# SAW Components

Data Sheet X 6989 D

EPCOS

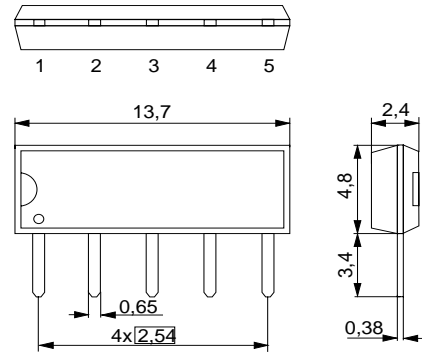| SAW Components | X 6989 D |
| --- | --- |
| **Bandpass Filter** | **57,00 MHz** |

Data Sheet

Duroplast package **SIP5D**

## Features

■ IF filter for digital cableTV
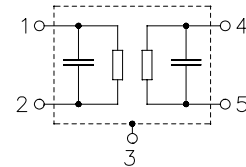■ Standard IC package

## Terminals

■ Tinned CuFe alloy



13,7    2,4
4,8
3,4
0,65
4x 2,54    0,38

Dimensions in mm, approx. weight 0,5 g

## Pin configuration

| | |
| --- | --- |
| 1 | Input |
| 2 | Input - ground |
| 3 | Chip carrier - ground |
| 4 | Output |
| 5 | Output |



| Type | Ordering code | Marking and package according to | Packing according to |
| --- | --- | --- | --- |
| X 6989 D | B39570-X6989-N201 | C61157-A1-A21 | F61074-V8049-Z000 |

## Maximum ratings

| | | | | |
| --- | --- | --- | --- | --- |
| Operable temperature range | $T_A$ | −25/+75 | ˚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 |

| SAW Components | X 6989 D |
|---|---|
| **Bandpass Filter** | **57,00 MHz** |

Data Sheet

## Characteristics

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. | max. | |
|---|---|---|---|---|---|---|
| **Insertion attenuation** | | $\alpha$ | | | | |
| Reference level for the | 57,08 (57,00) MHz | | 11,1 | 12,6 | 14,1 | 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** | | $\alpha_{rel}$ | | | | |
| | 54,53 (54,45) MHz | | −1,2 | −0,2 | 0,8 | dB |
| | 59,53 (59,45) MHz | | −0,9 | 0,1 | 1,1 | dB |
| | 54,03 (53,95) MHz | | — | 2,7 | — | dB |
| | 60,03 (59,95) MHz | | — | 3,4 | — | dB |
| | 60,39 (60,31) MHz | | — | 11,0 | — | dB |
| Lower sidelobe | | | | | | |
| | 45,08 ... 52,08 (45,00 ... 52,00) MHz | | 38,0 | 43,0 | — | dB |
| | 52,08 ... 53,03 (52,00 ... 52,95) MHz | | 34,0 | 39,0 | — | dB |
| Upper sidelobe | | | | | | |
| | 60,88 ... 62,58 (60,80 ... 62,50) MHz | | 32,0 | 38,0 | — | dB |
| | 62,58 ... 65,08 (62,50 ... 65,00) MHz | | 38,0 | 44,0 | — | 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 | 56,0 | — | dB |
| (test pulse 250 ns, carrier frequency 57,08 MHz) | | | | | | |
| | | | | | | |
| **Group delay ripple** (p-p) | | $\Delta\tau$ | | | | |
| Aperture 50 kHz | | | | | | |
| | 54,03 ... 60,08 (53,95 ... 60,00) MHz | | — | 50 | — | ns |
| **Impedance** at 57,08 MHz | | | | | | |
| Input: $Z_{IN}$ = $R_{IN}$ || $C_{IN}$ | | | — | 0,7 || 17,4 | — | kΩ || pF |
| Output: $Z_{OUT}$ = $R_{OUT}$ || $C_{OUT}$ | | | — | 0,8 || 4,4 | — | kΩ || pF |
| **Temperature coefficient of frequency** | | $TC_f$ | — | −72 | — | ppm/K |
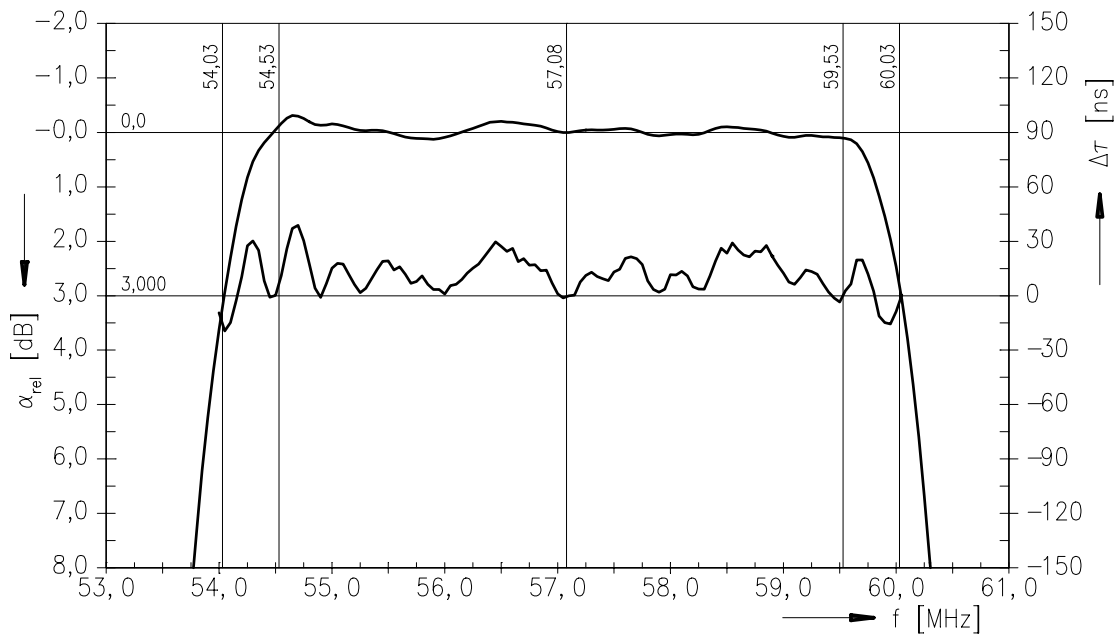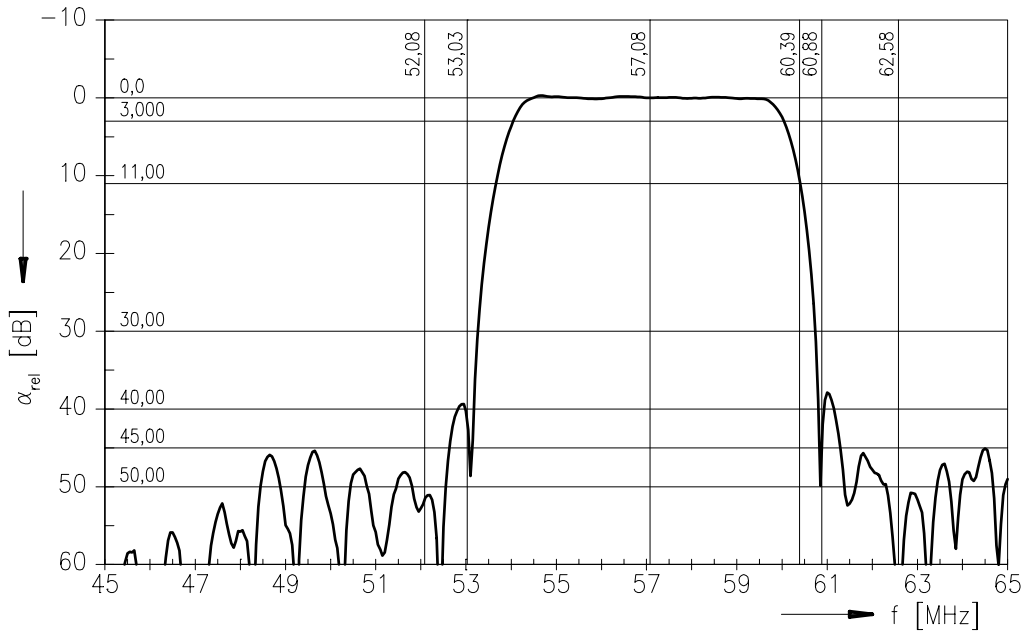
**Data Sheet**

### Frequency response

**Data Sheet**

### Frequency response
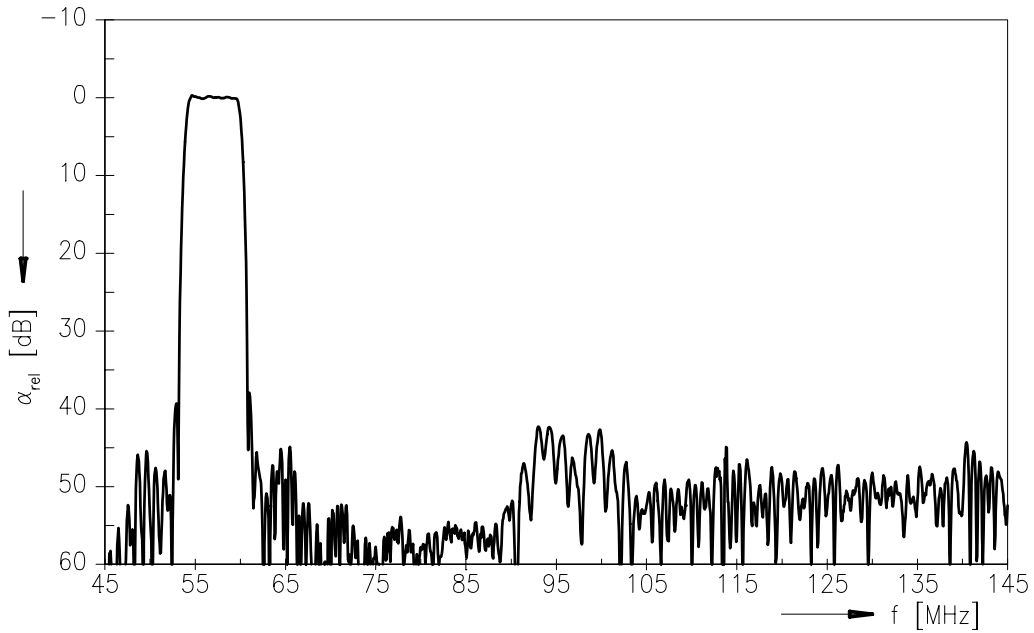


### Time domain response
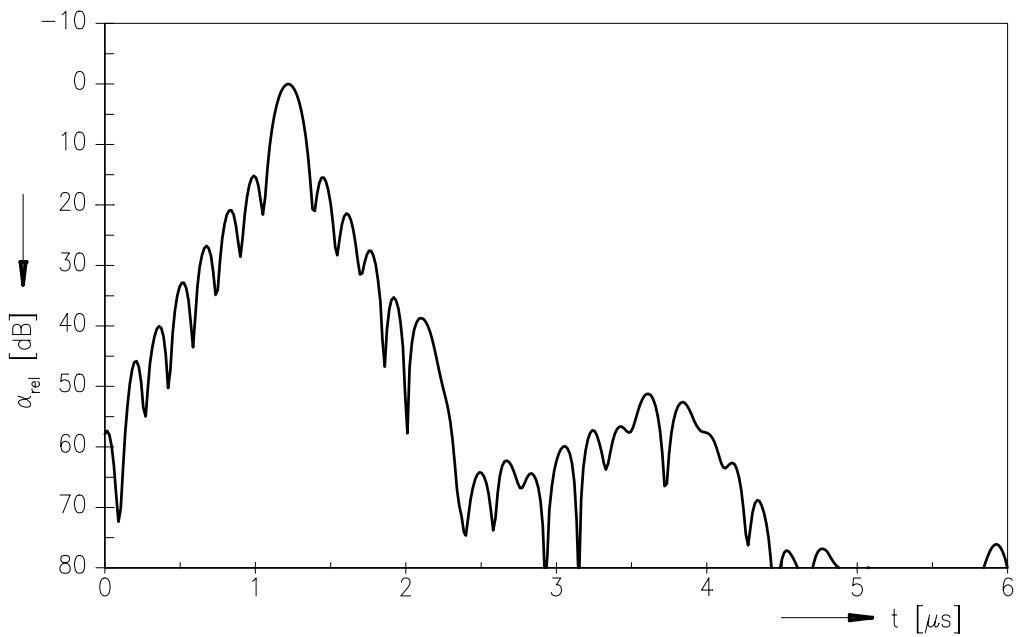
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