SMS-51-L-SFT C8-1

JUNE. 15. 1998

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| Checked by: Kim, MyeongKee |
| Issued by: JinBaek Song<br>J.B.SONG |

# SPECIFICATION

## MODEL: H210TC

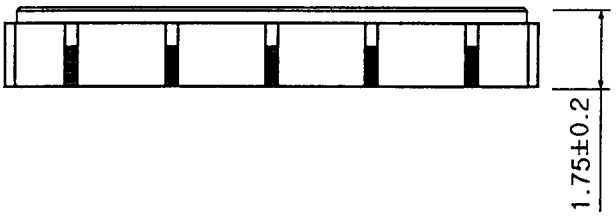
Surface Acoustic Wave Filter

SAMSUNG ELECTRO-MECHANICS CO., LTD.
314. MAETAN-3DONG, PALDAL-KU
SUWON-SI, KYUNGKI-DO, KOREA

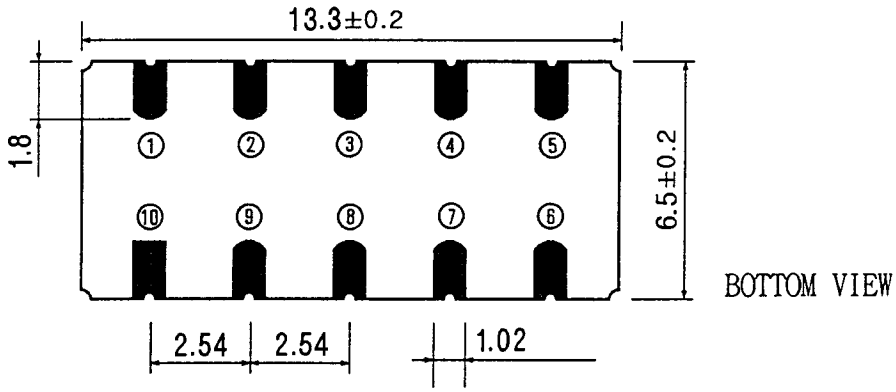
## 1. OUTLINE DRAWING AND DIMENSION

[Unit : mm]


TOP VIEW




SIDE VIEW




BOTTOM VIEW

| No. | Function |
|---|---|
| ⑩ | Input |
| ① | Input ground or balanced input |
| ⑤ | Output |
| ⑥ | Output ground or balanced output |
| ②③④ ⑦⑧⑨ | Case-ground |

2. MARKING

# H210TC
# 8N

① Color : Black or Laser Marking
② Model No. : H210TC
③ Lot No. : 8N
- The first character '8' indicates the year of manufacturing
  1998 ----- 8
  1999 ----- 9
  2000 ----- 0
- The second character 'N' indicates the month of manufacturing
  January ---- 1
  February ---- 2
  : :
  October ---- O
  November ---- N
  December ---- D

3. PERFORMANCE

3-1. APPLICATION

Band-pass Filter for US PCS IF stage etc.
Center Frequency : 210.38 MHz

3-2. MAXIMUM RATING

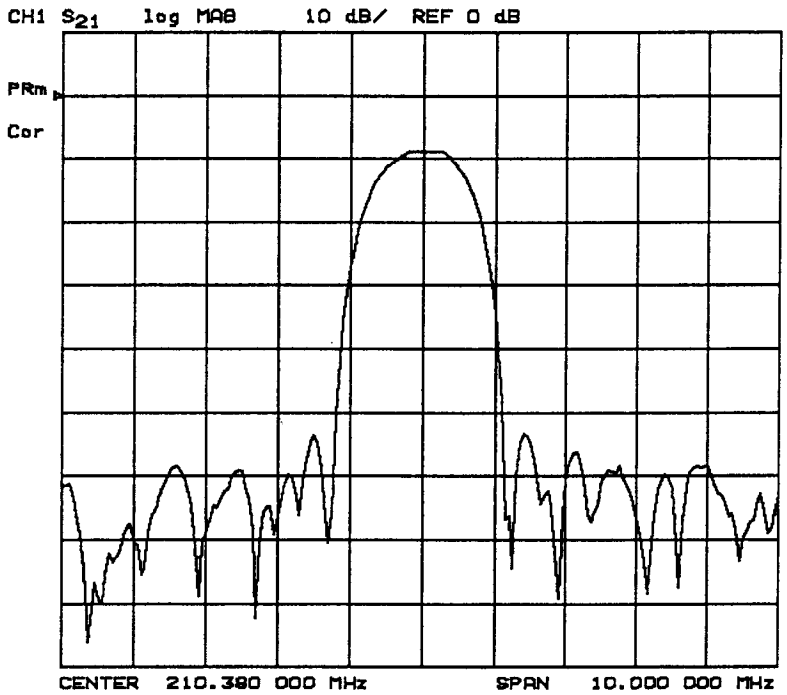
| Characteristics | Rating | Units |
|---|---|---|
| Maximum Input Power | 20 | dBm |
| Operating Temperature Range | -30 ~ +80 | ℃ |
| Storage Temperature Range | -55 ~ +125 | ℃ |

## 3-3. ELECTRICAL CHARACTERISTICS

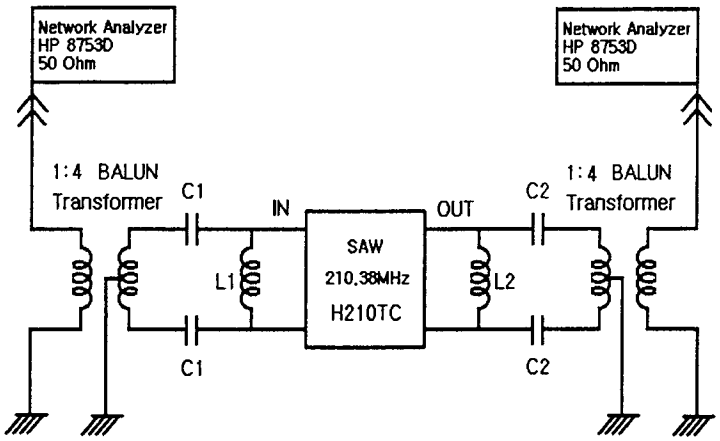
### 3-3-1. TABLE

| Characteristics | Frequency | Specification |
|---|---|---|
| Nominal Center Frequency(fo) | 210.38MHz | |
| Bandwidth at 5dB | fo Reference | fo ±0.63MHz Min. |
| Bandwidth at 38dB | fo Reference | fo ±1.25MHz Max. |
| Insertion Loss( $\alpha$ ) | fo | 10.5dB Max.. |
| Stop band Attenuation<br>(Ref.: $\alpha$ ) | 130.00MHz ~ 209.13MHz<br>211.63MHz ~ 270.00MHz | 40dB Min.<br>40dB Min. |
| Trap Rejection (Ref.: $\alpha$ ) | fo ±1.25MHz | 45dB Min |
| Amplitude Ripple | fo ± 0.3MHz | 1.2dB Max. |
| Phase Variation | fo ± 0.63MHz | 2.5° rms Max. |
| Terminating Impedance(Zo) | Input: 1000 ohms Matching Balanced Drive<br>Output: 500 ohms Matching Balanced Drive | |

### 3-3-2. GRAPH



3-3-3. TEST FIXTURE




| L1(nH) | C1(pF) | L2(nH) | C2(pF) |
|---|---|---|---|
| 27+tunning C | 8 | 27+tunning C | 8 |

## 4. RELIABILITY

### 4-1. LIFE TEST

| ITEM | TEST CONDITION | LIMIT |
|---|---|---|
| High Temperature Exposure | Ta = +85±2℃, 100h | After the test, specimen would be kept at room temperature for 2 hours. Specimen shall meet the electrical specification |
| Low Temperature Exposure | Ta = -55±2℃, 100h | |
| Moisture Resistance | Ta = +40±2℃, RH 90~95%, 250h | |
| Change due to Age | Ta = +85±2℃, 720h | |

### 4-2. HEAT CYCLE, SOLDERING TEST

| ITEM | TEST CONDITION | LIMIT |
|---|---|---|
| Temperature Cycle | -40℃,30min ↔ 85℃,30min 10 cycles | SAME as 4-1 |
| Solderability | Immerse the sample in solder at 230±5℃ for 5±1 sec. | More than 3/4 area of the pad should be covered with solder. |
| Resistance to Soldering Heat (Reflow) | Preheat : 180℃, 2 min.<br>Reflow : 240℃, 10 sec. | SAME as 4-1 |

### 4-3. MECHANICAL TEST

| ITEM | TEST CONDITION | LIMIT |
|---|---|---|
| Vibration | Amplitude=1.5mm, 10↔55Hz, sweep time=1min., 3directions for 2 hours | SAME as 4-1 |
| Shock | Peak acceleration=1500G<br>Duration=0.5msec.,<br>Wave form=half-sine pulse,<br>6 direction each 3 shocks. | |

## 5. PACKING

### 5.1 Dimensions

(1) Carrier Tape : Figure 1 (P.8/10)

(2) Reel : Figure 2 (P.9/10)

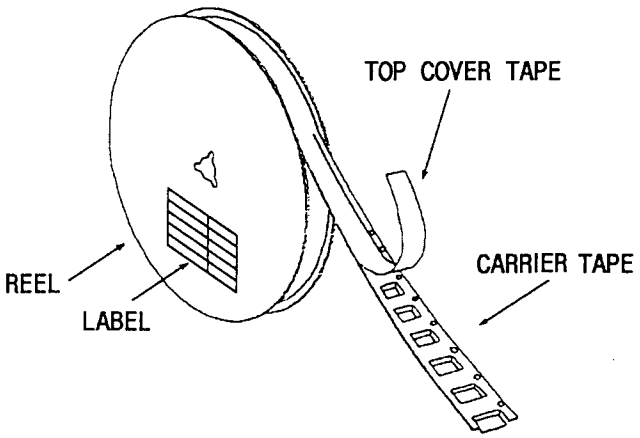
(3) The product shall be packed properly not to damaged during transportation and storage

### 5.2 Reeling Quantity

2,000 pcs/reel

### 5.3 Taping Structure

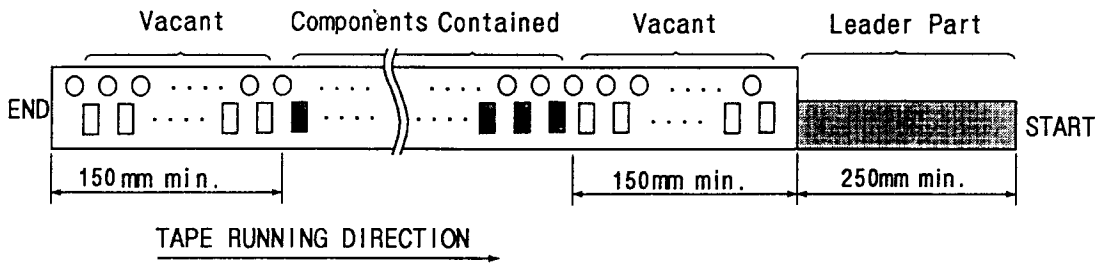
(1) The tape shall be wound around the reel in direction shown below.




(2) Label

| | |
|---|---|
| Device Name | |
| User Product Name | |
| Quantity | |
| Lot No. | |

(3) Leader part and vacant position specifications.

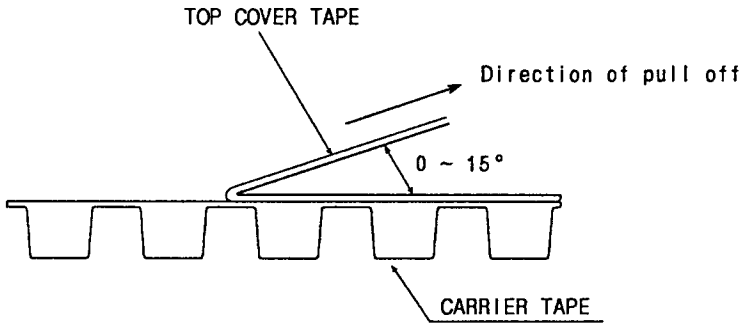


## 6. Tape Specifications

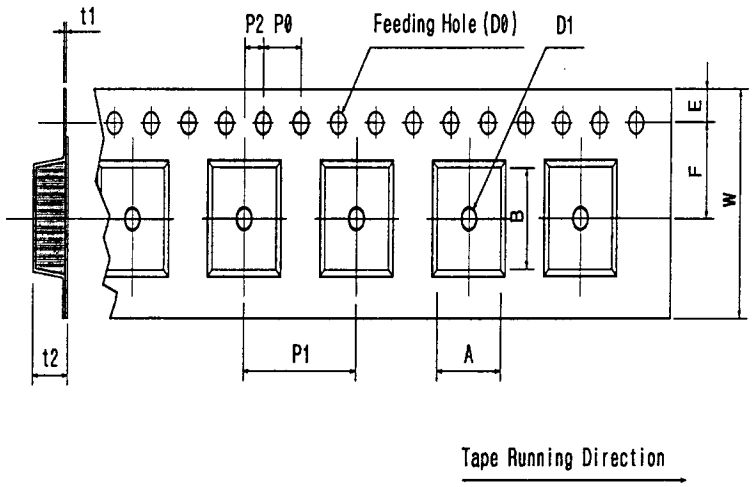
### 6.1 Tensile Strength of Carrier Tape : 4.4N/mm width

### 6.2 Top Cover Tape Adhesion(See the below figure)

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



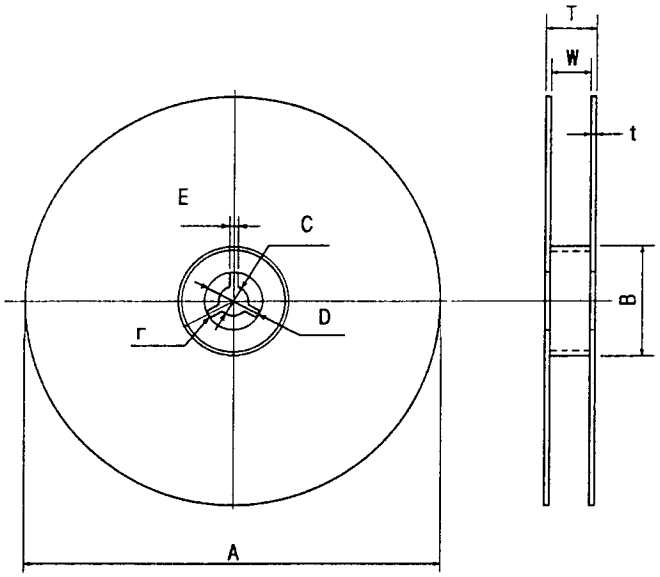

[Figure 1] Carrier Tape Dimensions




[Unit : mm]

| W | F | E | P0 | P1 | P2 | D0 | D1 | t1 | t2 | A | B |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24.0 ±0.3 | 11.5 ±0.1 | 1.75 ±0.1 | 4.0 ±0.2 | 12.0 ±0.1 | 2.0 ±0.2 | φ1.5 ±0.1 | φ1.5 ±0.25 | 0.33 ±0.03 | 2.01 ±0.1 | 6.93 ±0.2 | 13.74 ±0.2 |

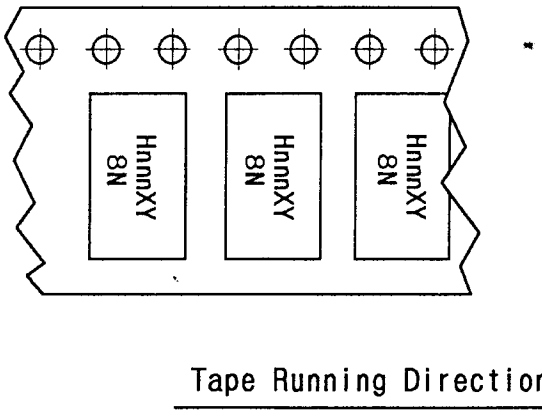
[Figure 2] Ree




[Unit : mm]

| A | B | C | D | E | W | t | T | r |
|---|---|---|---|---|---|---|---|---|
| φ328 ±8.0 | φ100 ±4.0 | φ13.8 ±0.4 | φ22.6 ±0.6 | 2.0 ±0.2 | 24.4 +2,-0 | 2.5 ±0.5 | 26.9 ±2.0 | 1.0 ±0.1 |

[Figure 3] Part Direction



## 7. CAUTION

7-1. This device should not be used in any type of fluid such as water, oil, organic solvent, etc.

7-2. Ultrasonic cleaning shall be avoided.

7-3. This is an electrostatic sensitive device.
Please avoid static voltage during operation and storage.

7-4. Sudden change of temperature shall be avoided, deterioration of the characteristics can occur.

## 8. REVISION

| Date | Page | Revision | Reason |
|---|---|---|---|
| | | | |