

AUG. 4, 1995

Approved by: JaeJo Kim

Checked by: SungIl Park

Issued by: HyangJa Park

박향자

SPECIFICATION

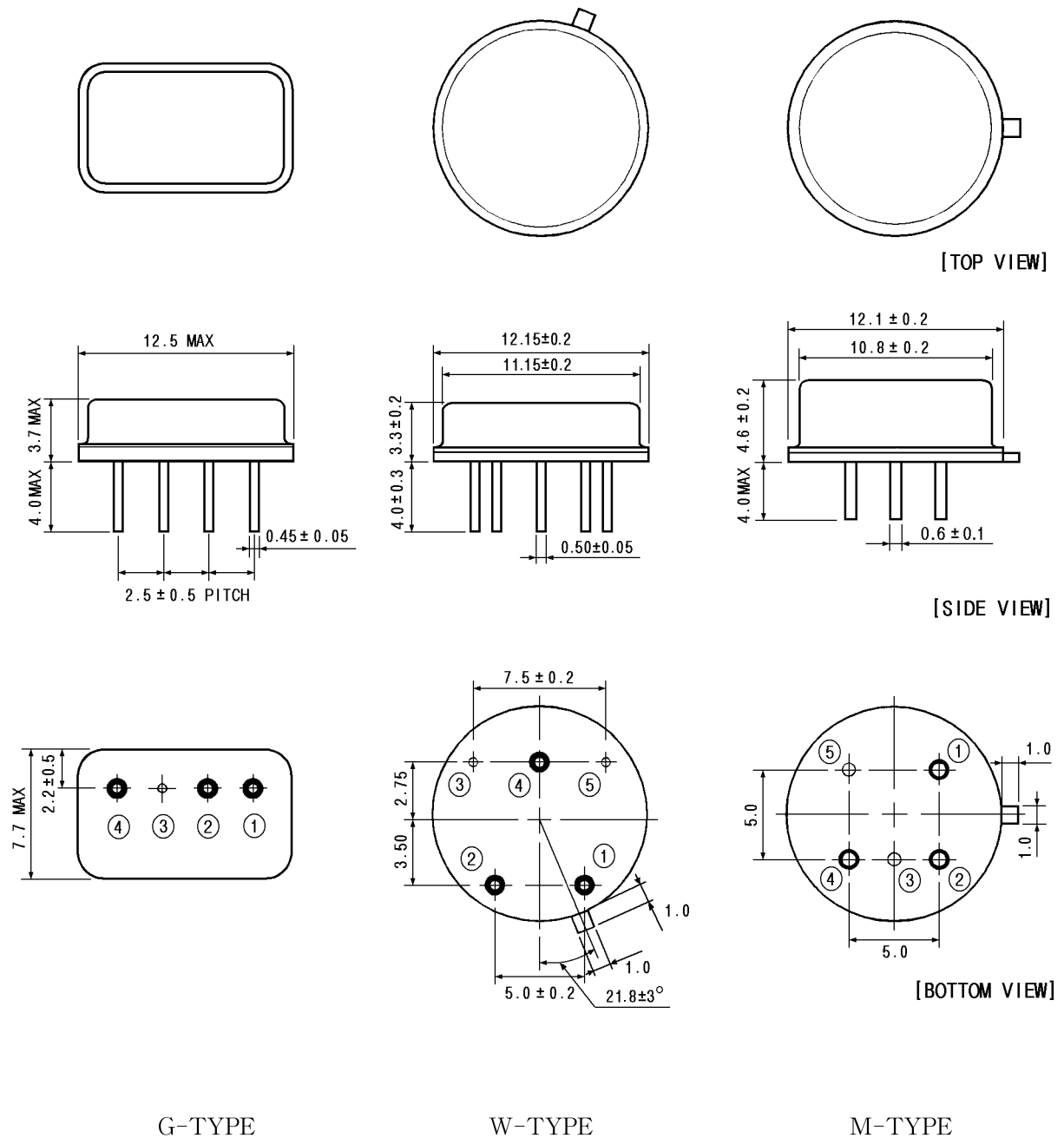
MODEL: 1457C□

SURFACE ACOUSTIC WAVE FILTER

PRELIMINARY

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

1. OUTLINE DRAWING AND DIMENSION



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

2. MARKING

SF 505 SF SF
1457CG 1457CW 1457CM
505 505

Color : Black or Red

Model No. : 1457CG (G-type Package)
 1457CW (W-type Package)
 1457CM (M-type Package)

Lot No. : 505

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

TV-IF FILTER M/N System

Video Frequency : 45.75MHz

3-2. MAXIMUM RATING

(Ta = 20℃)

CHARACTERISTICS		RATING	UNITS
Input signal voltage		5	V _{p-p}
DC voltage	between inputs	3	V
	between outputs		
	between others	15	
AC voltage : 50~60 Hz		10	V _{p-p}
Operating temperature range		-20 ~ +70	℃
Storage temperature range		-55 ~ +85	℃

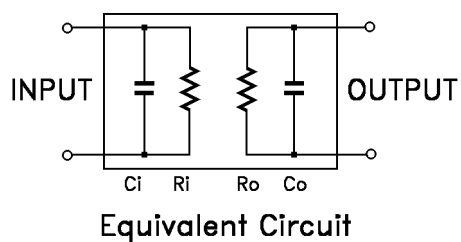
3-3. ELECTRICAL CHARACTERISTICS

3-3-1. TABLE

(Ta=20℃)

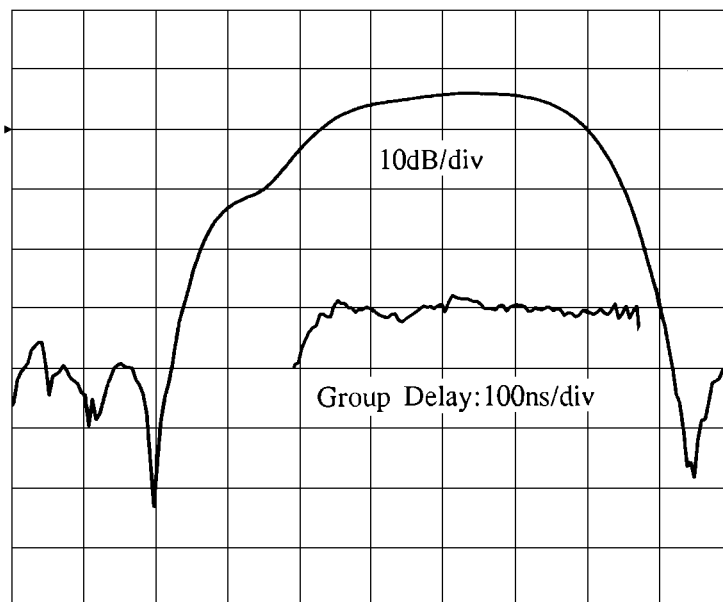
CHARACTERISTICS		Freq. (MHz)	Specification				Test Fixture
			Upper	Nominal	Lower	Units	
Insertion Loss		peak	37	35		dB	No. 2
Relative Amplitude (Ref.:fp)	adj.picture	39.75 fp-6	-35			dB	No. 1
	sound	41.25 fp-4.5	-7.7	-10.7	-13.7		
	color	42.17 fp-3.58	2.3	0.8	-0.7		
	peak		7.5	6.0	4.5		
	picture	45.75 fp		0			
	adj.sound	47.25 fp+1.5	-35				
Spurious Level (Ref.:peak)		33.75 ~ 39.75 47.25 ~ 53.25	-30 -30	-35 -35			
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 ~ 70 ℃		-18	-25	ppm/℃	No. 2
Impedance	R _i /C _i	44.0		2.5/14		kΩ/pF	
	R _o /C _o	44.0		5.0/ 9		kΩ/pF	

Impedance equivalent circuit is shown below.



3-3-2. GRAPH

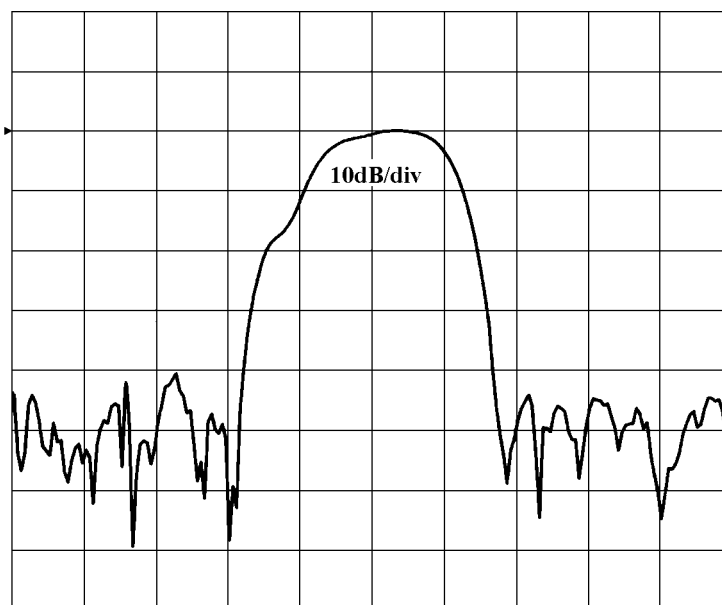
Passband Characteristics



Start:fp-8MHz

Stop:fp+2MHz

Spurious Characteristics

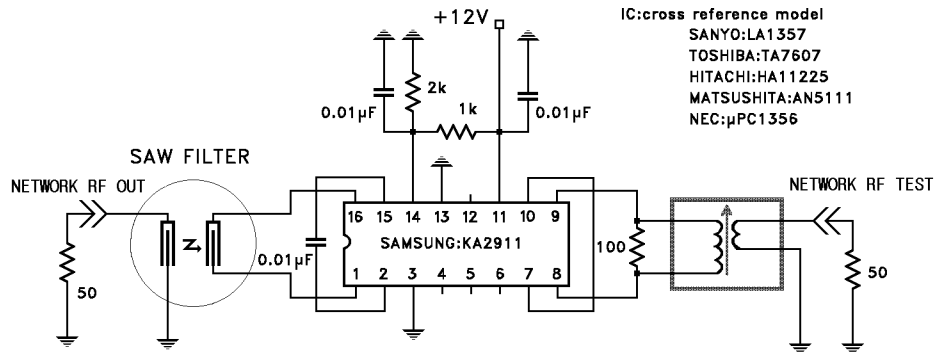


Start:33.75MHz

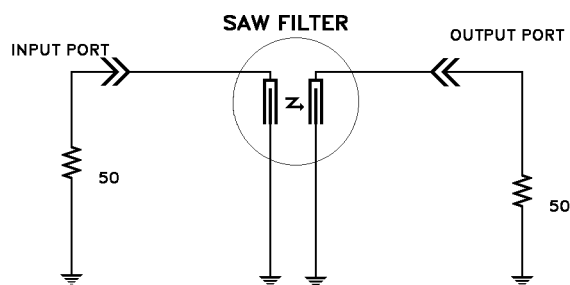
Stop:53.25MHz

3-3-3. TEST FIXTURE

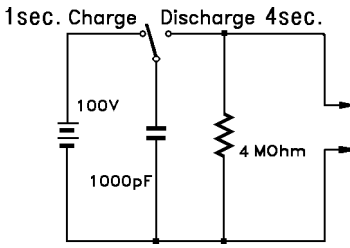
No. 1



No. 2



4. RELIABILITY

ITEM	TEST CONDITION	LIMIT
4-1. LIFE TEST		
High Temperature Operation	Ta=+70±2℃, 500h, DC 3V, Output ports load.	insertion loss : initial ±1.5dB amplitude response : (fs,fc,peak) initial ±1.0dB (with test fixture on No. 1)
High Temperature Exposure	Tstg=+85±2℃, 500h	
Low Temperature Exposure	Ta=-40±2℃, 500h	
Moisture Resistance	Ta=+40±2℃, RH 90~95%, 500h	
Salt Spray	After soldering, 5% salt solution, 24h	
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	Amplitude=2mm, 20↔60Hz, sweep time 1 minute, 3 direction each 8h.	Same as 4-1.
Drop	On concrete plate from 1m high, 3 times.	
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 1sec. Charge Discharge 4sec. 	Same as 4-1.

5. REVISION

Date	Page	Revision	Reason