

DEC. 24, 1998

Approved by: KyoYoung Jin



Checked by: SungIl Park



Issued by: Kim, MyeongKee



SPECIFICATION

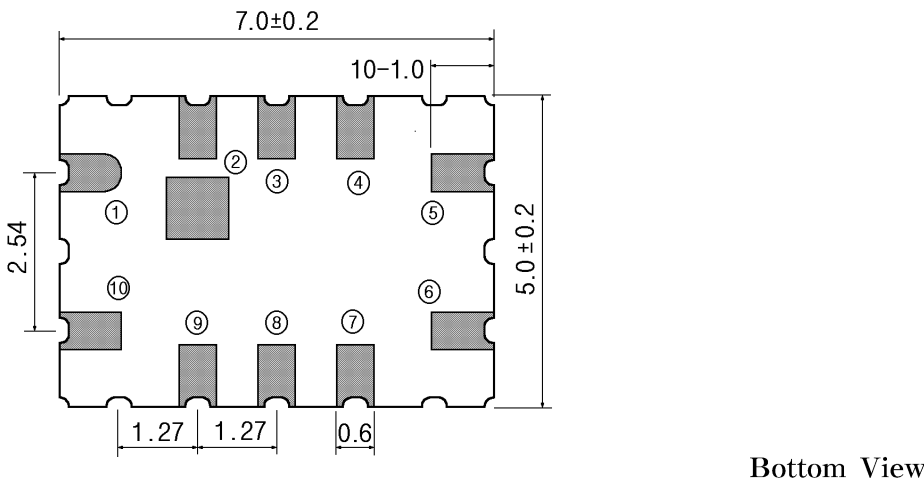
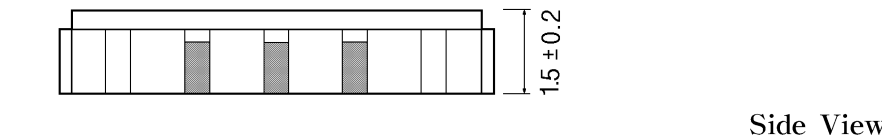
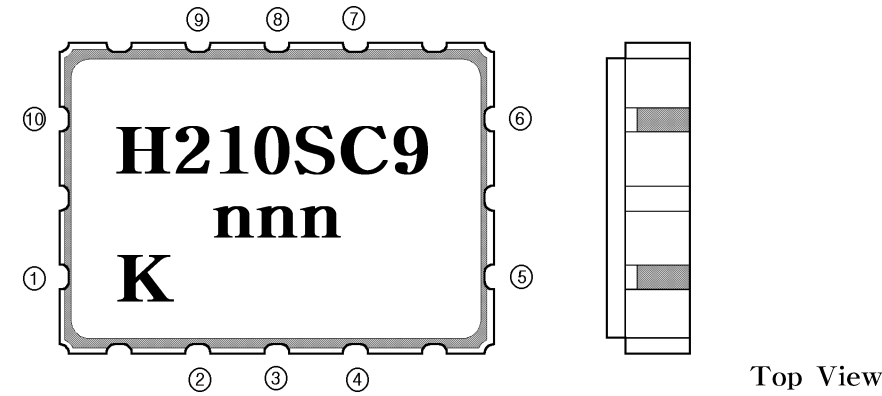
MODEL: H210SC

SURFACE ACOUSTIC WAVE FILTER

SAMSUNG ELECTRO-MECHANICS CO., LTD.
314. MAETAN3-DONG, PALDAL-KU,
SUWON-SI, KYUNGKI-DO, KOREA, 442-743

1. OUTLINE DRAWING AND DIMENSION

[Unit:mm]



PIN NO.	FUNCTION
10	Balance Input or Unbalance Input
1	Balance Input or Unbalance Input Ground
2, 3, 4, 7, 8, 9	GROUND
5	Balance Output or Unbalance Output
6	Balance Output or Unbalance Output Ground

2. MARKING

H210SC9
nnn
K

① Color : Black/Red Ink or Laser Marking

② Model No. : H210SC

③ Lot No. : 9 nnn

- The first character '9' indicates the year of manufacturing.

1999 ----- 9

2000 ----- 0

2001 ----- 1

- The string 'nnn' indicates the day of manufacturing

1'st day ---- 001

2'nd day ---- 002

.

.

364'th day --- 364

365'th day --- 365

④ The location of pin ① in SMD package : K or C or P or *

3. PERFORMANCE**3-1. APPLICATION**

Bandpass Filter for US-PCS IF Stage.

Nominal Frequency(f_0) : 210.38MHz

3-2. MAXIMUM RATING

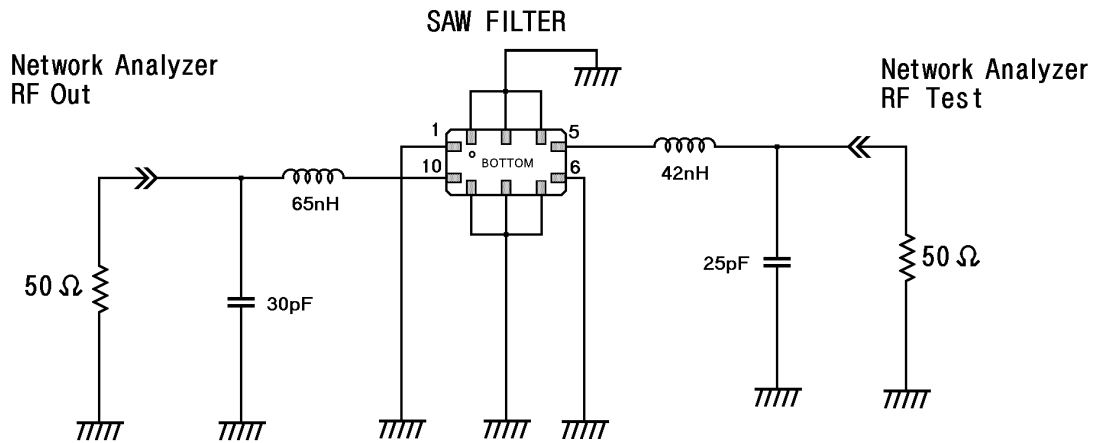
CHARACTERISTICS	RATING	UNITS
Maximum Input Power	10	dBm
Operating Temperature Range	-30 ~ +80	℃
Storage Temperature Range	-55 ~ +125	℃

3-3. ELECTRICAL CHARACTERISTICS

3-3-1. TABLE

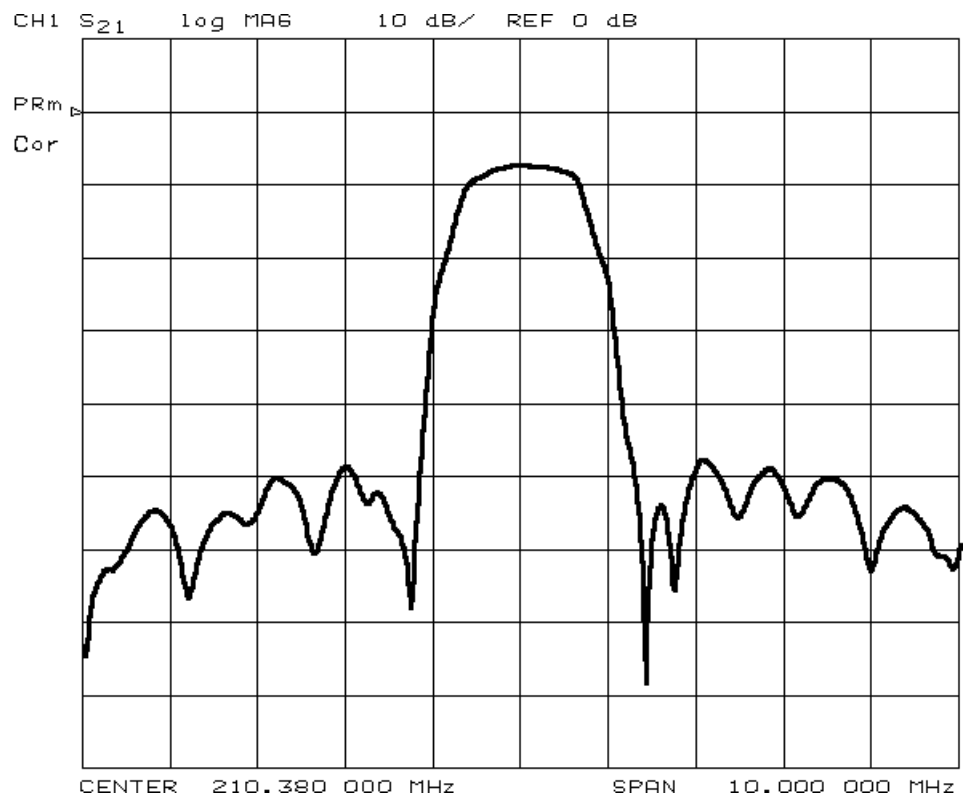
CHARACTERISTICS	Frequency(MHz)	Specification
Nominal Center Frequency(f_0)	210.38	
Insertion Loss(α)	f_0	10.0dB Max.
α -5dB Passband Width		$f_0 \pm 0.63$ MHz Min.
α -33dB Passband Width		$f_0 \pm 1.25$ MHz Max.
Amplitude Ripple(pk to pk)	$f_0 \pm 0.30$	1.2dB Max.
Stop Band Attenuation (ref.: α)	130.00 ~ $f_0 - 1.25$ $f_0 - 1.25$ $f_0 + 1.25$ $f_0 + 1.25$ ~ 270.00	36dB Min. 40dB Min. 40dB Min. 36dB Min.
Phase Variation	$f_0 \pm 0.30$ $f_0 \pm 0.63$	1.50deg. rms Max. 3.75deg. rms Max.

3-3-2. TEST FIXTURE



The values of the matching components depending on stray capacitances of the P.C.B., must be modified for each customer application.

3-3-3. GRAPH



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 = -40±2℃, 100H	
Moisture Resistance	Ta = +40±2℃, RH 90~95%, 250H	

4-2. HEAT CYCLE, SOLDERING TEST

ITEM	TEST CONDITION	LIMIT
Temperature Cycle	-40℃,30min ↔ +85℃,30min 10 cycle	SAME as 4-1
Solderability	Immerse in soldering bath at 230±5℃, 5±1sec.	More than 3/4 area of the soldering pad must be covered with new solder.
Resistance to Soldering Heat(Reflow)	Preheat: 180℃, 2min. Reflow: 240℃, 10sec.	SAME as 4-1

4-3. MECHANICAL TEST

ITEM	TEST CONDITION	LIMIT
Vibration	Amplitude=1.5mm, 10↔55Hz, sweep time=1min., 3direction each 2H.	SAME as 4-1
Shock	Peak acceleration=1500G, duration=0.5msec., wave form=half-sin, 6 direction each 3 shocks.	

5. PACKING

5.1 Dimensions

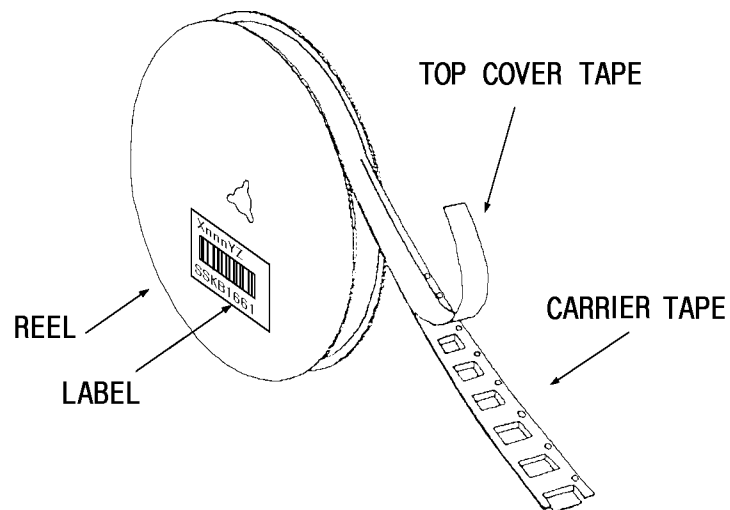
- (1) Carrier Tape: Figure 1
- (2) Reel: Figure 2
- (3) The product shall be packed properly not to be damaged during transportation and storage.

5.2 Reeling Quantity

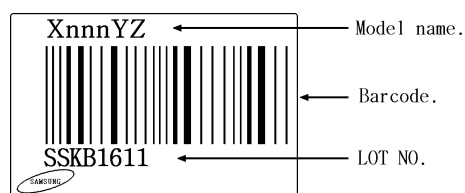
2,000 pcs/reel

5.3 Taping Structure

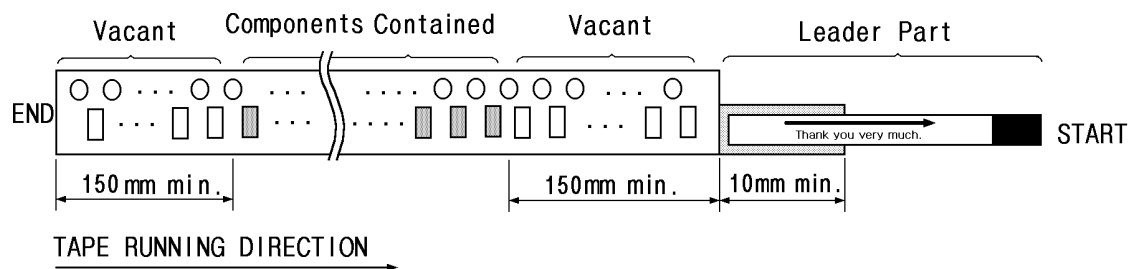
- (1) The tape shall be wound around the reel in the direction shown below.



- (2) Label



- (3) Leader part and vacant position specifications.

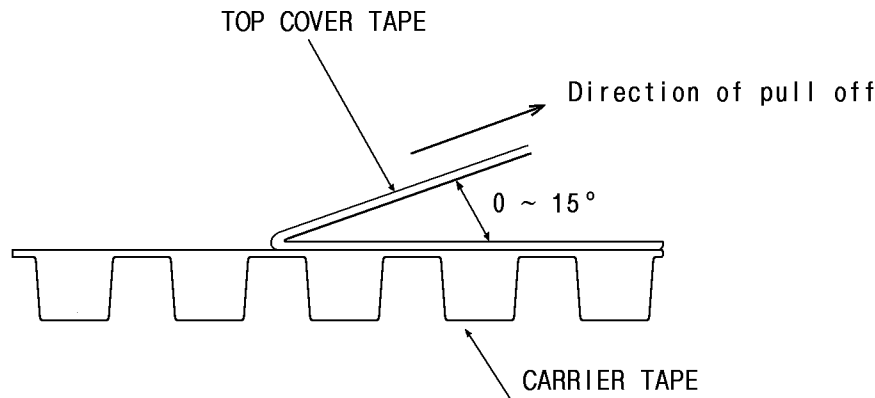


6. TAPE SPECIFICATIONS

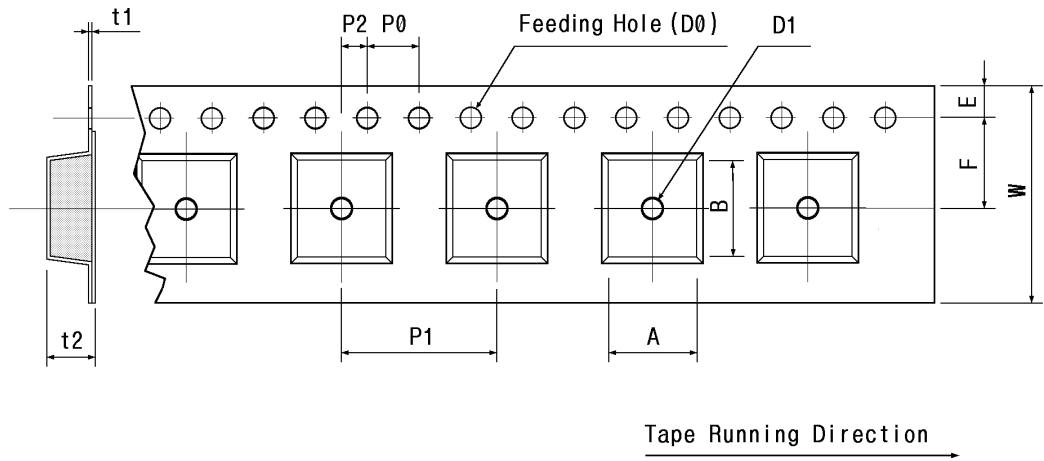
6.1 Tensile Strength of Carrier Tape: 4.4N/mm width

6.2 Top Cover Tape Adhesion(See the below figure)

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



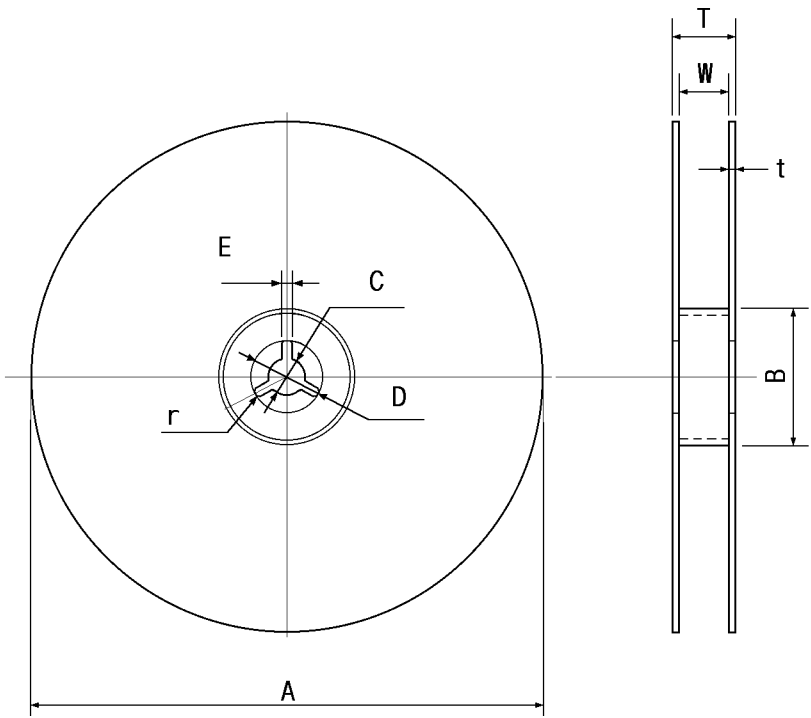
[Figure 1] Carrier Tape Dimensions



[Unit:mm]

W	F	E	P0	P1	P2	D0	D1	t1	t2	A	B
16.0 ±0.3	7.5 ±0.1	1.75 ±0.1	4.0 ±0.1	8.0 ±0.1	2.0 ±0.05	φ1.5 ±0.1	φ1.5 ±0.05	0.3 ±0.05	2.3 ±0.1	5.5 ±0.1	7.5 ±0.1

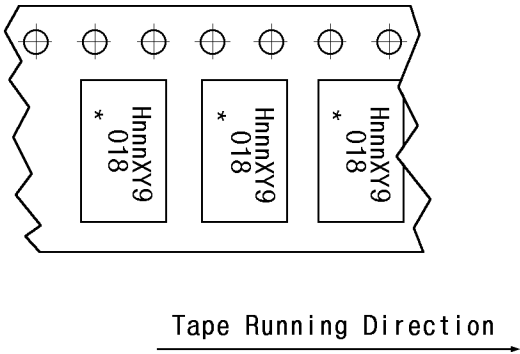
[Figure 2] Reel Dimensions



[Unit:mm]

A	B	C	D	E	W	T	t	r
$\phi 330(13'')$ ± 2	$\phi 100$ ± 2	$\phi 13$ ± 0.5	$\phi 26$ ± 0.5	2.5 ± 0.1	17 ± 0.5	21 ± 0.5	2.0 ± 0.1	1.1 ± 0.05

[Figure 3] Part Direction



7. CAUTION

7-1. This is an electrostatic sensitive device. Please avoid static voltage during operation and storage.

7-2. Sudden change of temperature shall be avoided, deterioration of the characteristics can occur.

7-3. Ultrasonic vibration may cause deterioration and destruction of the components. Please avoid ultrasonic cleaning.

8. REVISION

Date	Page	Revision	Reason
Mar. 21, 2000	3	pin ① marking character change * → K or C or P or *	K: Korea C: China P: Philippine *: meaningless
	7	5.3 Taping Structure (1) Labeling position change (2) Label change (3) Leader Part change	introduce bar code
May. 08, 2000	7	5.3 Taping Structure (1) Labeling position change	back to the former spec.