AUG. 14, 1996

Approved by: JaeJo Kim
Checked by: NamHun Lee
Issued by: Kim, MyeongKee

SPECIFICATION

MODEL: 1457KG

SURFACE ACOUSTIC WAVE FILTER

TO: 우주통신 박순범

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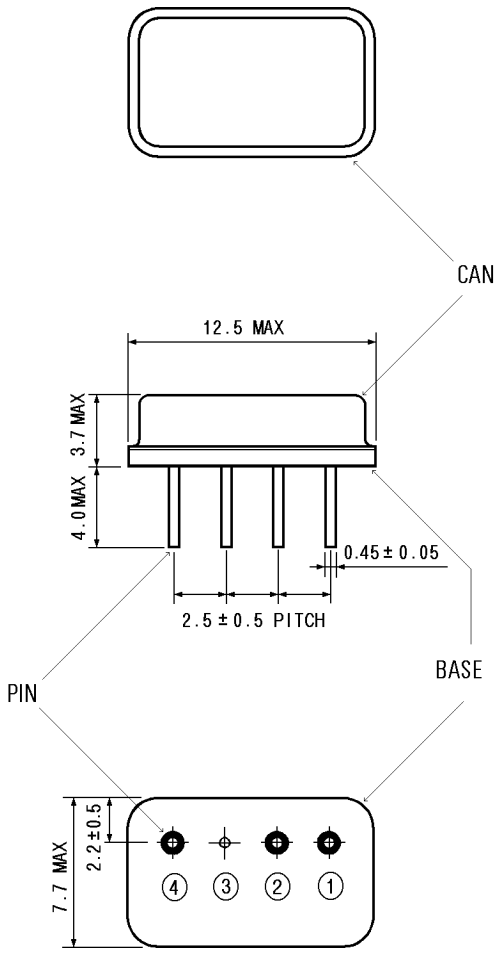
SAMSUNG ELECTRO-MECHANICS CO., LTD.
314. MAETAN3-DONG, PALDAL-KU,
SUWON-SI, KYUNGKI-DO, KOREA, 442-743

1. OUTLINE DRAWING AND DIMENSION

[Unit:mm]



[TOP VIEW]

[SIDE VIEW]

[BOTTOM VIEW]

PARTS	MATERIAL	FINISH
CAN	SPCC	Ni plated(1~3μm)
BASE	SPCC	Ni plated(4~8μm) Au plated(0.05μm min.)
PIN	KOVAR	Ni plated(4~8μm) Au plated(0.05μm min.)

PIN NO.	FUNCTION
①	OUTPUT
②	OUTPUT
③	GROUND
④	INPUT

2. MARKING

SF 606
1457KG

Color : Black/Red Ink or Laser Marking
Model No. : 1457KG (G-type Package)
Lot No. : 606

3. PERFORMANCE

3-1. APPLICATION

NTSC M/N System

Video Frequency : 45.75MHz

3-2. MAXIMUM RATING

(Ta = 20℃)

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		-20 ~ +85	℃
Storage temperature range		-55 ~ +85	℃

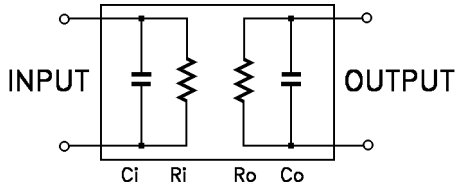
3-3. ELECTRICAL CHARACTERISTICS

3-3-1. TABLE

(Ta=20℃)

CHARACTERISTICS		Freq. (MHz)	Specification				Test Fixture
			Upper	Nominal	Lower	Units	
Insertion Loss		peak	37	35		dB	No. 2
Relative Amplitude (Ref.:fp)	adj.picture	39.75 fp-6	-40			dB	No. 1
	sound	41.25 fp-4.5	-7.5	-10.0	-11.5		
	color	42.17 fp-3.58	5.0	3.5	2.0		
	peak		6.5	4.5	3.5		
	picture	45.75 fp		0			
	adj.sound	47.25 fp+1.5	-40				
Spurious Level (Ref.:peak)		33.75 ~ 39.75	-30	-38			
		47.25 ~ 53.25	-30	-38			
Bandpass Ripple		42.17 ~ 45.75	0.6	0.2			
Group Delay Ripple(p-p)		42.17 ~ 45.75	100			nsec	
Temperature Coefficient of Frequency Response		-20 ~ +85℃		-25	-30	ppm/℃	No. 2
Impedance	R_i/C_i	43.5		2.5/14.5		kΩ/pF	
	R_o/C_o	43.5		5.0/10.5		kΩ/pF	

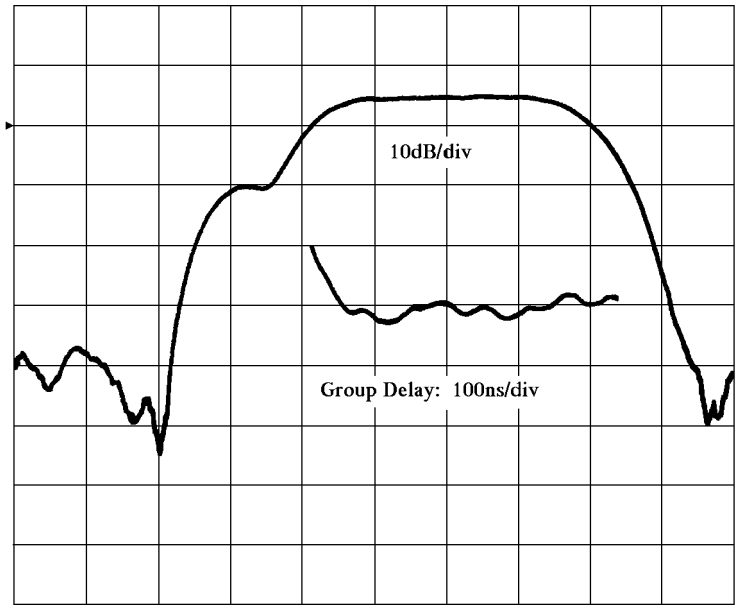
Impedance equivalent circuit is shown below.



Equivalent Circuit

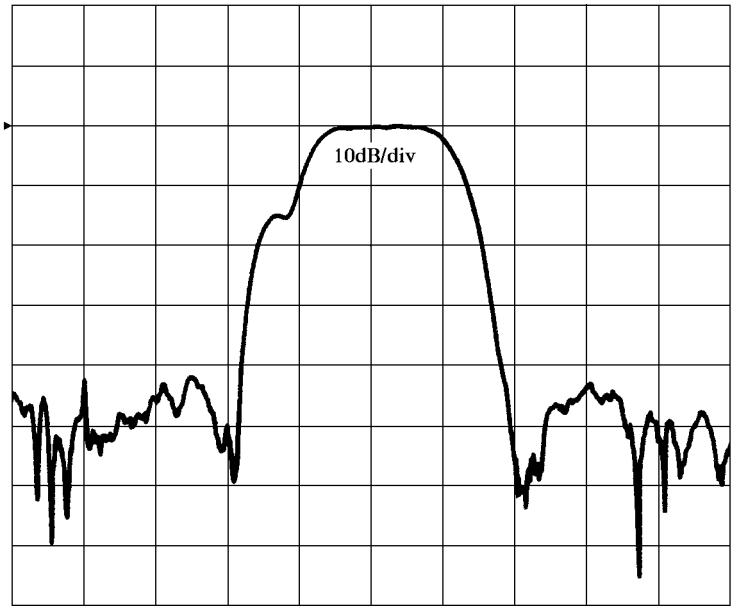
3-3-2. GRAPH

Passband Characteristics



Start:fp-8MHz Stop:fp+2MHz

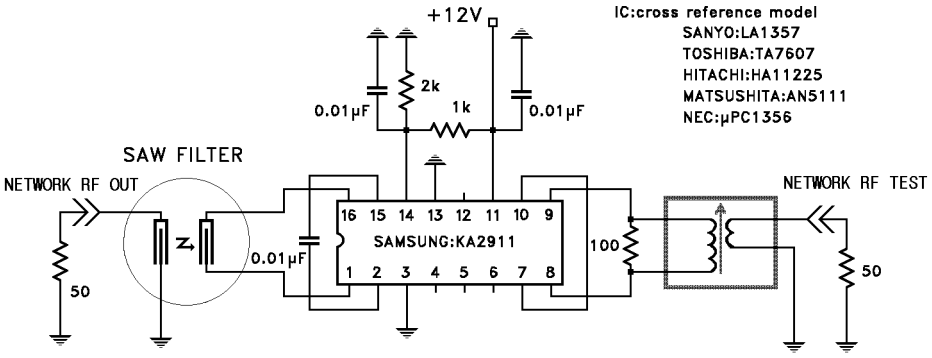
Spurious Characteristics



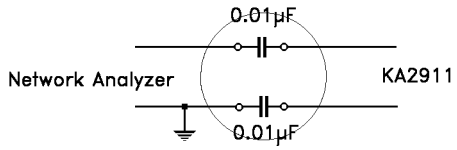
Start:33.75MHz Stop:53.25MHz

3-3-3. TEST FIXTURE

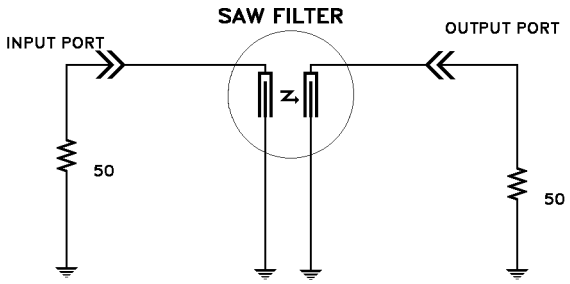
No. 1



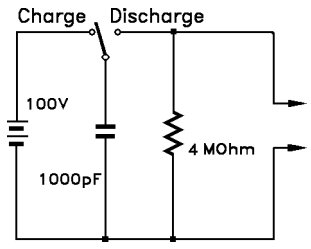
Measuring circuit for normalizing.



No. 2



4. RELIABLITY

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 : (fs,fc,peak) initial ±1.0dB (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 to 1mm from bottom of the base 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
AUG.26,1997	2	PARTS/MATERIAL/FINISH add	user required
	3	Color: Black or Red → Color: Black/Red Ink or Laser Marking	process add
	7	Immerse the pins in melt solder at ... → Immerse the pins in melt solder to 1mm from bottom of the base at ...	user required