



SAW Components

Data Sheet X 7253 D





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X 7253 D

Bandpass Filter

36,00 MHz

Data Sheet

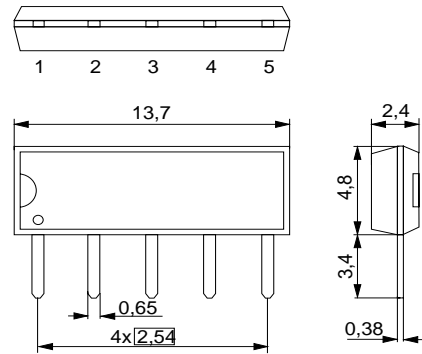
Duroplast package **SIP5D**

Features

- IF filter for digital TV
- Switchable between two bandwidths
- Standard IC package

Terminals

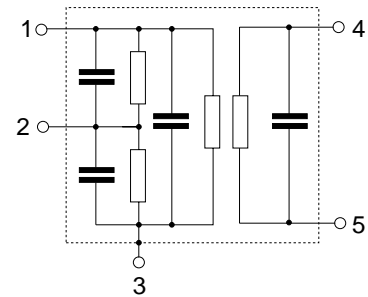
- Tinned CuFe alloy



Dimensions in mm, approx. weight 0,5 g

Pin configuration

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



Type	Ordering code	Marking and package according to	Packing according to
X 7253 D	B39360-X7253-N201	C61157-A1-A21	F61074-V8049-Z000

Maximum ratings

Operable temperature range	T_A	-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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Characteristics of channel 1 (switching pin 2 connected to ground)

Reference temperature: $T_A = 25\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 2\text{ k}\Omega \parallel 3\text{ pF}$

		min.	typ.	max.	
Insertion attenuation	α				
Reference level for the following data	36,00 MHz	19,5	21,0	22,5	dB
Amplitude ripple	$\Delta\alpha$				
	32,45 ... 39,55 MHz	—	1,9	—	dB
Pass bandwidth					
$\alpha_{rel} \leq 3\text{ dB}$	B_{3dB}	—	7,7	—	MHz
$\alpha_{rel} \leq 15\text{ dB}$	B_{15dB}	—	8,3	—	MHz
Relative attenuation	α_{rel}				
Adjacent picture carrier	30,75 MHz	40,0	48,0	—	dB
Adjacent sound carrier	40,25 MHz	18,0	28,0	—	dB
	40,75 MHz	31,0	39,0	—	dB
	41,25 MHz	34,0	41,0	—	dB
	31,80 MHz	11,0	17,0	—	dB
Lower sidelobe	25,00 ... 30,75 MHz	34,0	39,0	—	dB
Upper sidelobe	41,50 ... 45,00 MHz	34,0	40,0	—	dB
Reflected wave signal suppression					
1,3 μ s ... 6,0 μ s after main pulse (test pulse 250 ns, carrier frequency 36,00 MHz)		40,0	50,0	—	dB
Feedthrough signal suppression					
1,3 μ s ... 1,2 μ s before main pulse (test pulse 250 ns, carrier frequency 36,00 MHz)		—	50,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
	32,20 ... 39,80 MHz	—	60	—	ns
Impedance at 36,00 MHz					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	1,5 18,3	—	k Ω pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	2,3 4,6	—	k Ω pF
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K



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

Reference temperature: $T_A = 25\text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 2\ \text{k}\Omega \parallel 3\ \text{pF}$

		min.	typ.	max.	
Insertion attenuation	α				
Reference level for the following data	36,00 MHz	19,0	20,5	22,0	dB
Amplitude ripple	$\Delta\alpha$				
	33,10 ... 38,90 MHz	—	2,5	—	dB
Pass bandwidth					
$\alpha_{\text{rel}} \leq 3\ \text{dB}$	$B_{3\text{dB}}$	—	6,8	—	MHz
$\alpha_{\text{rel}} \leq 15\ \text{dB}$	$B_{15\text{dB}}$	—	7,3	—	MHz
Relative attenuation	α_{rel}				
Adjacent picture carrier	31,25 MHz	34,0	41,0	—	dB
Adjacent sound carrier	39,75 MHz	17,0	25,0	—	dB
	32,33 MHz	9,0	13,0	—	dB
Lower sidelobe	25,00 ... 31,25 MHz	34,0	37,0	—	dB
Upper sidelobe	41,25 ... 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 36,00 MHz)		40,0	50,0	—	dB
Feedthrough signal suppression					
1,3 μs ... 1,2 μs before main pulse (test pulse 250 ns, carrier frequency 36,00 MHz)		—	48,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
	32,70 ... 39,30 MHz	—	60	—	ns
Impedance at 36,00 MHz					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	1,5 \parallel 23,1	—	k Ω \parallel pF
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	2,3 \parallel 4,6	—	k Ω \parallel pF
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K



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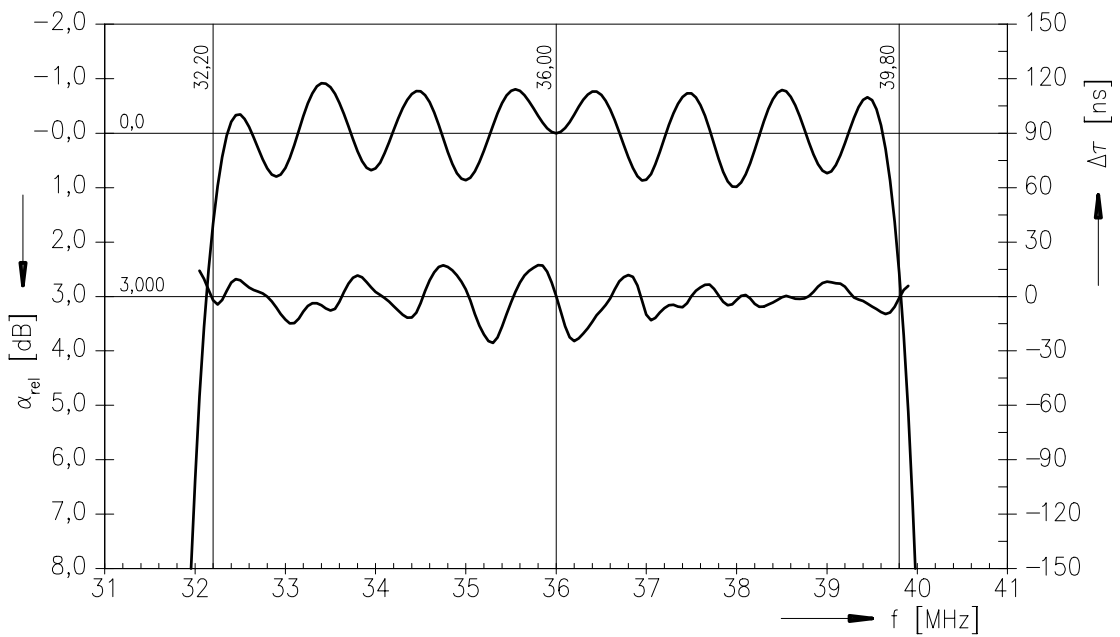
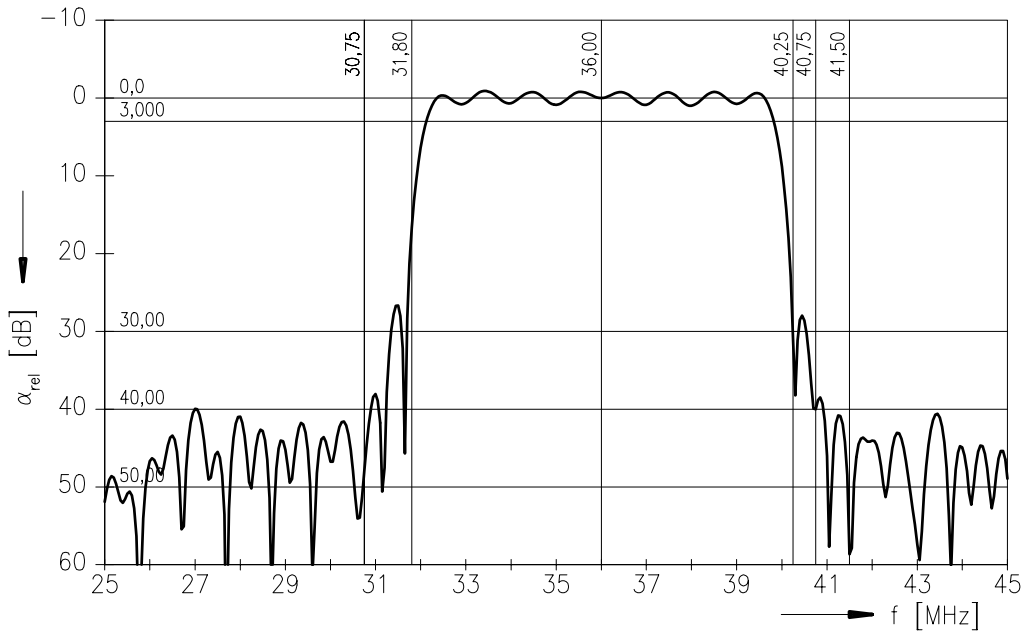
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Data Sheet

Frequency response of channel 1





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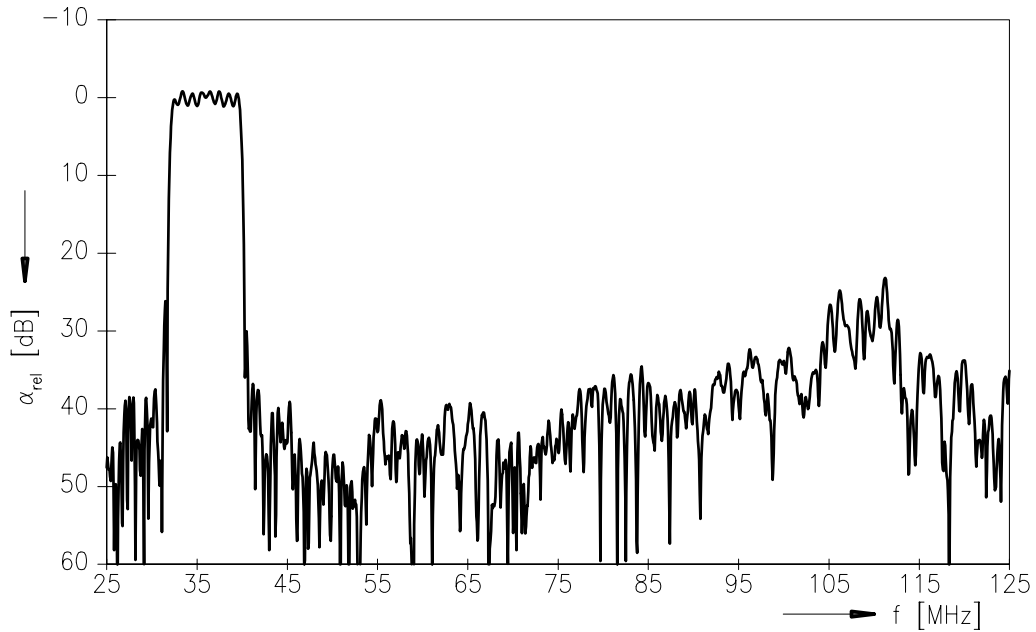
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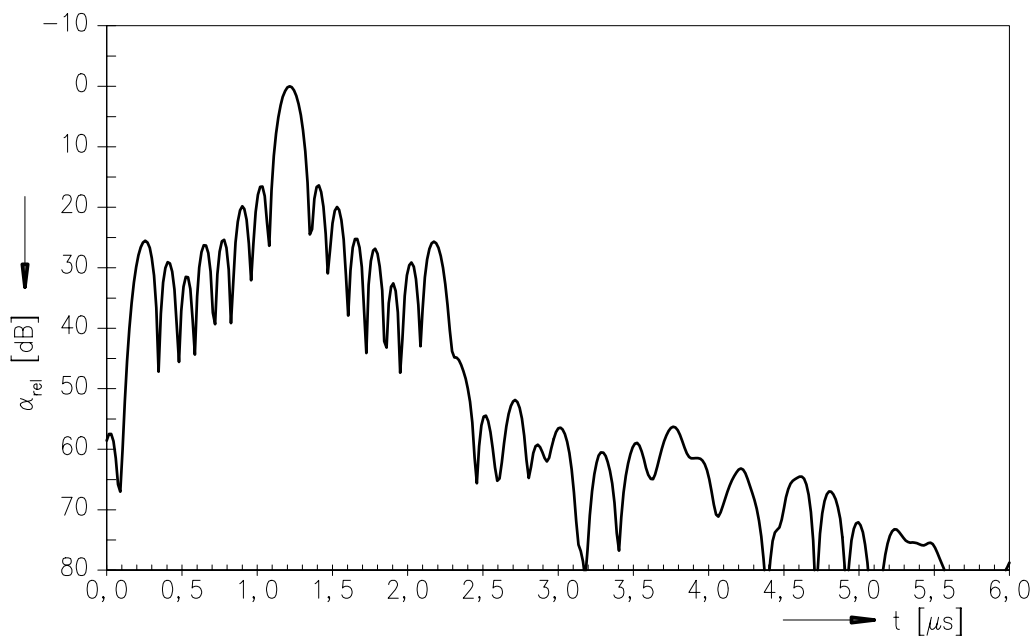
36,00 MHz

Data Sheet

Frequency response of channel 1



Time domain response channel 1





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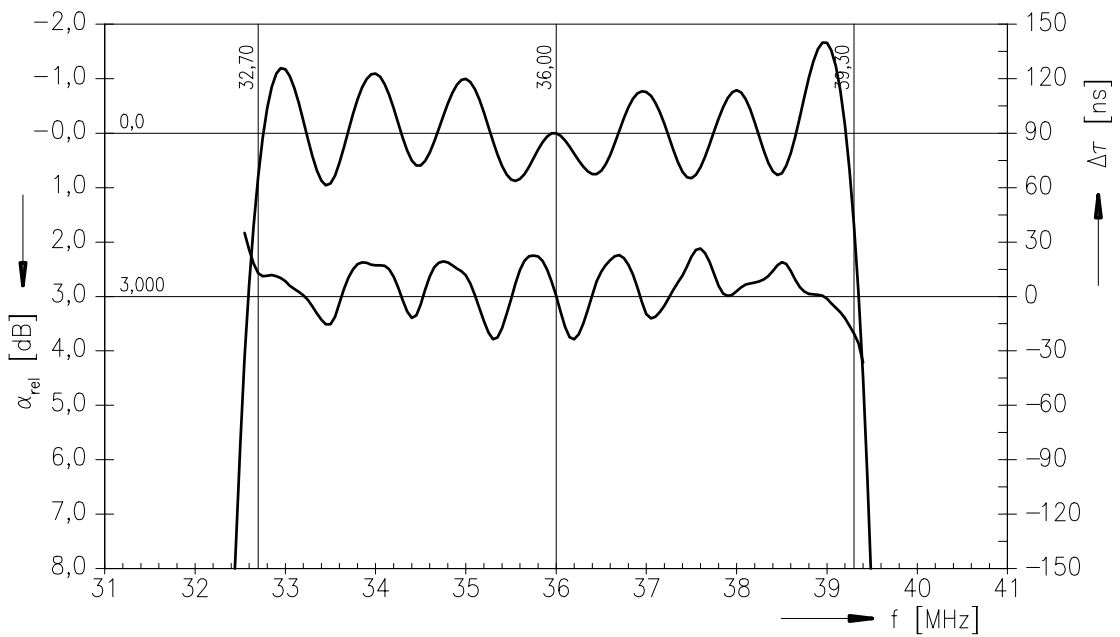
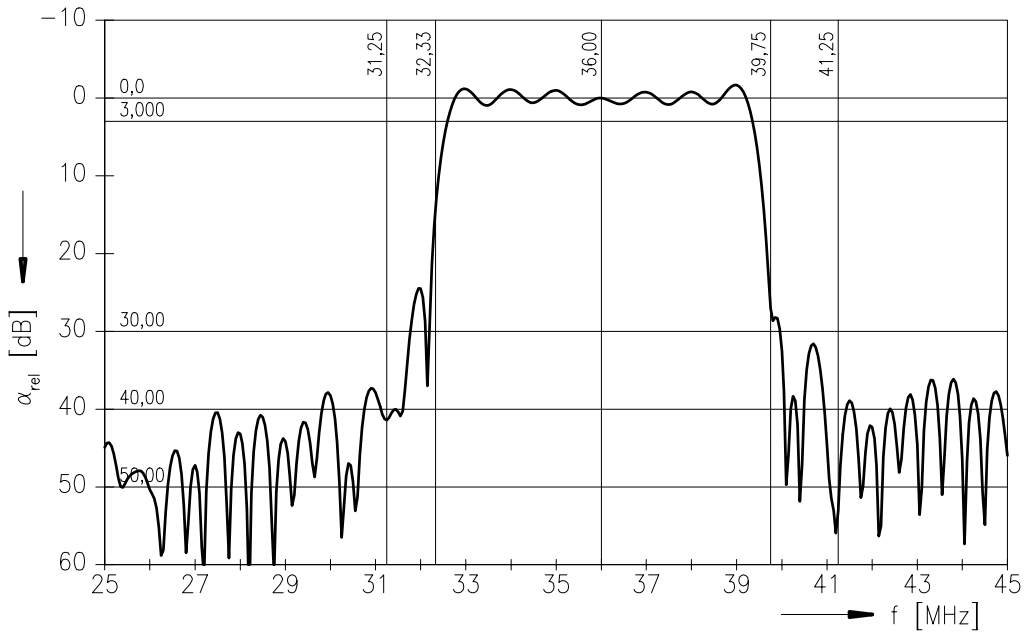
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Data Sheet

Frequency response of channel 2





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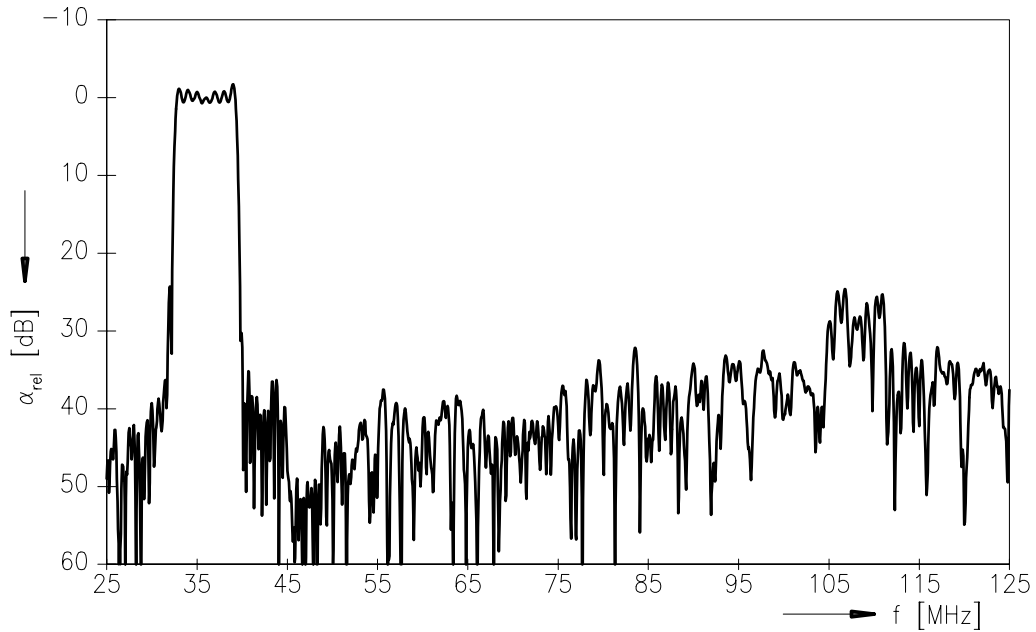
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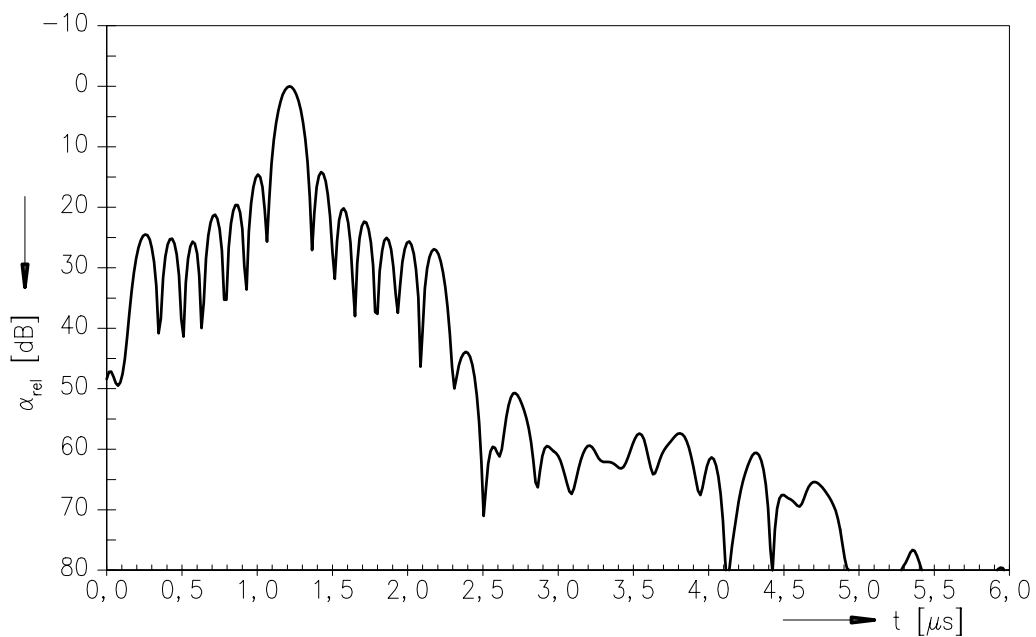
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Frequency response of channel 2



Time domain response channel 2





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