EPCOS

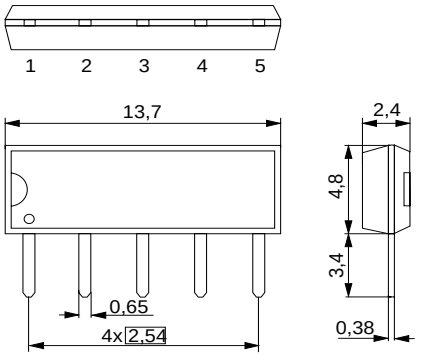
SAW Components

Data Sheet X 7255 D

Duroplast package **SIP5D**

Features

- IF filter for digital TV
- Switchable between two bandwidths
- Optimized for cascade of two devices
- Standard IC package



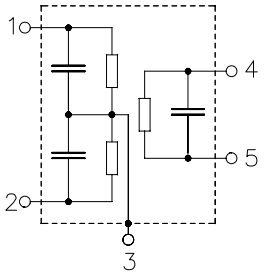
Dimensions in mm, approx. weight 0,5 g

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 7255 D	B39360-X7255-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

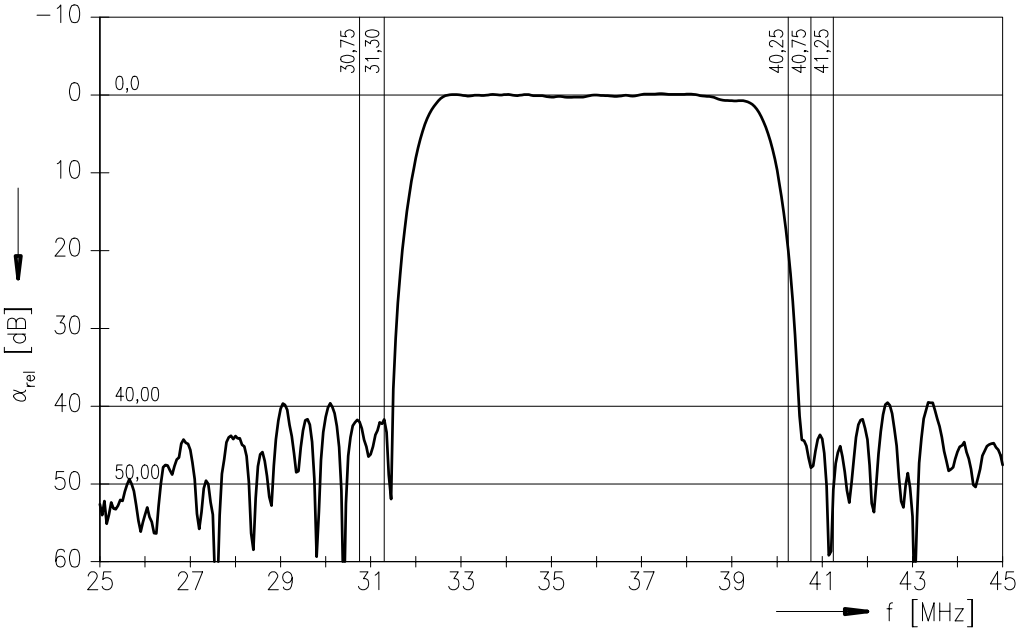
			min.	typ.	max.	
Insertion attenuation		α				
Reference level for the following data	36,00 MHz		18,9	20,4	21,9	dB
Pass bandwidth						
$\alpha_{rel} \leq$ 1,5 dB		$B_{1,5dB}$	—	7,1	—	MHz
$\alpha_{rel} \leq$ 3 dB		B_{3dB}	—	7,4	—	MHz
$\alpha_{rel} \leq$ 15 dB		B_{15dB}	—	8,4	—	MHz
$\alpha_{rel} \leq$ 30 dB		B_{30dB}	—	8,8	—	MHz
Relative attenuation		α_{rel}				
Adjacent picture carrier	30,75 MHz		36,0	41,0	—	dB
Adjacent sound carrier	40,25 MHz		14,0	18,0	—	dB
	40,75 MHz		36,0	50,0	—	dB
	41,00 MHz		32,0	44,0	—	dB
	41,25 MHz		36,0	51,0	—	dB
Lower sidelobe	25,00 ... 31,30 MHz		32,0	37,0	—	dB
Upper sidelobe	40,70 ... 45,00 MHz		33,0	38,0	—	dB
Reflected wave signal suppression						
1,2 µs ... 6,0 µs after main pulse (test pulse 250 ns, carrier frequency 36,00 MHz)			40,0	48,0	—	dB
Feedthrough signal suppression						
1,3 µs ... 1,2 µs before main pulse (test pulse 250 ns, carrier frequency 36,00 MHz)			—	56,0	—	dB
Group delay ripple (p-p)		$\Delta\tau$				
	32,40 ... 39,60 MHz		—	50	—	ns
Impedance at 36,00 MHz						
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$			—	1,7 ‖ 18,1	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$			—	2,0 ‖ 4,8	—	kΩ || pF
Temperature coefficient of frequency		TC_f	—	–72	—	ppm/K

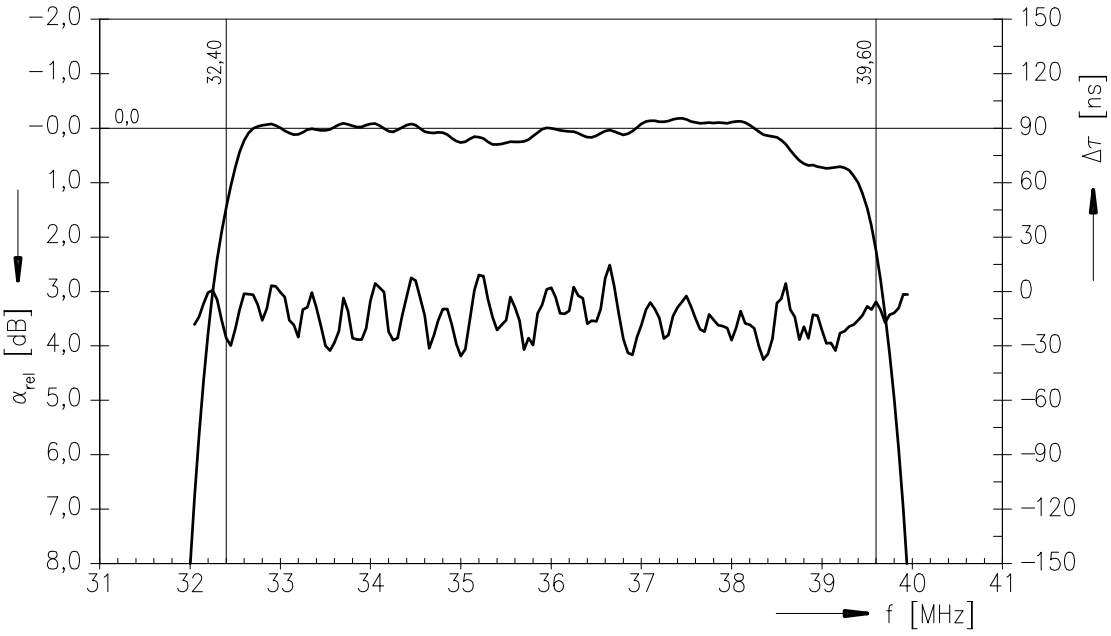
Characteristics of channel 2 (switching pin 2 connected to pin 1)

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

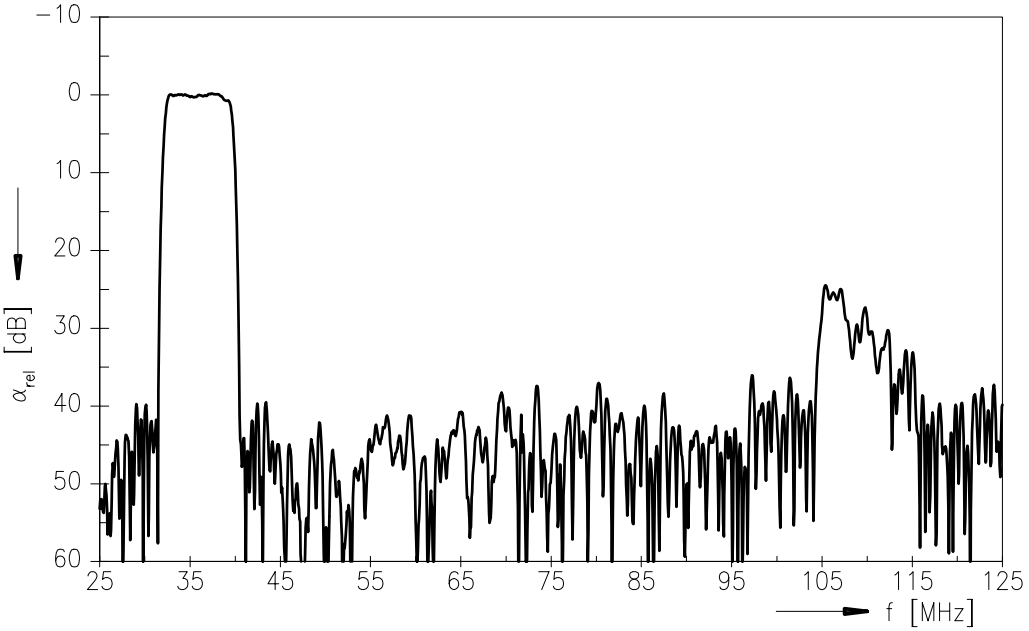
		min.	typ.	max.	
Insertion attenuation	α				
Reference level for the following data	36,00 MHz	19,4	20,9	22,4	dB
Pass bandwidth					
$\alpha_{rel} \leq$ 1,5 dB	$B_{1,5dB}$	—	6,2	—	MHz
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	—	6,4	—	MHz
$\alpha_{rel} \leq$ 15 dB	B_{15dB}	—	7,4	—	MHz
$\alpha_{rel} \leq$ 30 dB	B_{30dB}	—	7,8	—	MHz
Relative attenuation	α_{rel}				
Adjacent picture carrier	31,42 MHz	35,0	42,0	—	dB
Adjacent sound carrier	39,67 MHz	11,0	15,0	—	dB
	39,92 MHz	24,0	30,0	—	dB
Lower sidelobe	25,00 ... 31,80 MHz	34,0	40,0	—	dB
Upper sidelobe	40,20 ... 45,00 MHz	32,0	37,0	—	dB
Reflected wave signal suppression					
1,2 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)	$\Delta\tau$				
	32,90 ... 39,10 MHz	—	50	—	ns
Impedance at 36,00 MHz					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	1,9 ‖20,3	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	2,0 ‖ 4,8	—	kΩ || pF
Temperature coefficient of frequency	TC_f	—	–72	—	ppm/K

Frequency response of channel 1

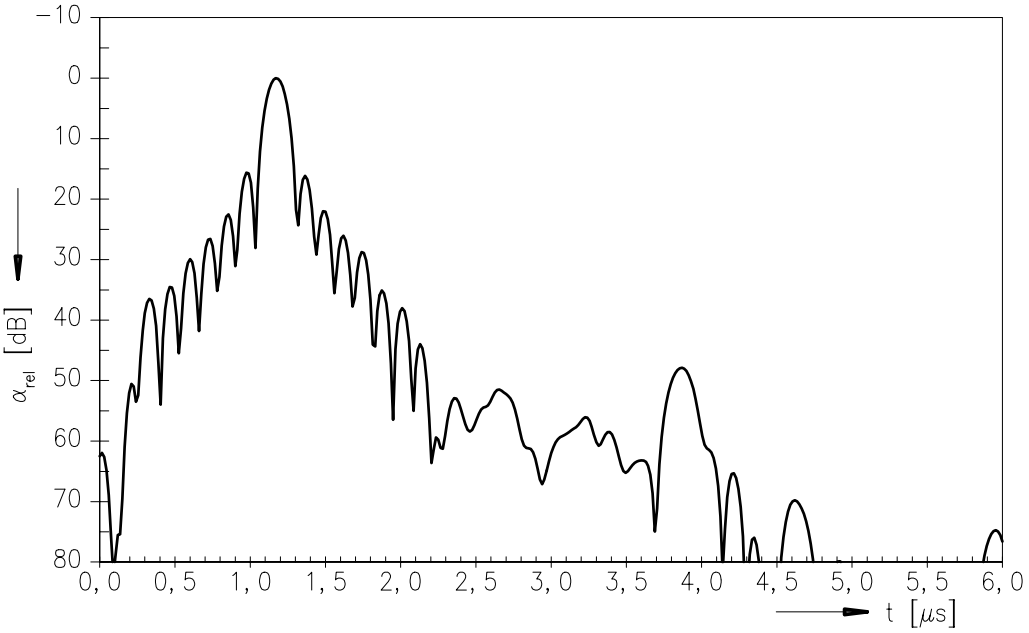




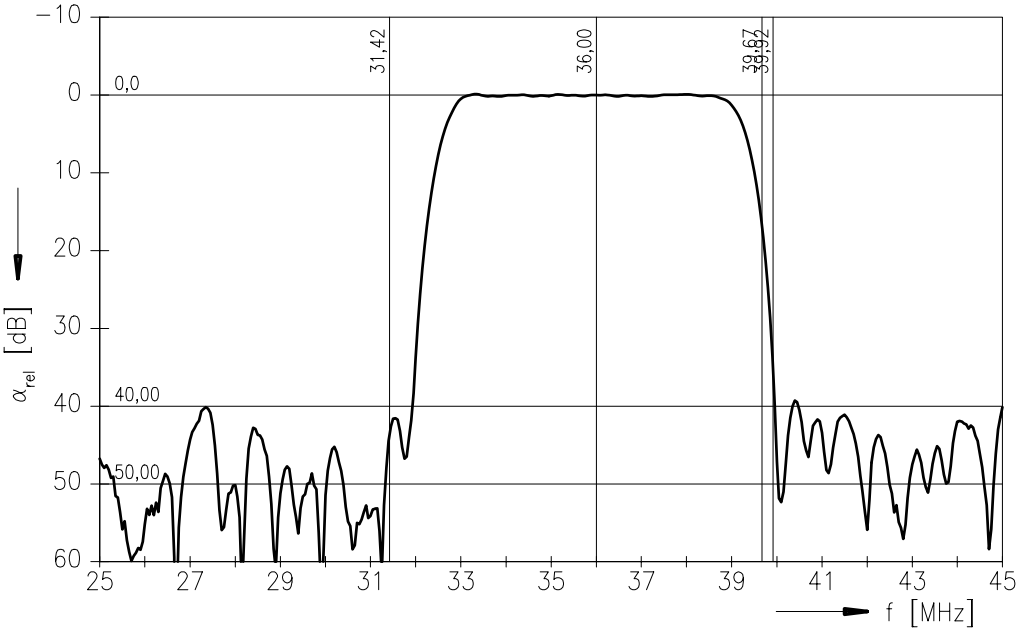
Frequency response of channel 1

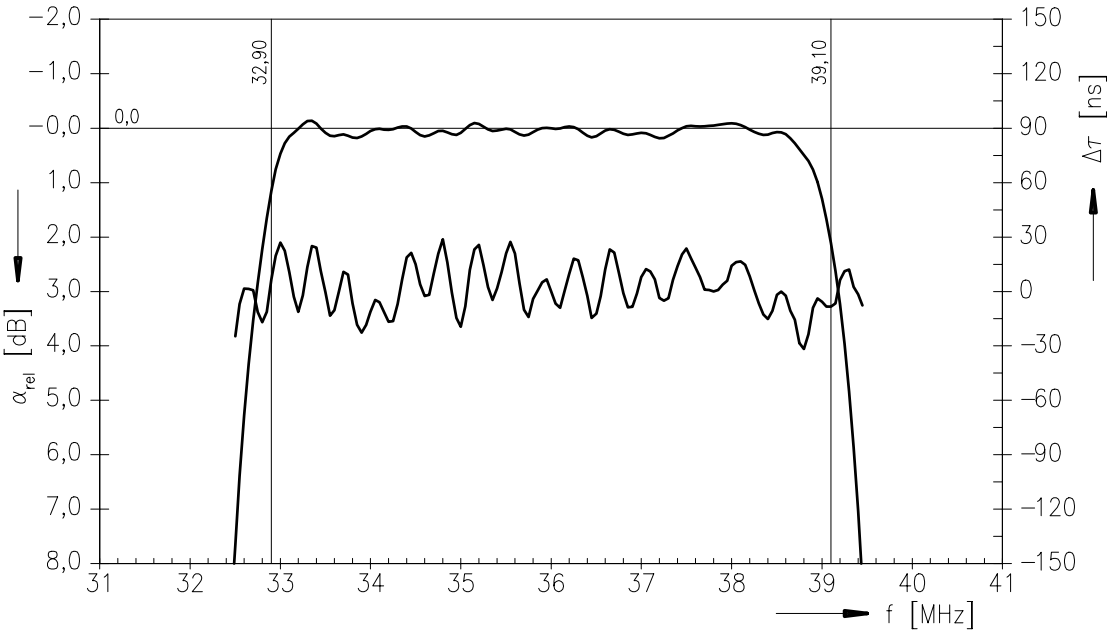


Time domain response of channel 1

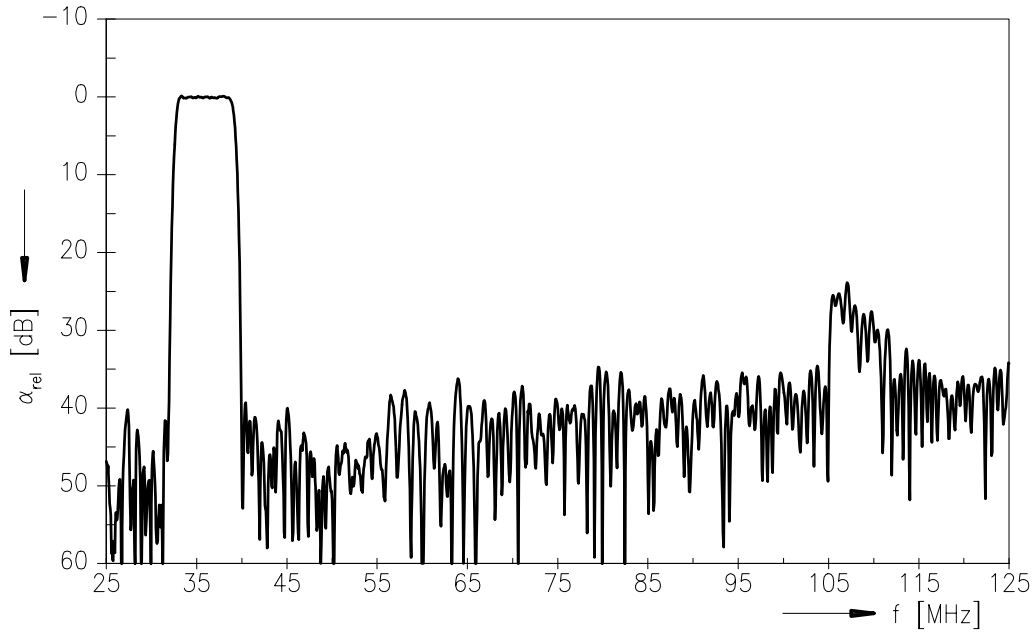


Frequency response of channel 2

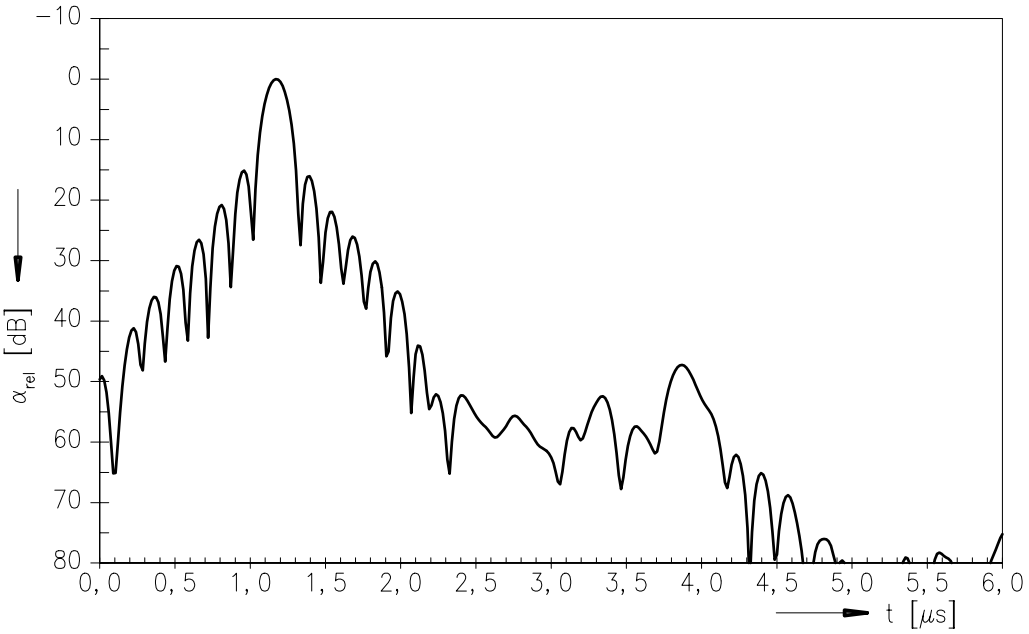




Frequency response of channel 2



Time domain response of channel 2



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