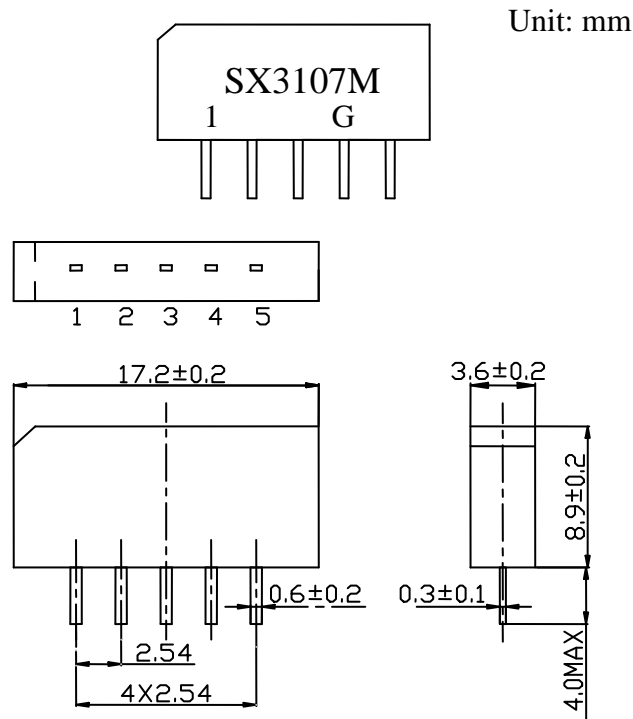




1. Package Dimension



Pin No.	Functions
1.	Input
2.	Input - ground
3.	Chip carrier - ground
4.	Output
5.	Output

2. Marking

S. Trademark

X3107M. Model

1 . Pin 1

3. Performance

3.1 Part No: SX3107D

3.2 Use: TV IF Filter for digital cable TV

3.3 MAXIMUM RATINGS

DC voltage	V_{DC}	12	V	Between any terminals
AC voltage	V_{PP}	10	V	Between any terminals
Operating Temperature Range	T_A	-25~65	°C	
Storage Temperature Range	T_{stg}	-40~85	°C	

3.4 Electronic Characteristics

Source impedance

$Z_s=50\ \Omega$

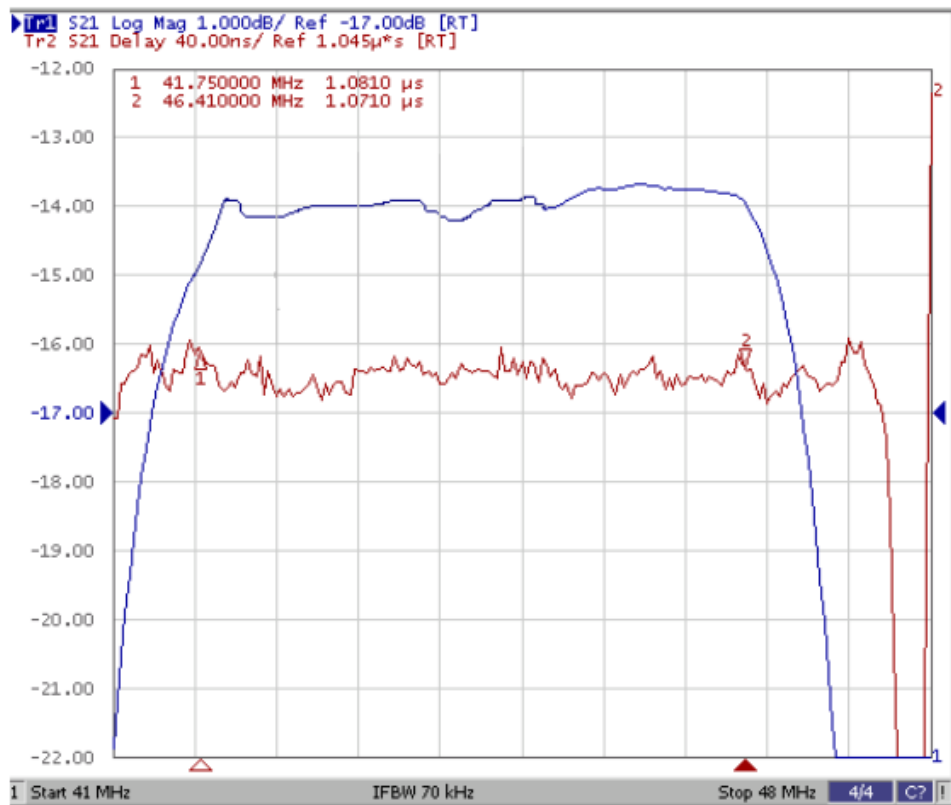
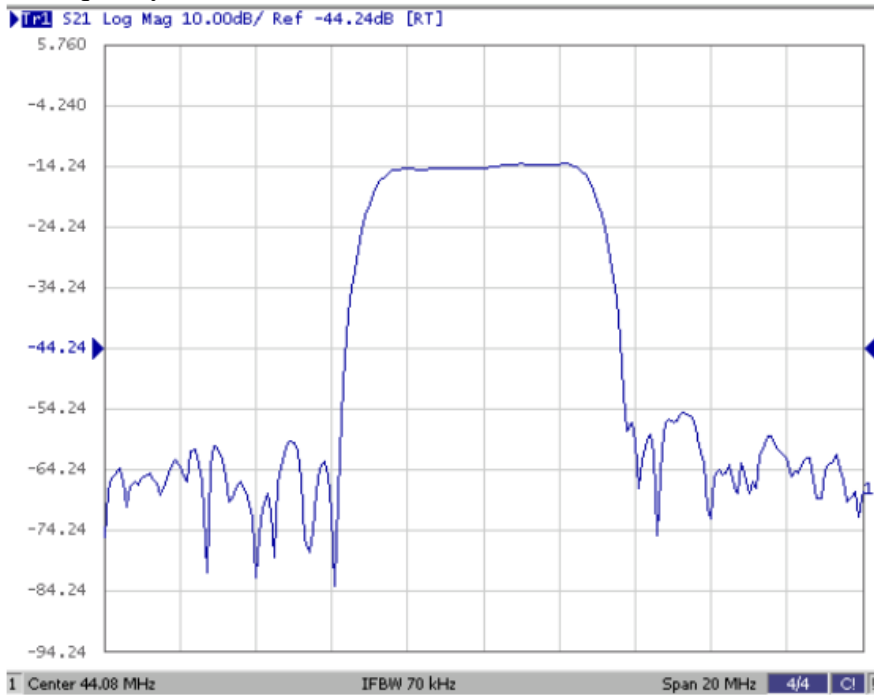
Load impedance

$Z_L=2k\ \Omega // 3pF$

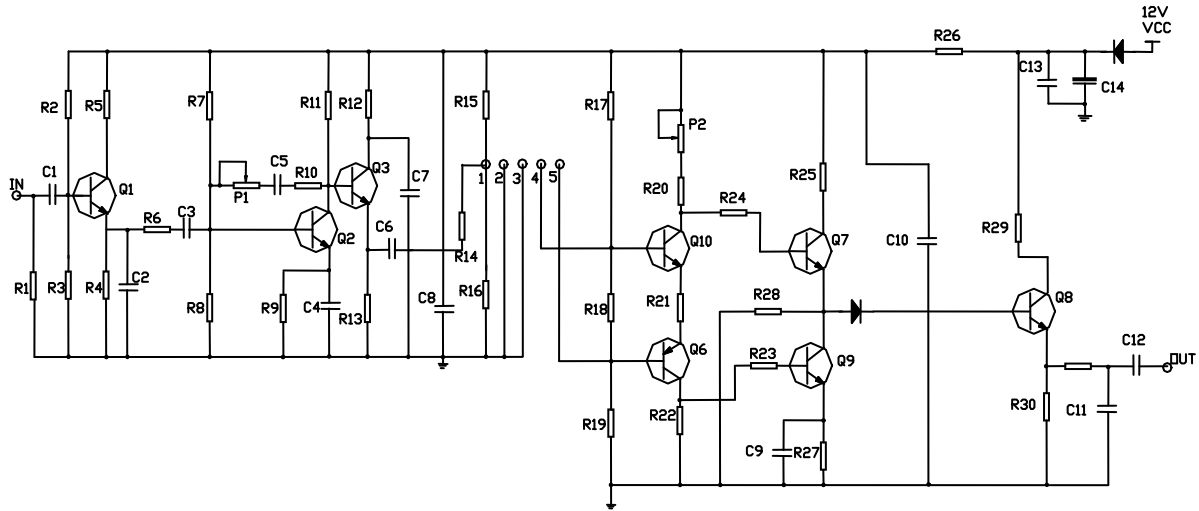
$T_A=25^\circ C$

Item	Freq	min	typ	max	
Center frequency (center between 10dB points)	F c	-	44.00	-	MHz
Insertion attenuation Reference level	44.08 MHz	11.5	13.0	14.5	dB
Pass bandwidth	B_{3dB}	-	5.6	-	MHz
	B_{30dB}	-	7.3	-	MHz
Amplitude(p-p)	41.75-46.41MHz	-	0.6	-	dB
Sidelobe	35.08~38.08MHz	42.0	48.0	-	dB
	38.08~40.13MHz	38.0	45.0	-	dB
	48.03~50.33MHz	37.0	45.0	-	dB
	50.33~55.08MHz	41.0	50.0	-	dB
Reflected wave signal suppression 1,1us ... 6,0 us after main pulse (test pulse 250 ns, carrier frequency 44.08MHz)		42.0	52.0	--	dB
Feedthrough signal suppression 1,3us ... 1.2 us before main pulse (test pulse 250 ns, carrier frequency 44.08MHz)		50.0	56.0	-	
Group delay ripple (p-p) 41.75~46.41MHz		-	40.0	-	ns
Temperature coefficient			-72		ppm/k

3.5 Frequency Characteristics



4. Test Circuit



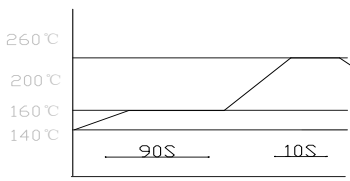
Test Circuit

5 ENVIRONMENTAL CHARACTERISTICS

5.1 Humidity, temperature Test

ITEM	REQUIREMENT	JUDGEMENT
High temperature storage	T=+85±2°C Duration time 500H Being placed in natural condition for 2±.5hours	1.No visible damage clear marker 2. Other electric characteristics should be fit for the provided characteristics in the form 3.4 after testing
Low temperature storage	T= -40±3°C Duration time 500H Being placed in nature condition for 2±5hours	
High-low temperature cycle	It shall be placed at temperature of -40°C±3°C for 30 minutes, then within 3 minutes replaced at temperature of +85°C±2°C for 30 minutes, and vice versa. Totally cycle 100 times. It shall be placed in natural condition for 2±0.5 hours.	
Humidity resistance test	T=60°C±2°C, RH=90~95% Duration time 500H. Being placed in natural condition for 2±0.5 hours	

5.2 Solder-heat Resistance Test

ITEM	REQUIREMENT	JUDGEMENT
Solder-heat Resistance	1.Soldering trough: The 1mm thick PCB fixed with device are immersed in solder trough of $260 \pm 5^{\circ}\text{C}$ for 10 ± 1 seconds. And then it shall be measured after being placed in natural condition for 2 ± 0.5 hours. 2. Manual soldering with electrical soldering iron: $T=350 \pm 10^{\circ}\text{C}$ for 3-4 seconds. And then it shall be measured after being placed in natural condition for 2 ± 0.5 hours	Same as judgement of 5.1
solderability	Lead terminals are immersed in solder bath of $245 \pm 5^{\circ}\text{C}$ for 3-5 seconds.	The solder shall cover at least 80% of the lead terminal
reflow soldering	Repeated 3 times after being on PCB under following condition: 	Same as judgement of 5.1

5.3 Mechanical Test

ITEM	REQUIREMENT	JUGEMENT
Vibration Fatigue and terminal Strength test	Force 10 ± 1 seconds of 19.6N applied to each terminal in axial direction. Lead terminals shall be folded up to 45° with 5N force, then folded back to their axial direction 2 times. It shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 55Hz of vibration frequency to each of 3 perpendicular directions for 2 hours.	Same as judgement of 5.1
Drop test	It shall be measured after 10 times random drop from the height of 1 m onto the 20mm thicker hard wood floor.	
Mechanical Shock	The components shall remain within the electrical specifications after 1000 shocks, acceleration 392 m/s^2 , duration 6 milliseconds.	