SAW Components

SAW bandpass Filter

Low loss bandpass filter for terrestrial TV applications

Series/type: **X 7550 D**
Ordering code:

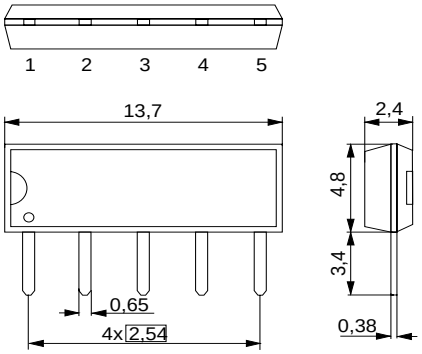
Date: July 17, 2006
Version: 1.1

Application

- IF filter for digital terrestrial TV
- Usable bandwidth 5.7 MHz
- Low insertion attenuation

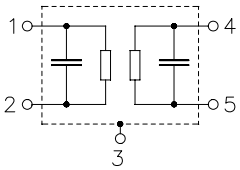
Features

- Duraplast package **SIP5D**
- Approximate weight 0.5 g
- Standard IC package
- RoHS compatible
- Tinned CuFe alloy terminals



Pin configuration

■	1	Input
■	2	Input
■	3	Chip carrier - ground
■	4	Output
■	5	Output

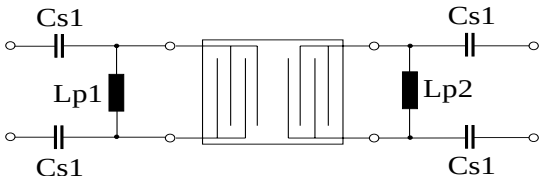


Characteristics

Reference temperature: T_A = 25 (45) ˚C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 2 kΩ || 3 pF and matching network

		min.	typ. @ 25 ˚C	max.	
Insertion attenuation	α				
Reference level for 44.06(44.00) MHz		5.0	7.0	9.0	dB
the following data					
Amplitude ripple (p-p)	$\Delta\alpha$				
41.66 ... 46.46 (41.60 ... 46.40) MHz		—	1.5	—	dB
Pass bandwidth					
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	—	5.7	—	MHz
Relative attenuation	α_{rel}				
39.81 (39.75) MHz		32.0	41.0	—	dB
41.26 (41.20) MHz		—	2.1	—	dB
46.86 (46.80) MHz		—	0.4	—	dB
47.31 (47.25) MHz		20.0	27.0	—	dB
Lower sidelobe					
35.06 ... 40.41 (35.00 ... 40.35) MHz		32.0	38.0	—	dB
Upper sidelobe					
47.71 ... 55.06 (47.65 ... 55.00) MHz		27.0	33.0	—	dB
Reflected wave signal suppression					
1.3 µs ... 6.0 µs after main pulse		24.0	34.0	—	dB
(test pulse 250 ns,					
carrier frequency 44.06 MHz)					
Group delay ripple (p-p)	Δt				
41.66 ... 46.46 (41.60 ... 46.40) MHz		—	190	—	ns
Impedance at 44.06 MHz					
Input: $Z_{IN} = R_{IN} \| \| C_{IN}$		—	1.0 || 21.7	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \| \| C_{OUT}$		—	8.0 || 3.6	—	kΩ || pF
Temperature coefficient of frequency	TC_f	—	–72	—	ppm/K

Matching network

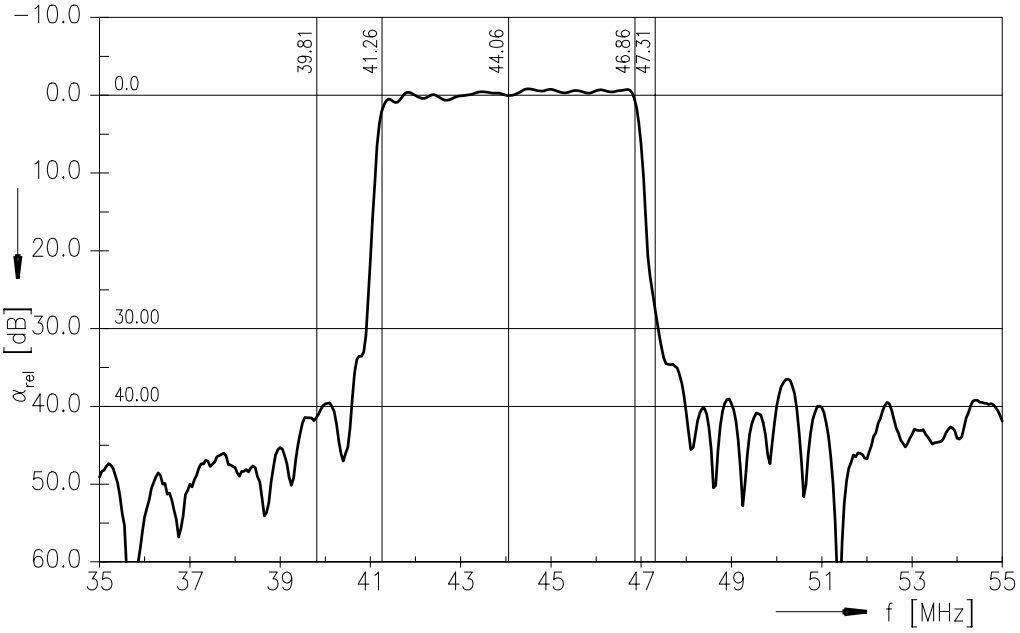


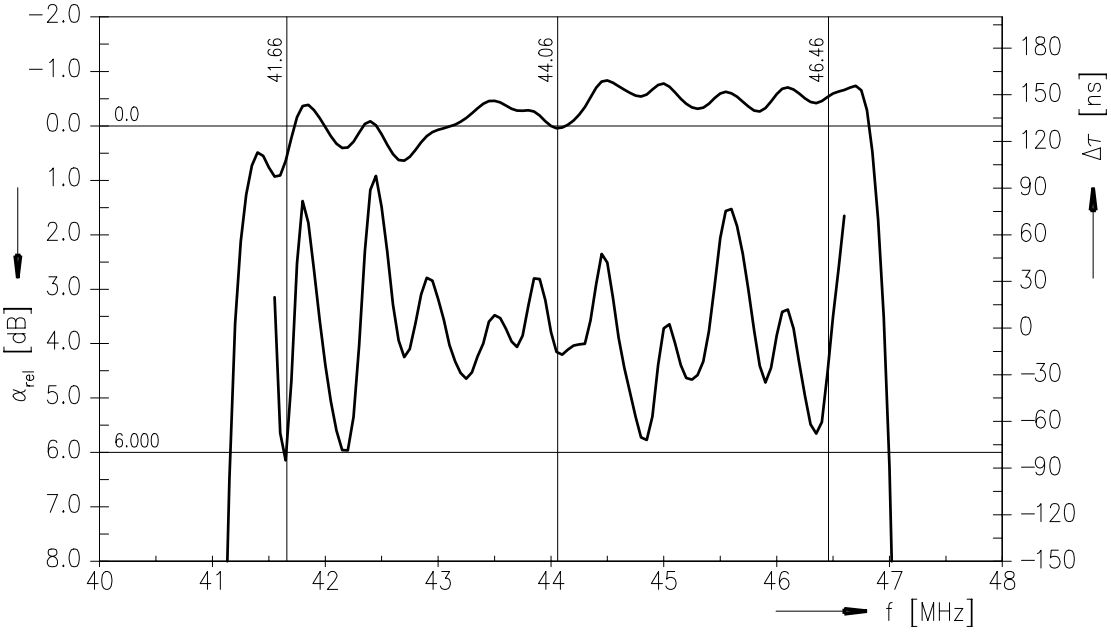
C_{s1} =12 pF
L_{p1} = 560 nH
L_{p2} =1800 nH

Maximum ratings

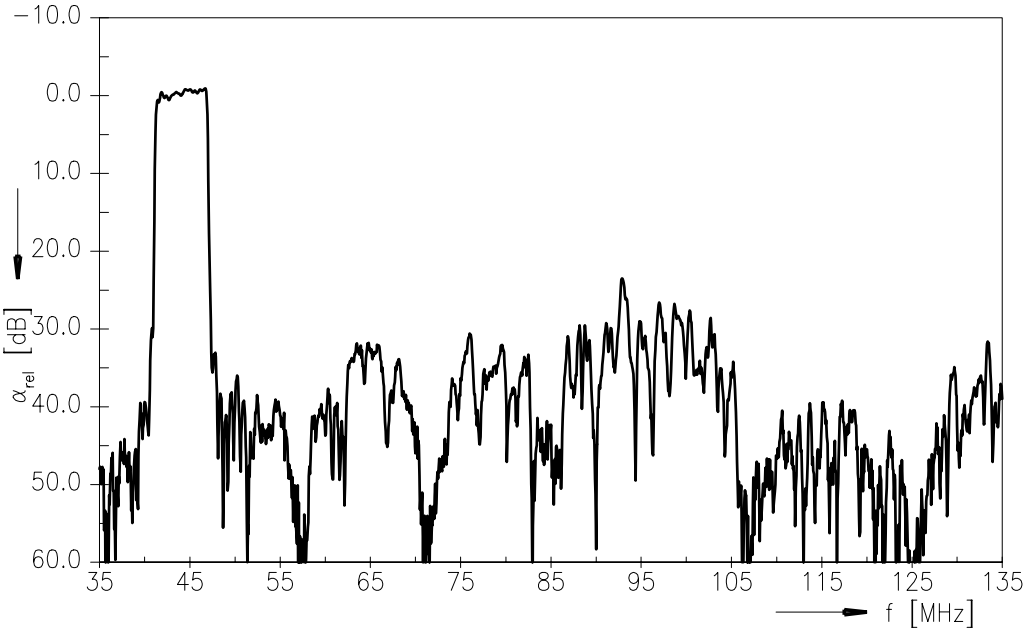
Operable temperature range	T	–25 / +65	˚C	
Storage temperature range	T_{stg}	–40 / +85	˚C	
DC voltage	V_{DC}	5	V	
AC voltage	V_{pp}	10	V	between any terminals

Frequency response

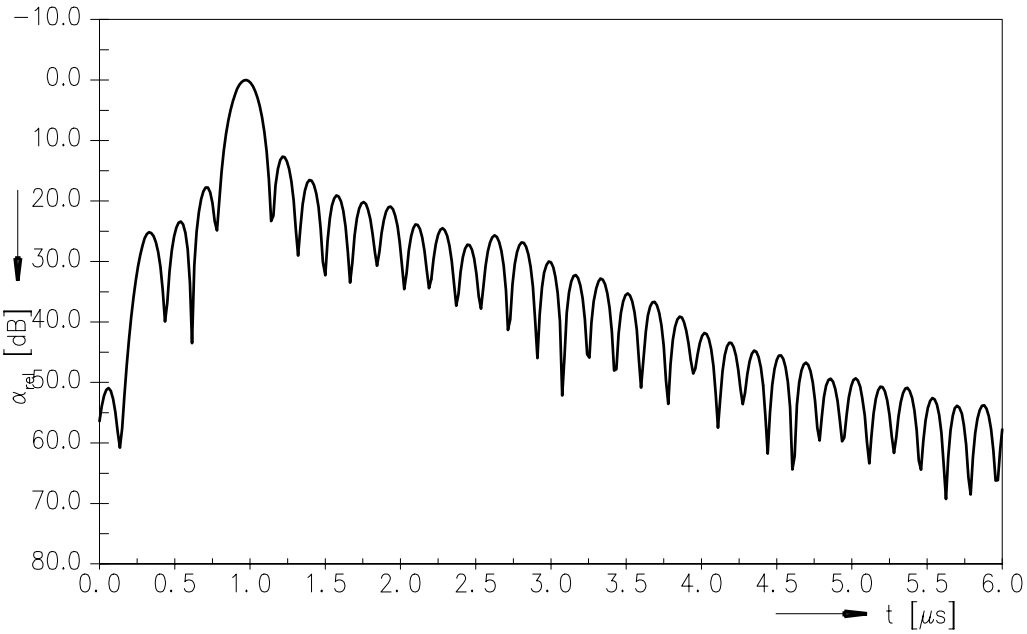




Frequency response



Time domain response



References

Type	X 7550 D
Ordering code	
Marking and package	C61157-A1-A21
Packaging	F61074-V8049-Z000
Date codes	L_1126
S-parameters	X7550D_NB.s4p
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."

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