SEP. 16, 2001

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Checked by: SungIl Park
Issued by: Kim, MyeongKee

SPECIFICATION

MODEL: 5437AS

SURFACE ACOUSTIC WAVE FILTER

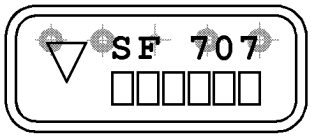
PRELIMINARY

To: 삼성전기 영상디지털사업부

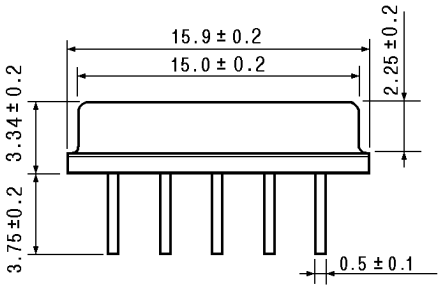
SAMSUNG ELECTRO-MECHANICS CO., LTD.
314. MAETAN3-DONG, PALDAL-KU,
SUWON-SI, KYUNGKI-DO, KOREA, 442-743

1. OUTLINE DRAWING AND DIMENSION

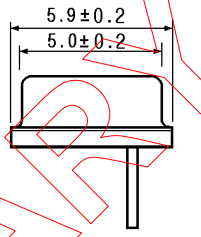
[Unit : mm]



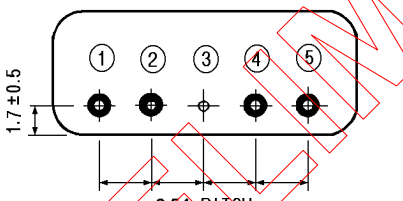
[TOP VIEW]



[SIDE VIEW]



[RIGHT SIDE VIEW]



[BOTTOM VIEW]

PIN NO.	FUNCTION
①	BALANCE INPUT or SINGLE INPUT
②	BALANCE INPUT or SINGLE GROUND
③	GROUND
④	BALANCE OUTPUT or SINGLE GROUND
⑤	BALANCE OUTPUT or SINGLE OUTPUT

2. MARKING

SF 132
▽ 5437AS

Color : Black/Red Ink or LASER Marking
Model No. : 5437AS (S-type Package)
Lot No. : 132
Pin No. 1: ▽

3. PERFORMANCE

3-1. APPLICATION

IF Filter for Digital cable TV(US)

3-2. MAXIMUM RATING

(Ta = 25℃)

CHARACTERISTICS		RATING	UNITS
Input signal voltage		5	Vp-p
DC voltage	between inputs	3	V
	between outputs		
	between others	15	
AC voltage : 50~60 Hz		10	Vp-p
Operating temperature range		-25 ~ +65	℃
Storage temperature range		-25 ~ +85	℃

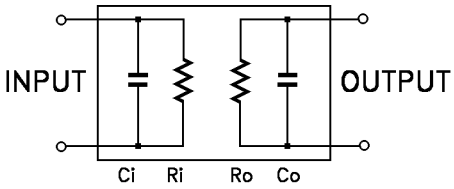
3-3. ELECTRICAL CHARACTERISTICS

3-3-1. TABLE

Ta=25℃(45℃)

CHARACTERISTICS		Freq. (MHz)	Specification				Test Fixture
			Min.	Typ.	Max.	Units	
3dB Center frequency at 45℃			43.68	43.75	43.82	MHz	
Insertion Loss (α)		43.81(43.75)	2.1	3.6	5.1	dB	
Pass bandwidth α - 3dB α - 30dB			 -	 6.0 7.6	 - -	MHz	
Relative Attenuation (Ref.: α)		39.81(39.75) 40.81(40.75) 41.28(41.22) 46.34(46.28) 46.81(46.75) 47.81(47.75)	38 1.3 -0.8 -0.7 1.6 37	45 2.7 0.1 0.4 2.4 44	- 3.7 1.2 1.3 4.0 -	dB	No. 1
	Lower sidelobe	35.06 ~ 39.06 (35.00~39.00) 39.06 ~ 39.81 (39.00~39.75)	41 37	45 43	- -		
	Upper sidelobe	47.81 ~ 50.06 (47.75~50.00) 50.06 ~ 55.06 (50.00~55.00)	36 42	39 46	- -		
Group Delay Ripple(p-p)		40.81 ~ 46.81 (40.75 ~ 46.75)		60		nsec	
Impedance	R_i/C_i	43.81MHz	-	1.3//18	-	kΩ//pF	
	R_o/C_o	43.81MHz	-	1.4//5.9	-	kΩ//pF	
Temperature Coefficient of Frequency Response				-72		ppm/℃	

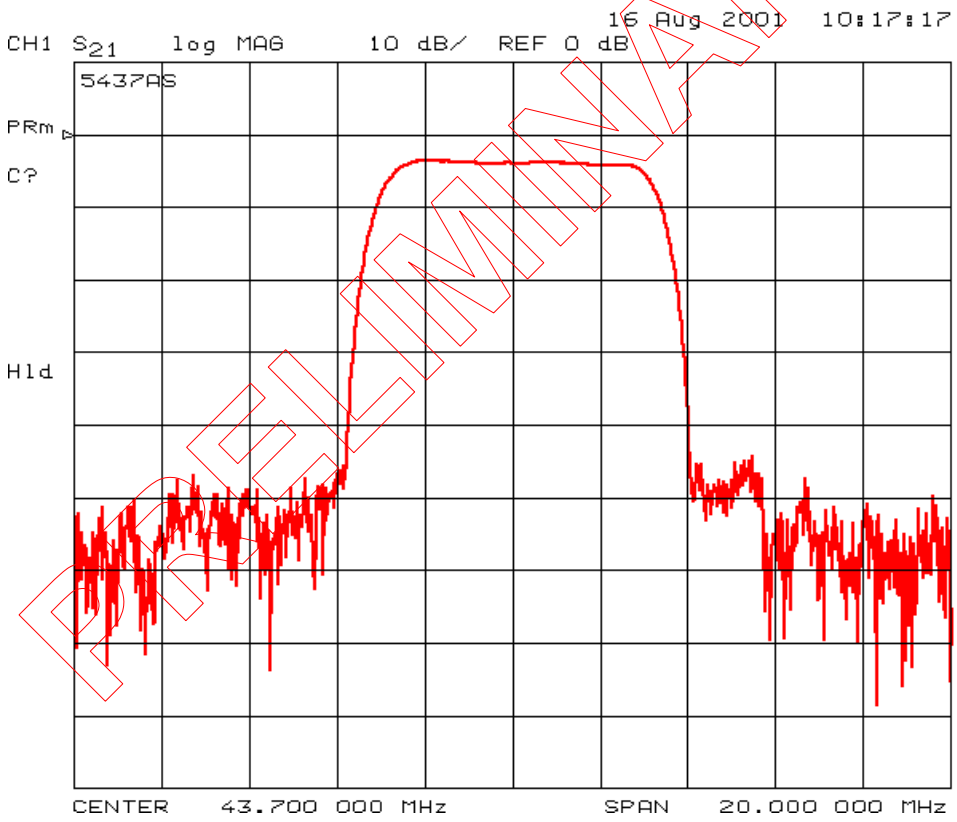
Impedance equivalent circuit is shown below.



Equivalent Circuit

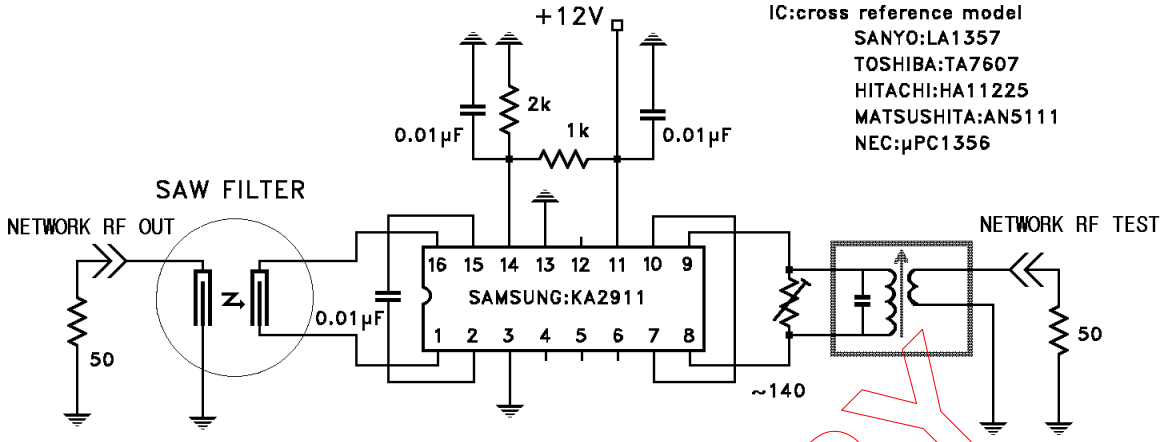
3-3-2. GRAPH

Frequency Response by Test Fixture No. 1

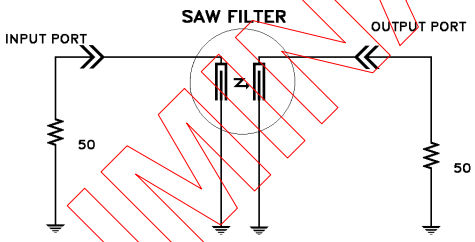


3-3-3. TEST FIXTURE

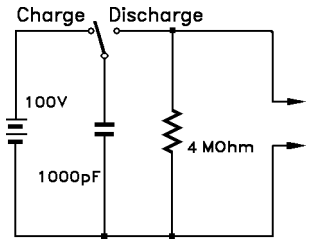
No. 1



No. 2



4. RELIABILITY

ITEM	TEST CONDITION	LIMIT
4-1. LIFE TEST		
High Temperature Operation High Temperature Exposure Low Temperature Exposure Moisture Resistance Salt Spray	Ta=+70±2℃, 500h, DC 3V, Output ports load. Tstg=+85±2℃, 500h Ta=-40±2℃, 500h Ta=+40±2℃, RH 90~95%, 500h After soldering, 5% salt solution, 24h	insertion loss : initial ±1.5dB amplitude response : pass bandwidth α -1dB,-3dB,-30dB initial ±0.5MHz (with test fixture on No. 1)
4-2. HEAT CYCLE, SOLDERING TEST		
Temperature Cycle	(-20℃,30min→25℃,5min→80℃,30min →25℃,5min) 5 cycle.	Same as 4-1.
Solderability	Immerse the pins in melt solder at 230±5℃ for 2+1-0 sec.	More than 90% of total area of the pins should be covered with solder
Heat Resistivity for Melt Solder	Immerse the pins in melt solder at 260±5℃ for 10+2-0 sec.	Same as 4-1.
4-3. MECHANICAL TEST		
Vibration Drop	Amplitude=2mm, 20↔60Hz, sweep time 1 minute, 3 direction each 8h. On concrete plate from 1m high, 3 times.	Same as 4-1.
Lead Bend	90° bending with 450g weight, 2 times.	Should not be broken.
Lead Pull	After bending lead parallel to header base, pull with 1kg force for 1 minute.	Should not be lost or broken.
4-4. SURGE TEST		
Surge Test	10 times between any leads 	Same as 4-1.

5. REVISION

Date	Page	Revision	Reason