SAW Components

SAW bandpass filter

Bandpass filter for terrestrial TV applications

Series/type:	**X 7261 X**
Ordering code:	**B39362-X7261-X400**
Date:	July 09, 2008
Version:	2.0

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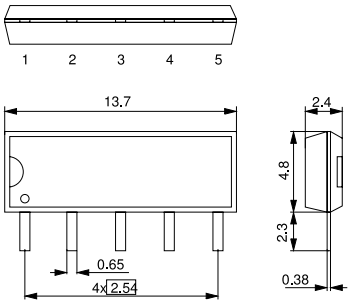
Application

- IF filter for digital TV
- Switchable between usable bandwidths 8.0MHz and 7.0MHz
- Constant group delay

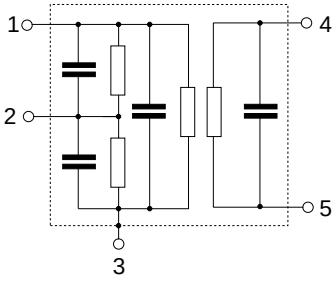
Features

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



Pin configuration

- 1 Input
- 2 Switching input
- 3 Chip carrier - ground
- 4 Output
- 5 Output



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Characteristics of channel 1 (switching pin 2 connected to ground)

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

		min.	typ. @ 25 ˚C	max.	
Center frequency (center between 10 dB points)	f_C	—	36.22	—	MHz
Insertion attenuation	α				
Reference level for 36.22 (36.17) MHz the following data		21.1	22.6	24.1	dB
Pass bandwidth					
$\alpha_{rel} \leq$ 1.5 dB	$B_{1.5dB}$	—	7.5	—	MHz
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	—	7.9	—	MHz
$\alpha_{rel} \leq$ 15 dB	B_{15dB}	—	9.0	—	MHz
$\alpha_{rel} \leq$ 30 dB	B_{30dB}	—	9.7	—	MHz
Relative attenuation	α_{rel}				
32.22 (32.17) MHz		—	3.2	—	dB
32.72 (32.67) MHz		—	0.3	—	dB
39.72 (39.67) MHz		—	0.7	—	dB
40.22 (40.17) MHz		—	4.3	—	dB
Lower sidelobe					
25.05 ... 31.20 (25.00 ...31.15) MHz		30.0	36.0	—	dB
Upper sidelobe					
41.20 ... 42.05 (41.15 ...42.00) MHz		34.0	40.0	—	dB
42.05 ... 45.05 (42.00 ...45.00) MHz		32.0	37.0	—	dB
Reflected wave signal suppression 1.3 µs ... 6.0 µs after main pulse (test pulse 250 ns, carrier frequency 36.22 MHz)		36.0	46.0	—	dB
Group delay ripple (p-p)	Δτ				
32.20 ... 40.20 (32.15 ...40.15) MHz		—	70	—	ns
Impedance at 36.22 MHz					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	3.2 || 10.9	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	4.4 || 2.9	—	kΩ || pF
Temperature coefficient of frequency	TC_f	—	–72	—	ppm/K

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Data Sheet

Characteristics of channel 2 (switching pin 2 connected to pin 1)

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

		min.	typ. @ 25 ˚C	max.	
Center frequency (center between 10 dB points)	f_C	—	36.22	—	MHz
Insertion attenuation	α				
Reference level for 36.22 (36.17) MHz the following data		19.7	21.2	22.7	dB
Pass bandwidth					
$\alpha_{rel} \leq$ 1.5 dB	$B_{1.5dB}$	—	6.5	—	MHz
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	—	6.8	—	MHz
$\alpha_{rel} \leq$ 15 dB	B_{15dB}	—	8.0	—	MHz
$\alpha_{rel} \leq$ 30 dB	B_{30dB}	—	8.5	—	MHz
Relative attenuation	α_{rel}				
32.72 (32.67) MHz		—	3.2	—	dB
33.39 (33.34) MHz		—	0.0	—	dB
39.05 (39.00) MHz		—	0.0	—	dB
39.62 (39.57) MHz		—	4.0	—	dB
Lower sidelobe					
25.05 ... 31.70 (25.00 ...31.65) MHz		28.0	33.0	—	dB
Upper sidelobe					
40.80 ... 42.55 (40.75 ...42.50) MHz		28.0	34.0	—	dB
42.55 ... 45.05 (42.55 ...45.00) MHz		30.0	36.0	—	dB
Reflected wave signal suppression 1.3 µs ... 6.0 µs after main pulse (test pulse 250 ns, carrier frequency 36.22 MHz)		—	48.0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
32.82 ... 39.72 (32.67 ...39.67) MHz		—	60	—	ns
Impedance at 36.22 MHz					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	1.9 || 14.3	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	4.4 || 2.9	—	kΩ || pF
Temperature coefficient of frequency	TC_f	—	–72	—	ppm/K

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Maximum ratings

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

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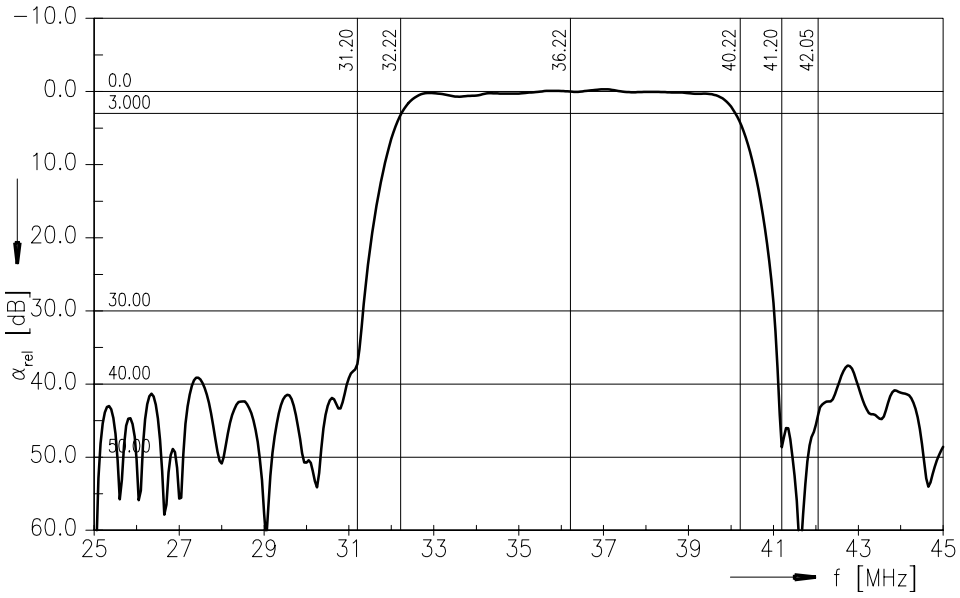
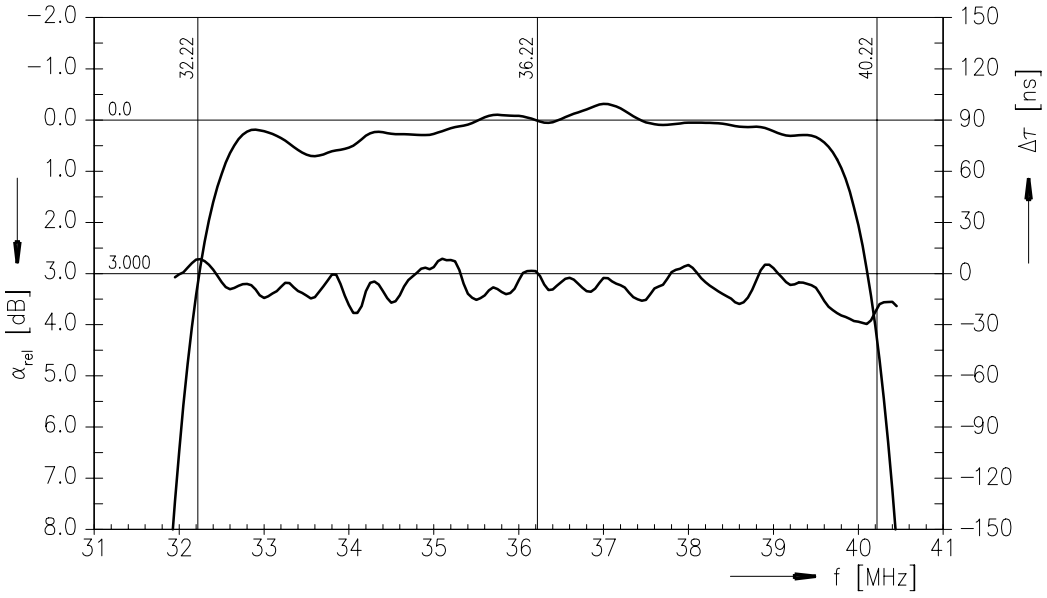
Frequency response of channel 1





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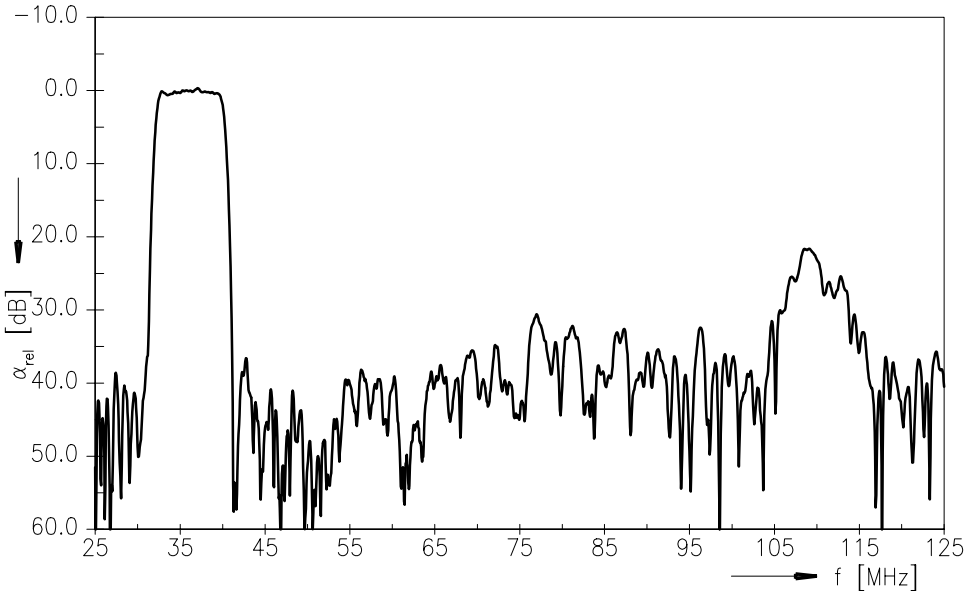
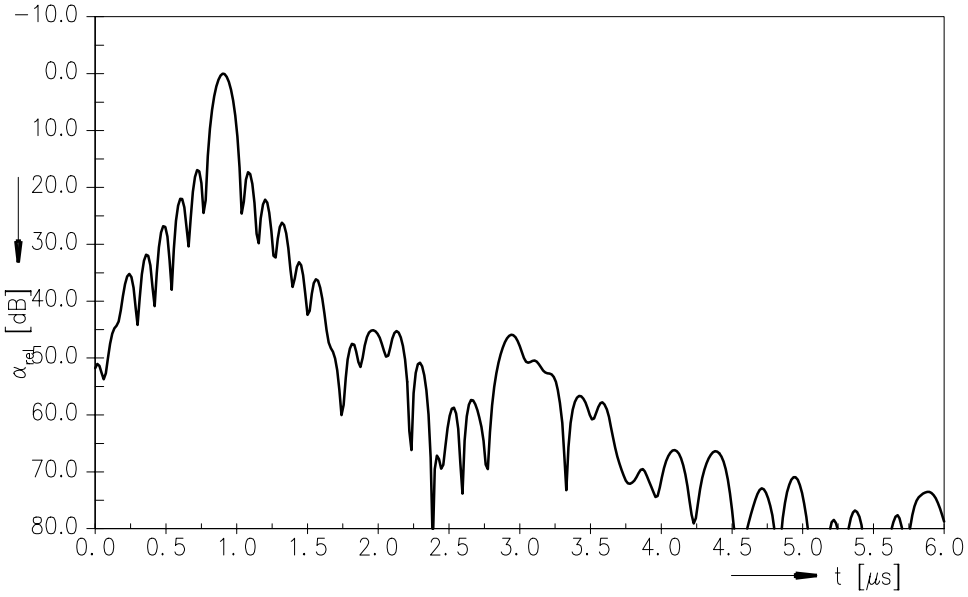
Frequency response of channel 1



Time domain response of channel 1



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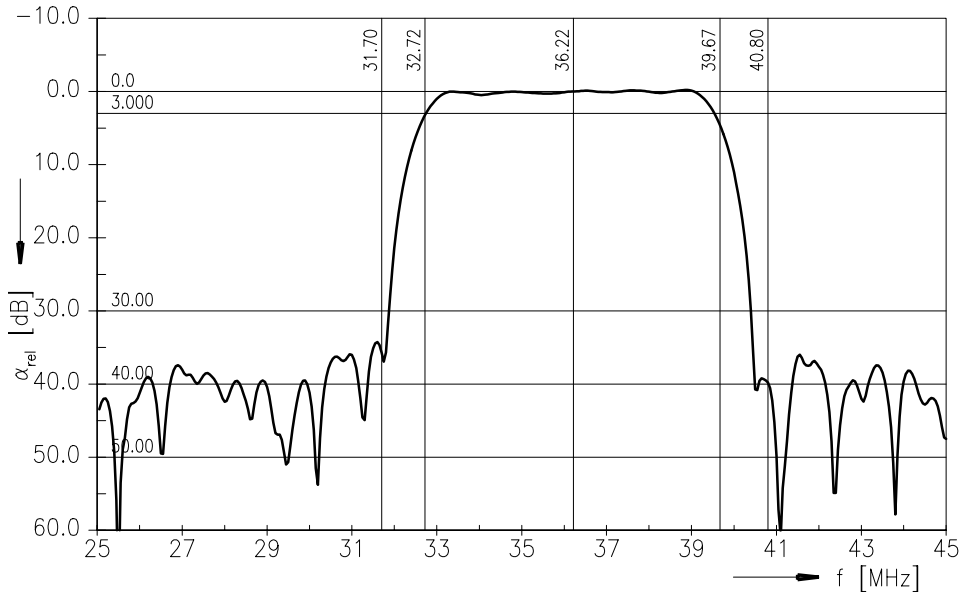
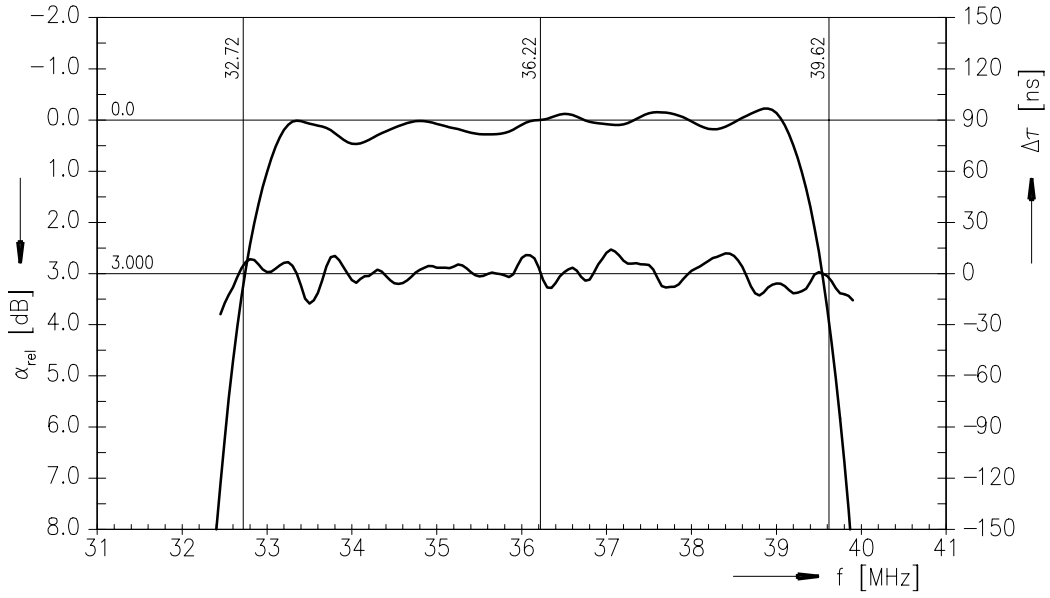
Frequency response of channel 2





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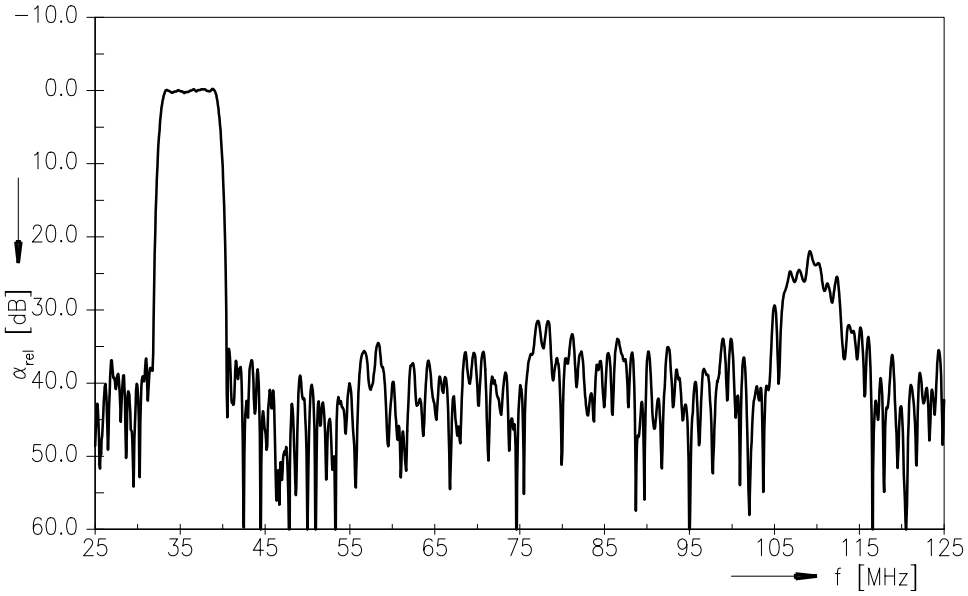
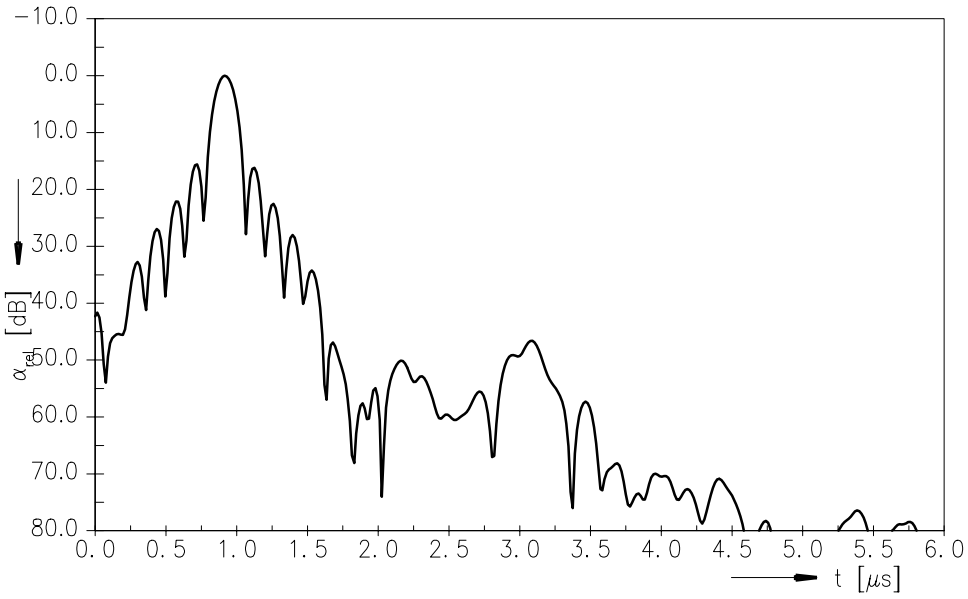
Frequency response of channel 2



Time domain response of channel 2



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References

Type	X 7261 X
Ordering code	B39362-X7261-X400
Marking and package	C61157-A1-A22
Packaging	F61074-V8049-Z000
Date codes	L_1126
S-parameters	X7261X_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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Published by EPCOS AG
Surface Acoustic Wave Components Division
P.O. Box 80 17 09, 81617 Munich, GERMANY

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