SAW Components

Data Sheet X 7256 D

EPCOS

SAW Components	X 7256 D

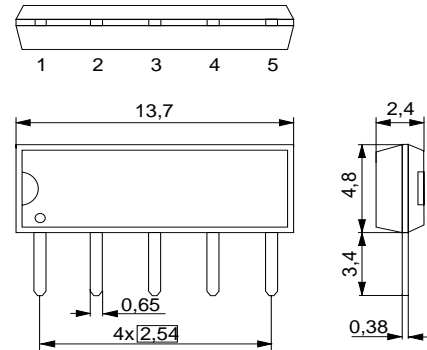| Bandpass Filter	57,00 MHz

Data Sheet

Duroplast package **SIP5D**

Features

- IF filter for ISDB-T
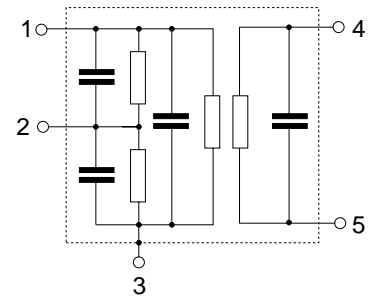- Switchable between two bandwidths
- Standard IC package

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 7256 D	B39570-X7256-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

Data Sheet

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

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

			min.	typ.	max.	
Insertion attenuation		α				
Reference level for the	57,08 (57,00) MHz		12,0	13,5	15,0	dB
following data						
Pass bandwidth						
$\alpha_{rel} \leq$3 dB		B_{3dB}	—	6,0	—	MHz
$\alpha_{rel} \leq$30 dB		B_{30dB}	—	7,5	—	MHz
Relative attenuation		α_{rel}				
	54,53 (54,45) MHz		–0,9	0,1	1,1	dB
	59,53 (59,45) MHz		–1,0	0,0	1,0	dB
	54,03 (53,95) MHz		—	3,1	—	dB
	60,03 (59,95) MHz		—	2,8	—	dB
	60,39 (60,31) MHz		—	11,0	—	dB
Lower sidelobe						
	45,08 ... 52,08 (45,00 ... 52,00) MHz		36,0	44,0	—	dB
	52,08 ... 53,03 (52,00 ... 52,95) MHz		38,0	46,0	—	dB
Upper sidelobe						
	60,88 ... 62,58 (60,80 ... 62,50) MHz		28,0	34,0	—	dB
	62,58 ... 65,08 (62,50 ... 65,00) MHz		37,0	43,0	—	dB
Reflected wave signal suppression						
1,2 μs ... 6,0 μs after main pulse			42,0	52,0	—	dB
(test pulse 250 ns, carrier frequency 57,08 MHz)						
Feedthrough signal suppression						
1,3 μs ... 1,2 μs before main pulse			—	50,0	—	dB
(test pulse 250 ns, carrier frequency 57,08 MHz)						
Group delay ripple (p-p)		$\Delta\tau$				
	54,53 ... 59,53 (54,45 ... 59,45) MHz		—	60	—	ns
Impedance at 57,08 MHz						
Input: Z_{IN} = R_{IN} || C_{IN}			—	0,4||19,0	—	kΩ || pF
Output: Z_{OUT} = R_{OUT} || C_{OUT}			—	0,6|| 6,0	—	kΩ || pF
Temperature coefficient of frequency		TC_f	—	–72	—	ppm/K

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Bandpass Filter	**57,00 MHz**

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 || 3 pF

			min.	typ.	max.	
Insertion attenuation		α				
Reference level for the following data	57,08 (57,00) MHz		10,7,	12,2	13,7	dB
Pass bandwidth						
$\alpha_{rel} \leq 3$ dB		B_{3dB}	—	4,1	—	MHz
$\alpha_{rel} \leq 30$ dB		B_{30dB}	—	5,6	—	MHz
Relative attenuation		α_{rel}				
	55,18 (55,10) MHz		—	0,6	—	dB
	58,58 (58,50) MHz		—	0,4	—	dB
Adjacent picture carrier	53,83 (53,75) MHz		—	45,0	—	dB
Adjacent sound carrier	59,33 (59,25) MHz		—	11,0	—	dB
Lower sidelobe						
	45,08 ... 51,58 (45,00 ... 51,50) MHz		39,0	47,0	—	dB
	51,58 ... 53,83 (51,50 ... 53,75) MHz		32,0	40,0	—	dB
Upper sidelobe						
	60,03 ... 62,58 (59,95 ... 62,50) MHz		30,0	38,0	—	dB
	62,58 ... 65,08 (62,50 ... 65,00) MHz		37,0	43,0	—	dB
Reflected wave signal suppression						
1,2 μs ... 6,0 μs after main pulse			42,0	53,0	—	dB
(test pulse 250 ns, carrier frequency 57,08 MHz)						
Feedthrough signal suppression						
1,3 μs ... 1,2 μs before main pulse			—	50,0	—	dB
(test pulse 250 ns, carrier frequency 57,08 MHz)						
Group delay ripple (p-p)		$\Delta\tau$				
	55,68 ... 58,08 (55,60 ... 58,00) MHz		—	50	—	ns
Impedance at 57,08 MHz						
	Input: Z_{IN} = R_{IN} || C_{IN}		—	0,4||24,0	—	kΩ || pF
	Output: Z_{OUT} = R_{OUT} || C_{OUT}		—	0,6|| 6,0	—	kΩ || pF
Temperature coefficient of frequency		TC_f	—	–72	—	ppm/K

Data Sheet

Frequency response of channel 1
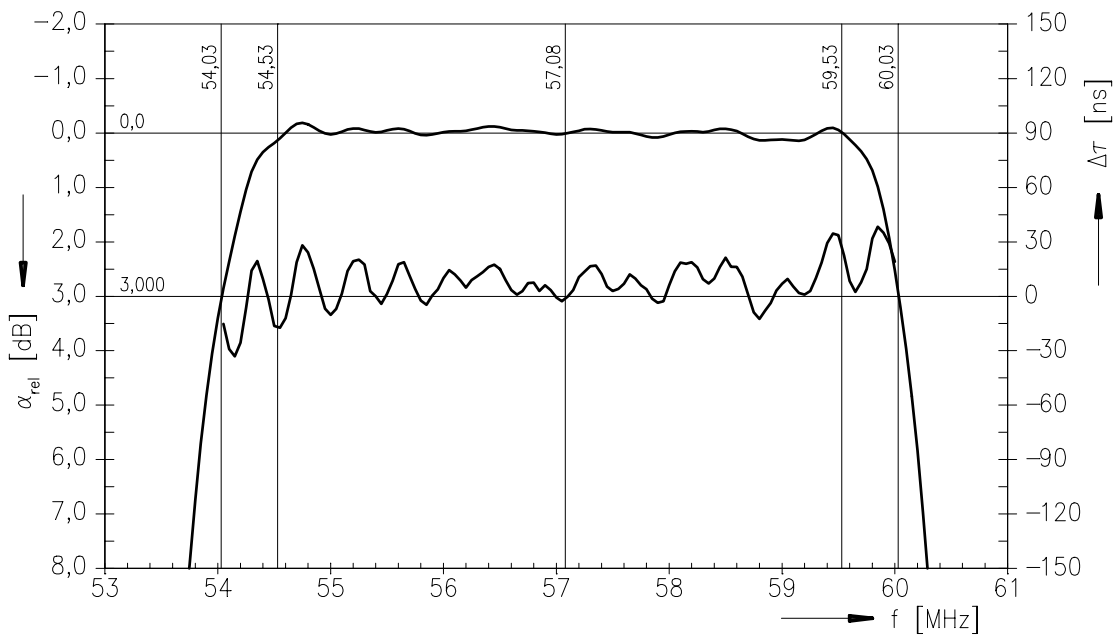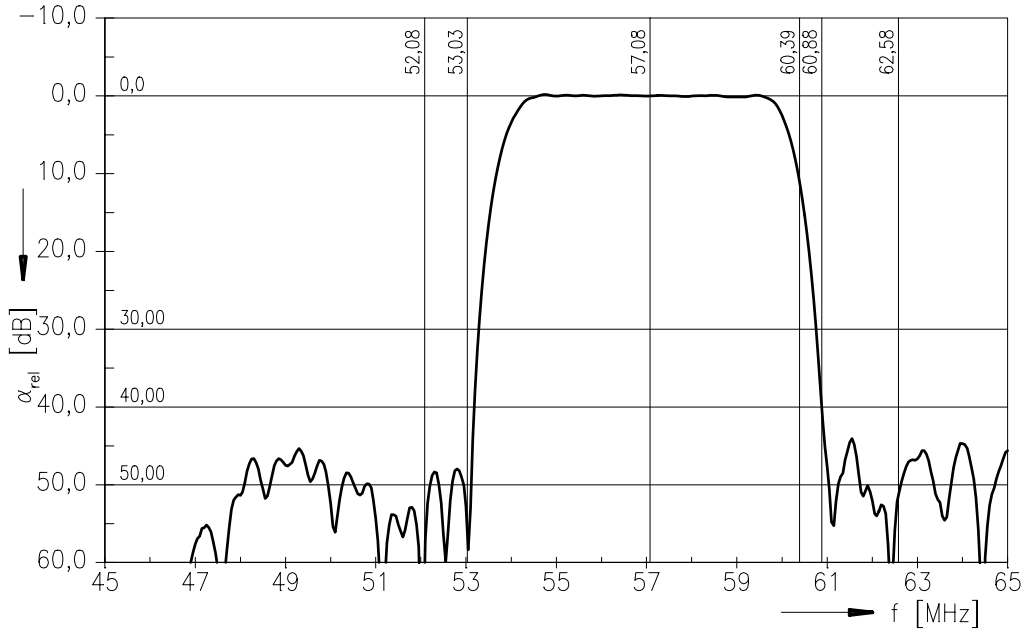
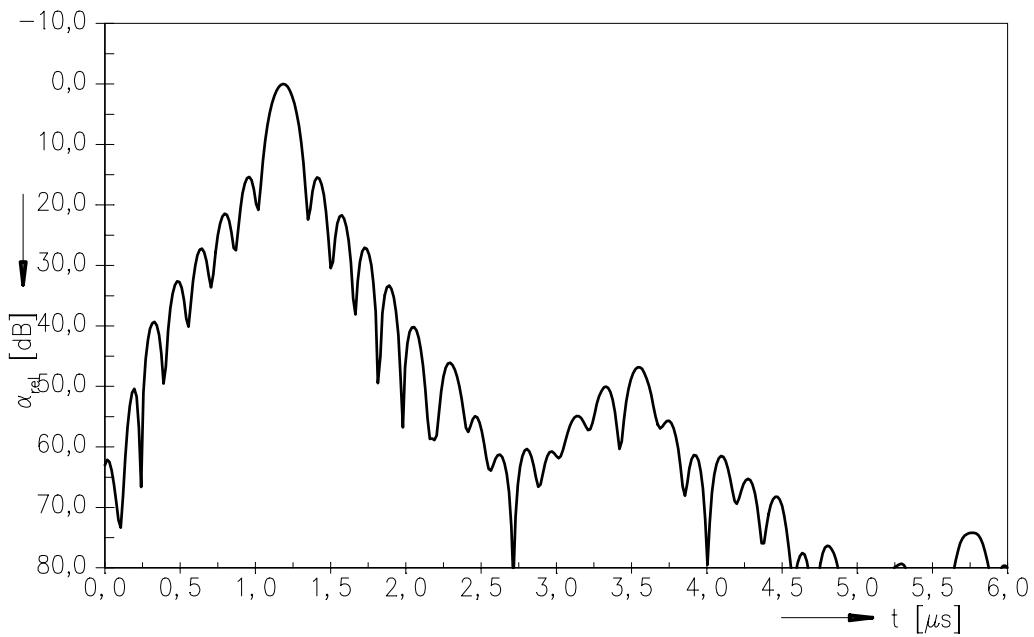| SAW Components	X 7256 D
Bandpass Filter	**57,00 MHz**

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Frequency response of channel 1
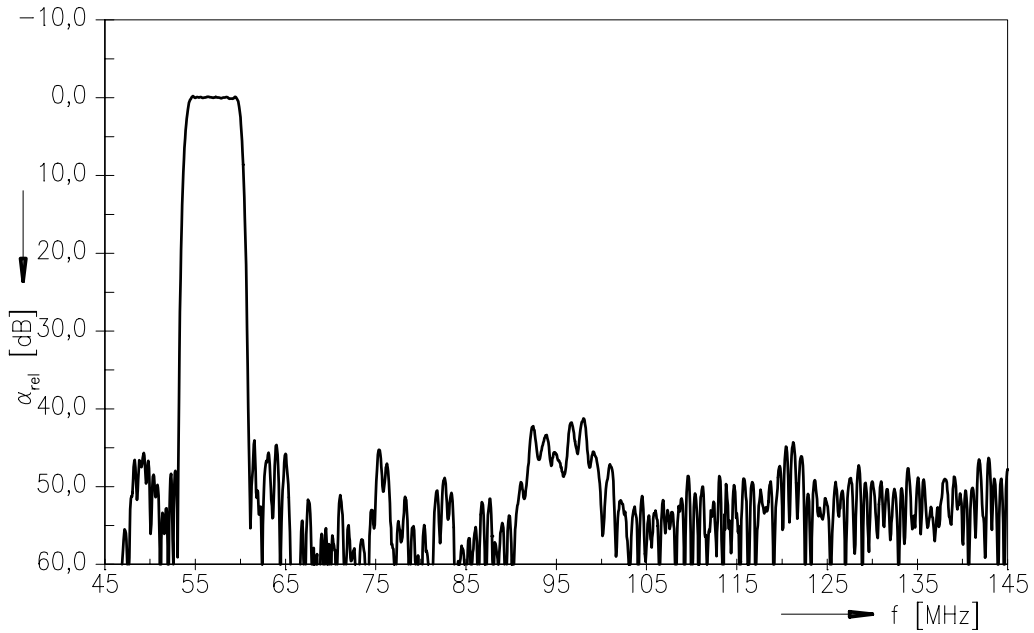
Time domain response of channel 1
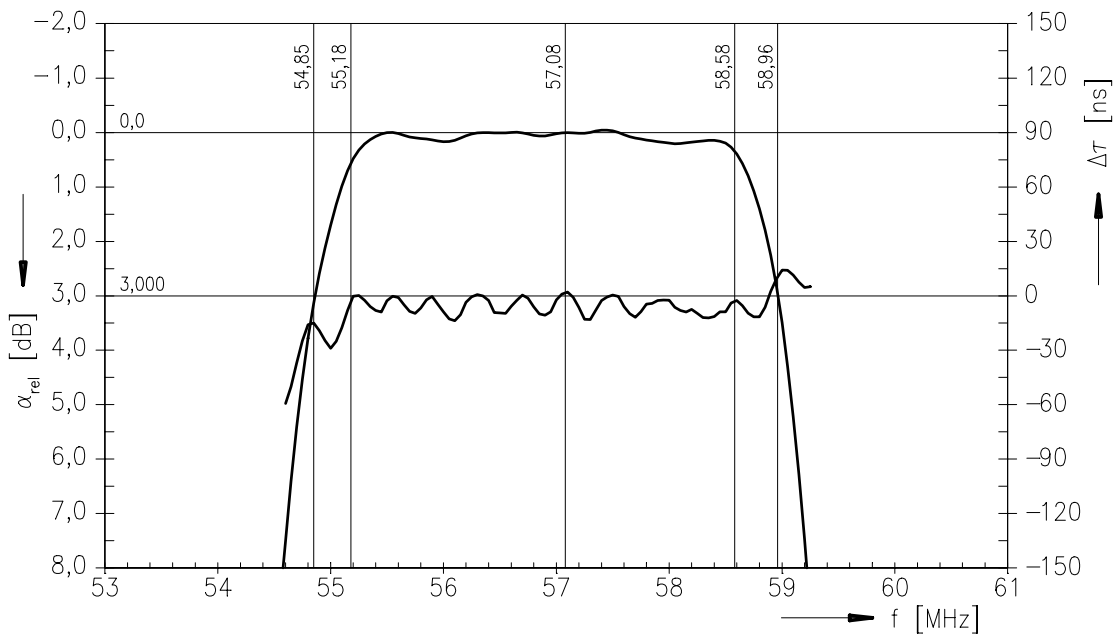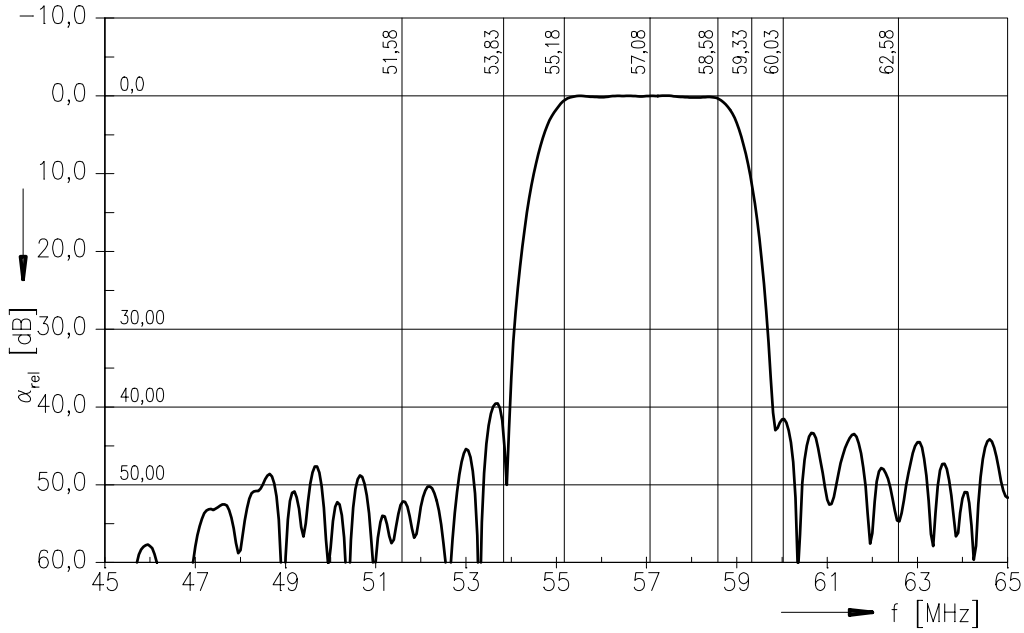
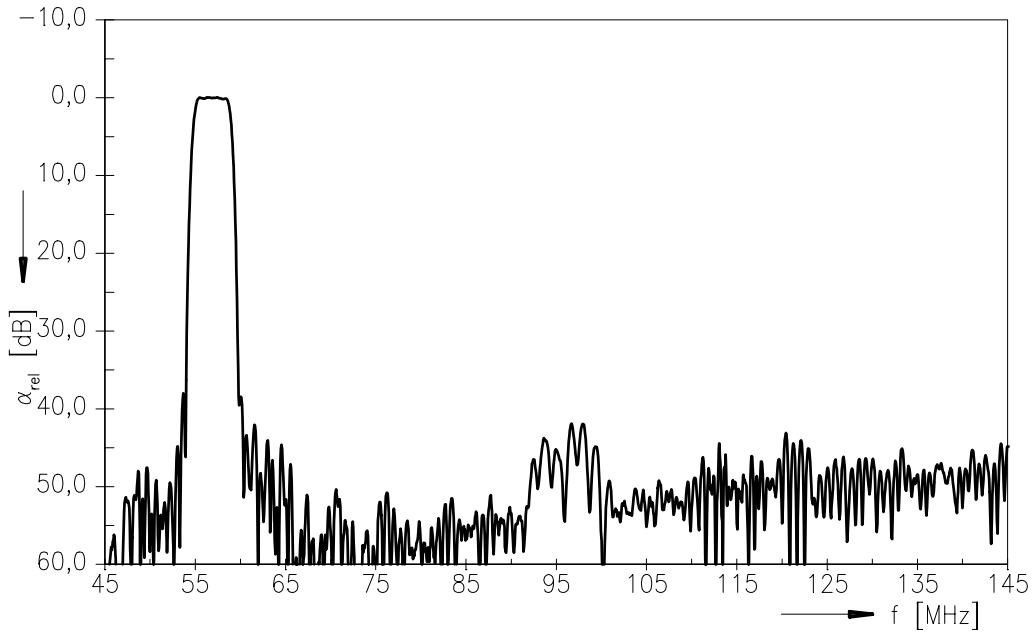**Frequency response of channel 2**

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Data Sheet

Frequency response of channel 2

Time domain response of channel 2
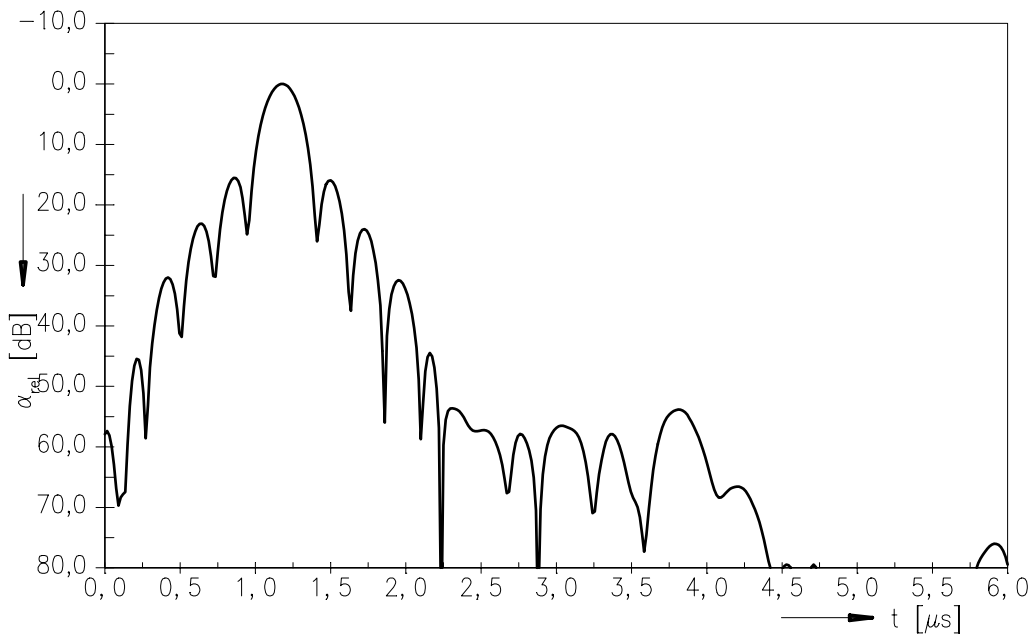
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