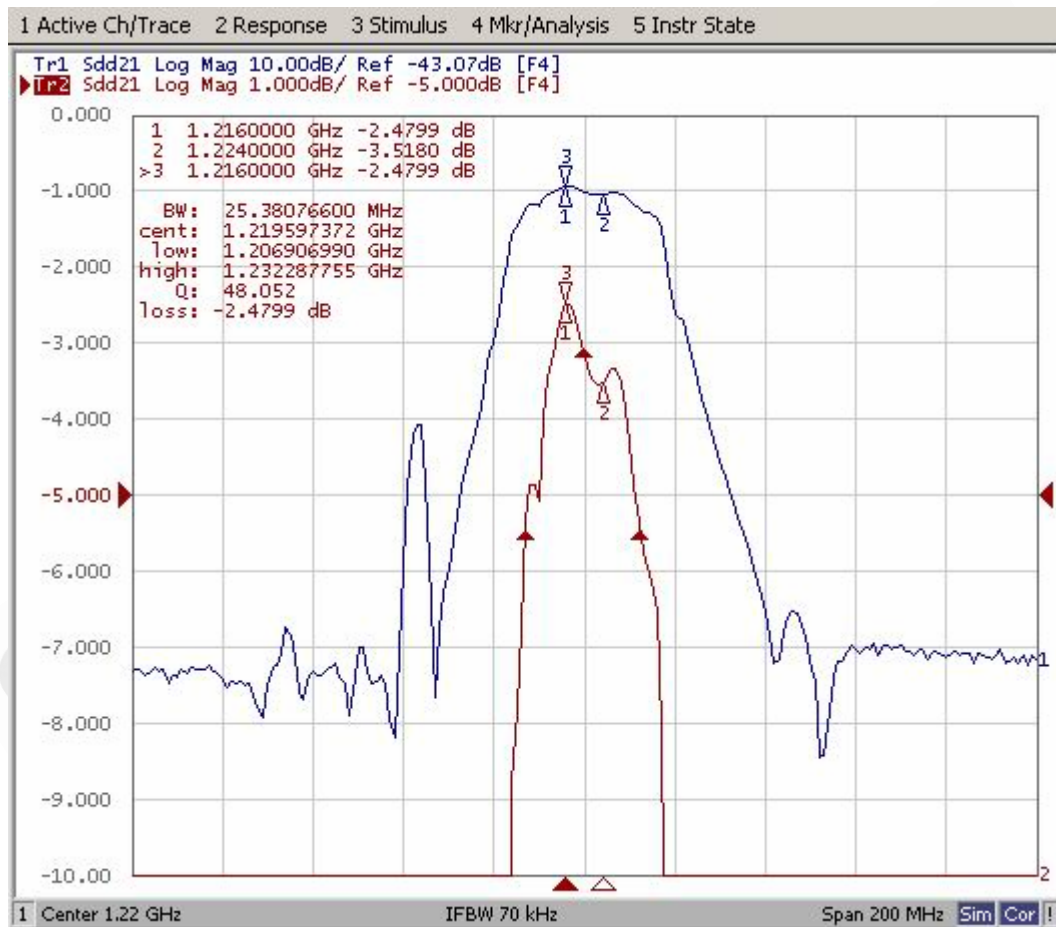
This specification shall cover the characteristics of SAW filter With F1220A1S7 used digital television

# 2. ELECTRICAL SPECIFICATION

Dc voltage VDC>	0V
Operation temperature	-40°C~+85°C
Storage temperature	-40°C~+85°C
RF Power dissipation	0 dBm(source impedance 200Ω)

Electronic Characteristics

## 2-1. Typical frequency response



## 2-2. Electrical characteristics

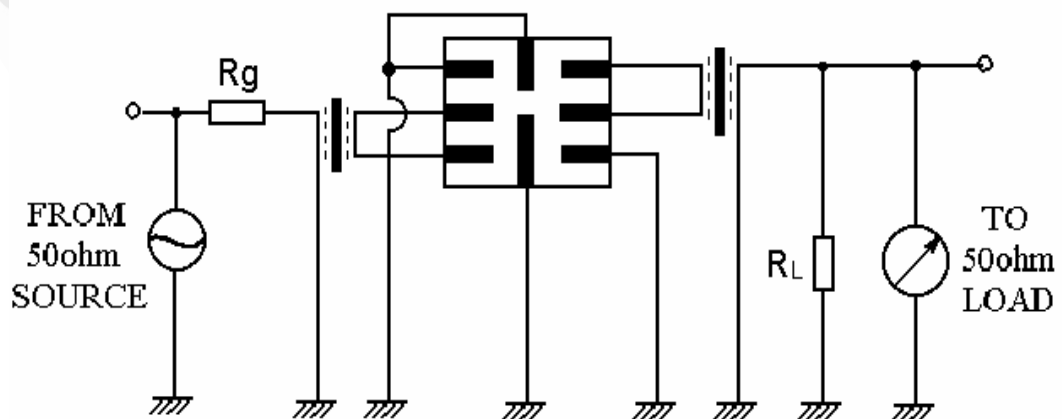
Operating temperature range:  $T = -40\text{ }^{\circ}\text{C} \dots +85\text{ }^{\circ}\text{C}$

Terminating source impedance:  $Z_s = 200\ \Omega$

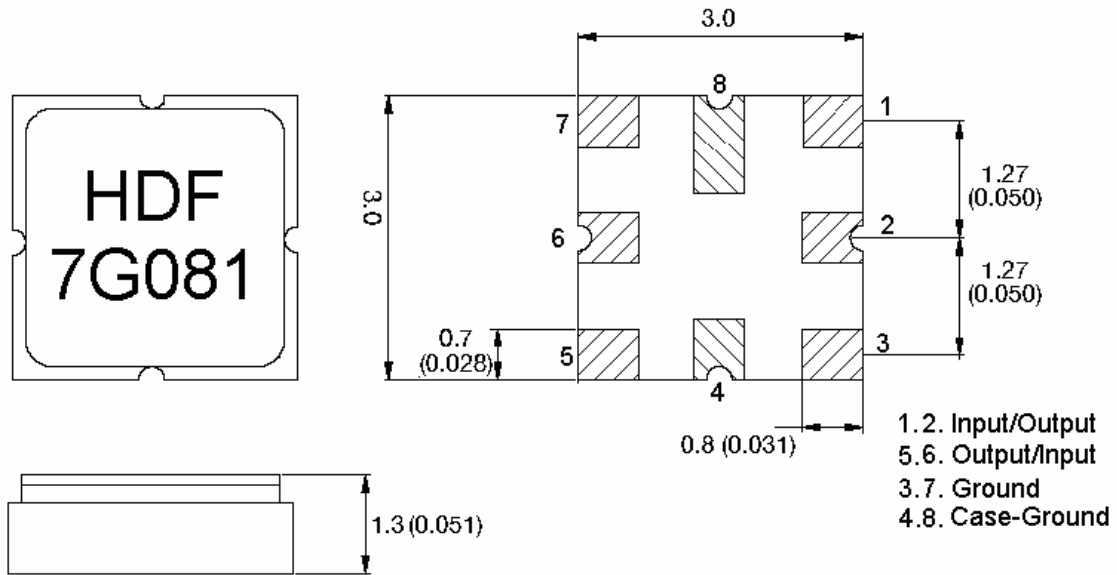
Terminating load impedance:  $Z_L = 200\ \Omega$

Part number	min	typ	max	unit
Nominal frequency	-	1220.0	-	MHz
Maximum insertion attenuation 1216~1224MHz	-	3.6	4.2	dB
Amplitude ripple in passband 1216~1224MHz	-	0.6	1.2	dB
Attenuation				
500~ $f_0$ -91.0MHz	58	62	-	dB
$f_0$ -91.0~ $f_0$ -85.0MHz	58	62	-	
$f_0$ -76.0~ $f_0$ -68.0MHz	56	60	-	
$f_0$ -88.0MHz	58	62	-	
$f_0$ -72.0MHz	56	60	-	
$f_0$ -44.0MHz	46	54	-	
$f_0$ -36.0MHz	42	44	-	
$f_0$ +70.0MHz~2000MHz	56	62	-	
Group delay ripple 1216~1224MHz	-	15	-	ns

## 3. TEST CIRCUIT



## 4. DIMENSION



## 5. ENVIRONMENTAL CHARACTERISTICS

### 5-1 Temperature cycling

Subject the device to a low temperature of  $-45^{\circ}\text{C}$  for 30 minutes. Following by a high temperature of  $+25^{\circ}\text{C}$  for 5 Minutes and a higher temperature of  $+85^{\circ}\text{C}$  for 30 Minutes. Then release the device into the room conditions for 1 to 2 hours prior to the measurement. It shall meet the specifications in table 1.

### 5-2 Resistance to solder heat

Submerge the device terminals into the solder bath at  $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for  $10 \pm 1$  sec. Then release the device into the room conditions for 4 hours. It shall meet the specifications in table 1.

### 5-3 Solderability

Submerge the device terminals into the solder bath at  $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for 5s, More than 95% area of the soldering pad must be covered with new solder. It shall meet the specifications in table 1.

### 5-4 Mechanical shock

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

### 5-5 Vibration

Subject the device to the vibration for 2 hour each in x,y and z axes with the amplitude of 1.5 mm at 10 to 55 hz. The filter shall fulfill the specifications in table 1.

## 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

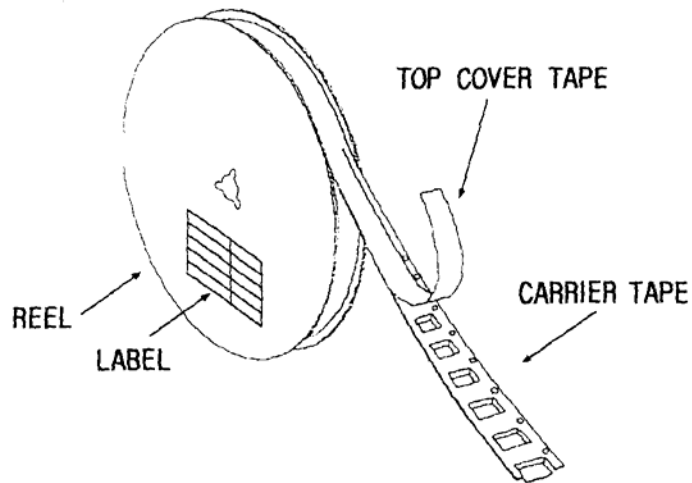
- (1) Carrier Tape: Figure 1
- (2) Reel: Figure 2
- (3) The product shall be packed properly not to be damaged during transportation and storage.

### 7.2 Reeling Quantity

1000 pcs/reel 7”  
3000 pcs/reel 13”

### 7.3 Taping Structure

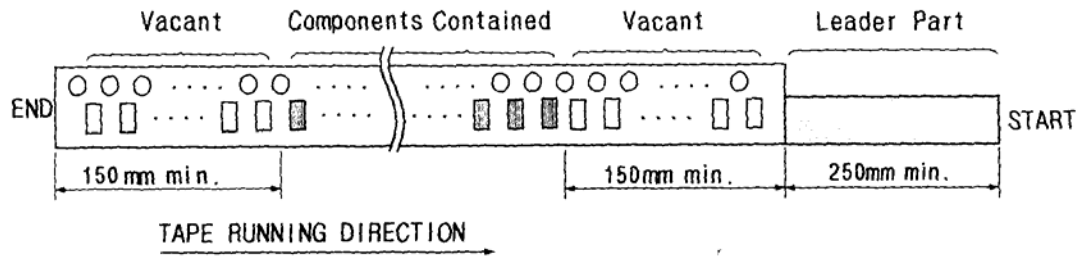
- (1) The tape shall be wound around the reel in the direction shown below.



- (2) Label

Device Name	
User Product Name	
Quantity	
Lot No.	

- (3) Leader part and vacant position specifications.

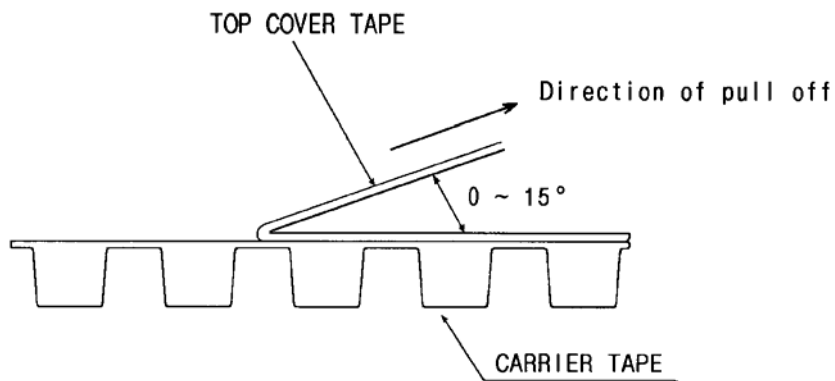


## 8. TAPE SPECIFICATIONS

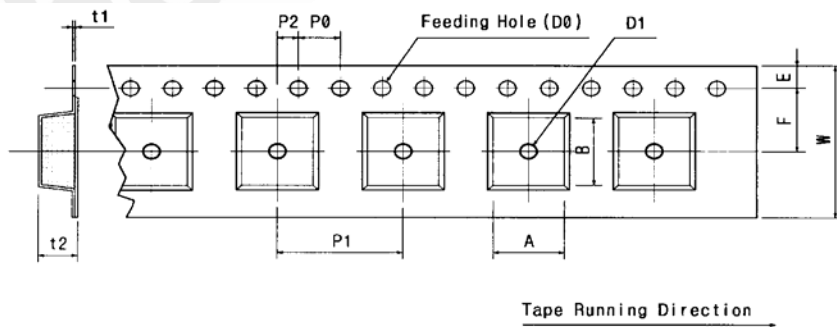
8.1 Tensile Strength of Carrier Tape: 4.4N/mm width

8.2 Top Cover Tape Adhesion (See the below figure)

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



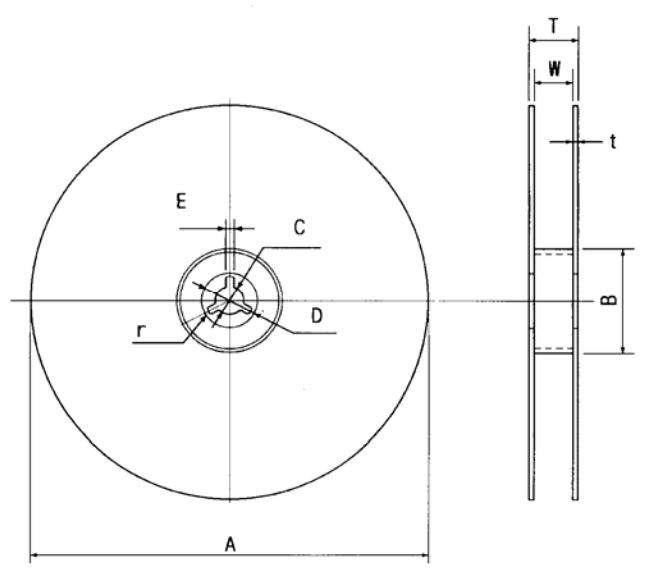
[Figure 1] Carrier Tape Dimensions



[Unit:mm]

W	F	E	P0	P1	P2	D0	D1	t1	t2	A	B
12.00	5.50	1.75	4.00	4.00	2.00	Ø1.50	Ø1.5	0.31	1.30	3.4	3.4
±0.30	±0.10	±0.10	±0.10	±0.10	±0.10		±0.25	±0.05	±0.10	MAX.	MAX.

[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.