EPCOS

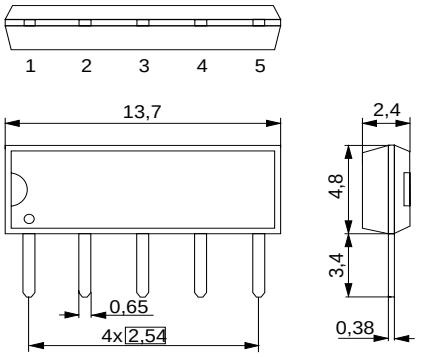
SAW Components

Data Sheet X 7253 D

Duroplast package **SIP5D**

Features

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



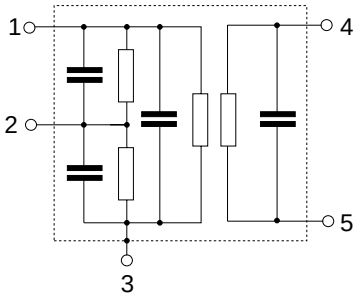
Dimensions in mm, approx. weight 0,5 g

Terminals

- Tinned CuFe alloy

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

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

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

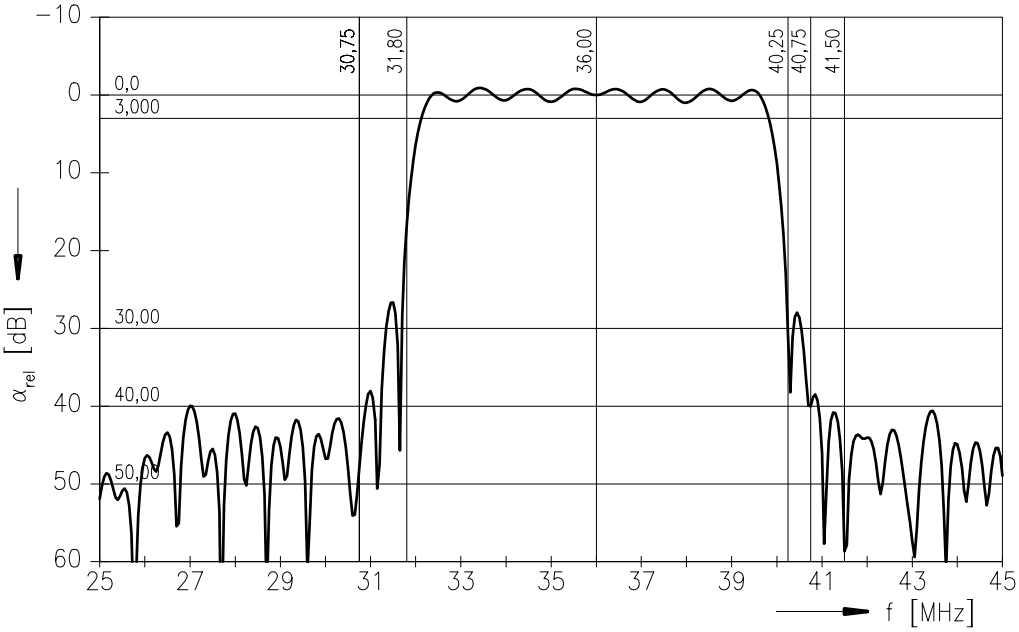
				min.	typ.	max.	
Insertion attenuation			α				
Reference level for the following data		36,00 MHz		19,5	21,0	22,5	dB
Amplitude ripple			$\Delta\alpha$				
	32,45 ...	39,55 MHz		—	1,9	—	dB
Pass bandwidth							
$\alpha_{rel} \leq$ 3 dB			B_{3dB}	—	7,7	—	MHz
$\alpha_{rel} \leq$ 15 dB			B_{15dB}	—	8,3	—	MHz
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 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)				—	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	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$				—	2,3 ‖ 4,6	—	kΩ || pF
Temperature coefficient of frequency			TC_f	—	–72	—	ppm/K

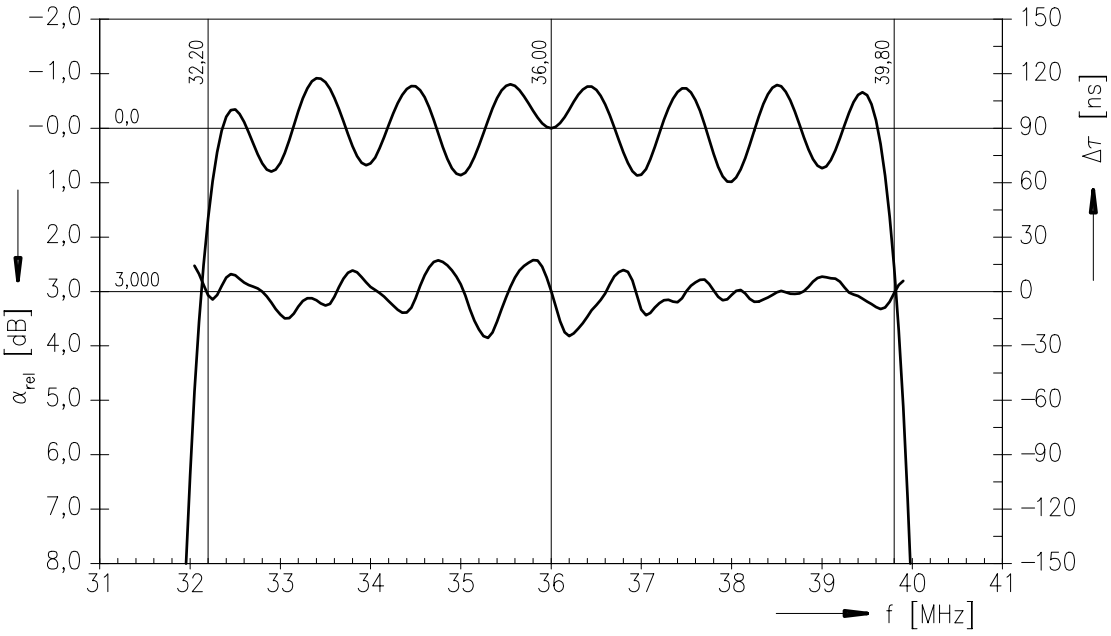
Characteristics of channel 2 (switching pin 2 connected to pin 1)

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

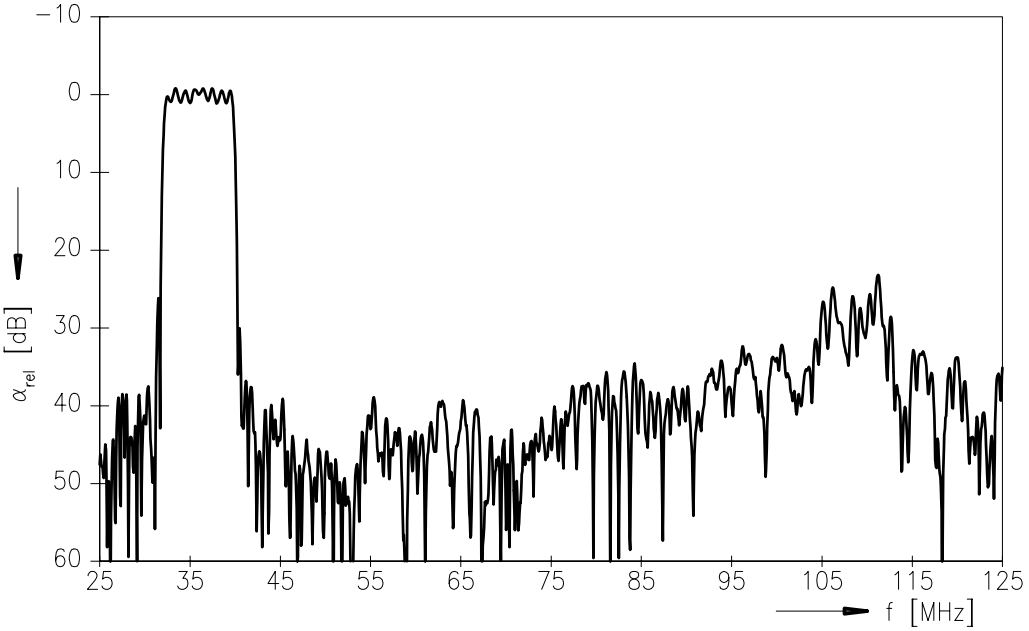
				min.	typ.	max.	
Insertion attenuation			α				
Reference level for the following data		36,00 MHz		19,0	20,5	22,0	dB
Amplitude ripple			$\Delta\alpha$				
	33,10 ...	38,90 MHz		—	2,5	—	dB
Pass bandwidth							
$\alpha_{rel} \leq$ 3 dB			B_{3dB}	—	6,8	—	MHz
$\alpha_{rel} \leq$ 15 dB			B_{15dB}	—	7,3	—	MHz
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: $Z_{IN} = R_{IN} \parallel C_{IN}$				—	1,5 ‖23,1	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$				—	2,3 ‖ 4,6	—	kΩ || pF
Temperature coefficient of frequency			TC_f	—	–72	—	ppm/K

Frequency response of channel 1

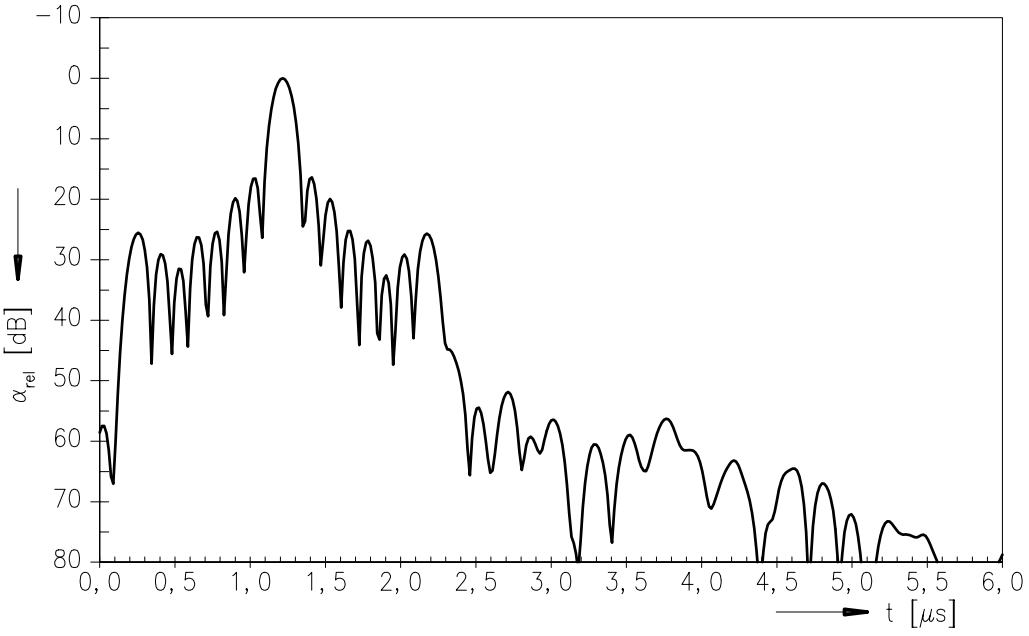




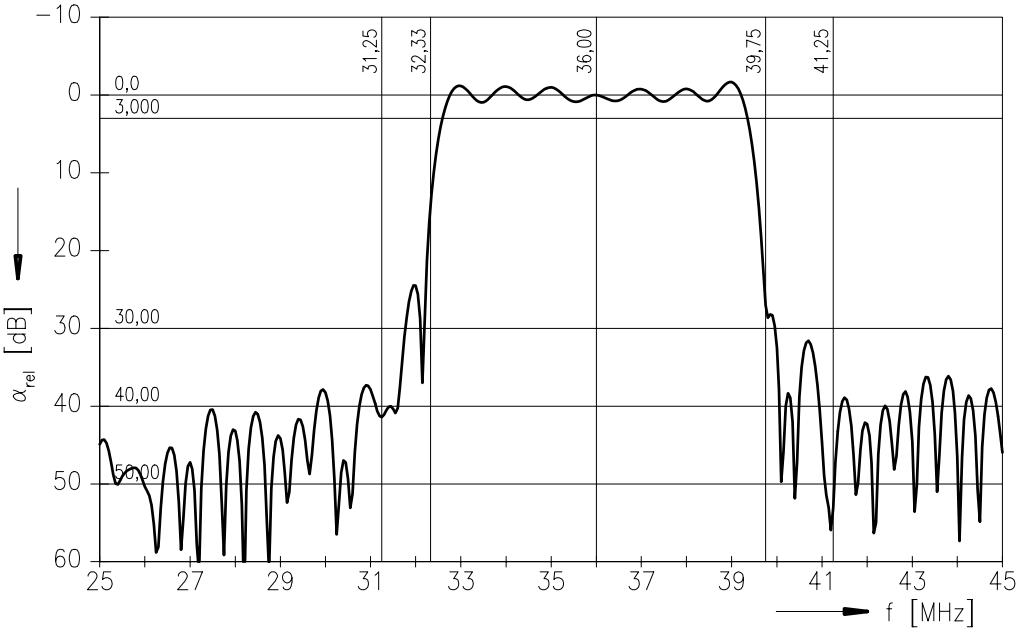
Frequency response of channel 1

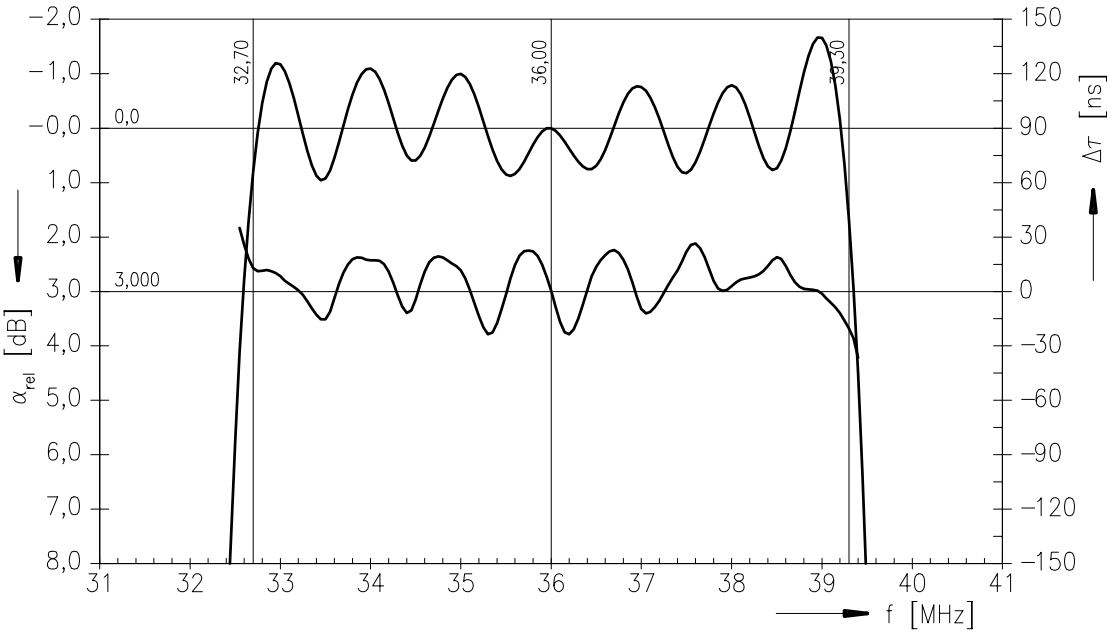


Time domain response channel 1

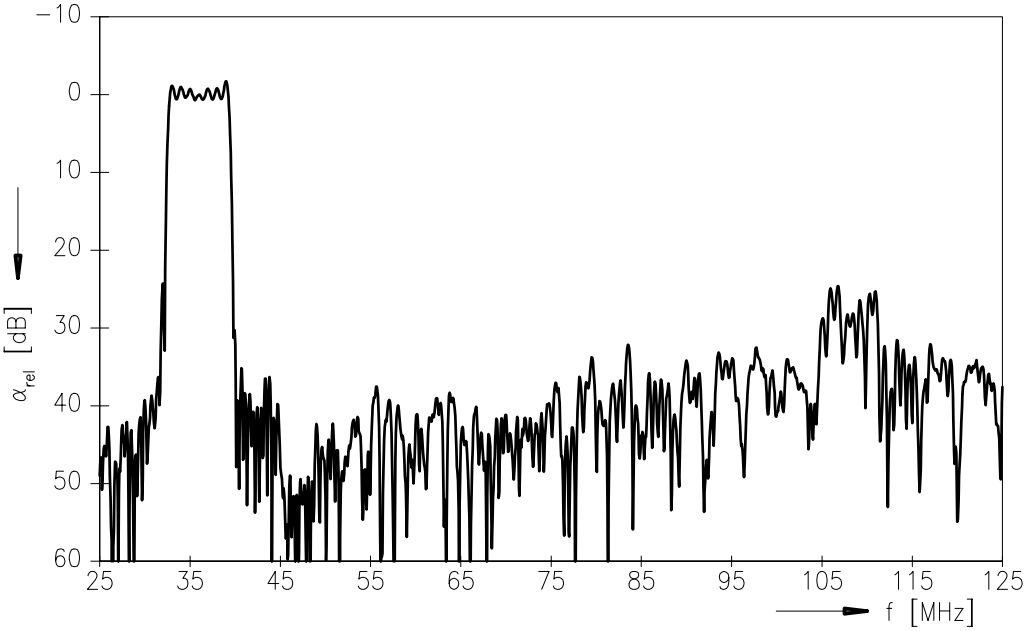


Frequency response of channel 2

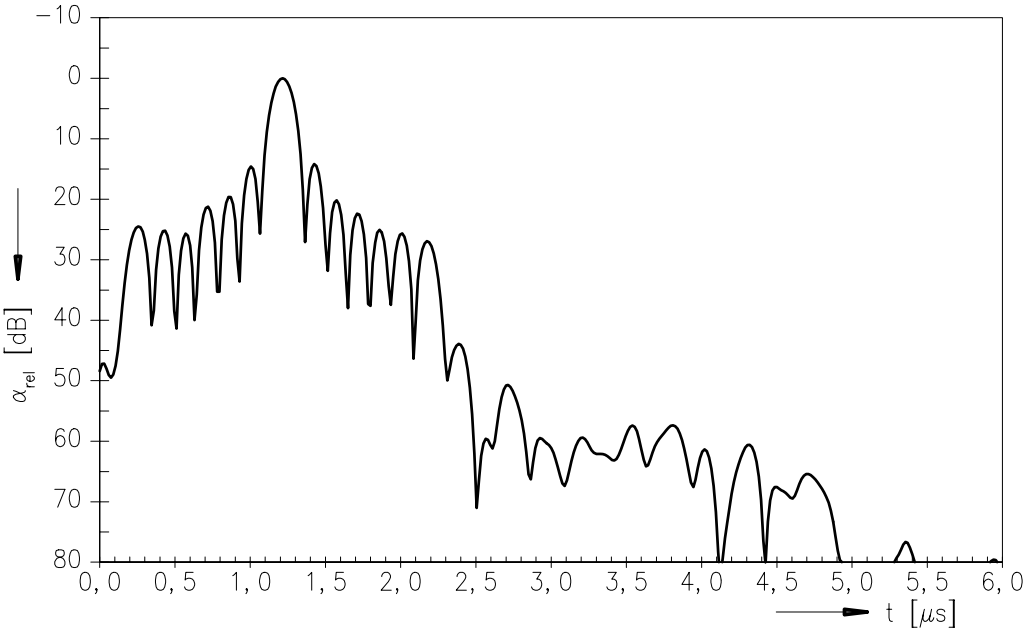




Frequency response of channel 2



Time domain response channel 2



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