



# *SAW Components*

*Data Sheet X6872D*

Data Sheet

A large, stylized, 3D-rendered graphic of the word "EPCOS" in a light gray, sans-serif font. The letters are slightly tilted and appear to be floating or emerging from a dark, textured background that resembles a globe or a complex circuit board pattern.



## SAW Components

X6872D

## Bandpass Filter

36,125 MHz

### Data Sheet

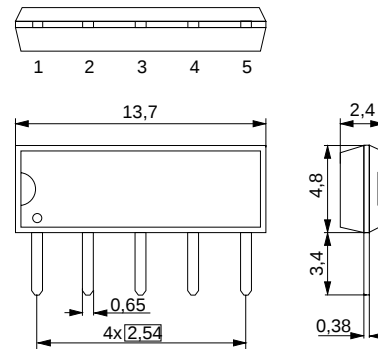
Duroplast package **SIP5D**

### Features

- IF filter for digital TV
- 3 dB bandwidth: 7,0 MHz
- Standard IC package

### Terminals

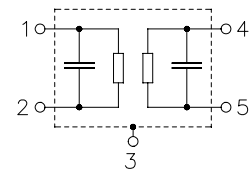
- Tinned CuFe alloy



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 6872 D | B39361-X6872-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

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. |                           |
|------------------------------------------------------------------------------------------------------------------|-----------------------|------|----------------------|------|---------------------------|
| <b>Center frequency</b>                                                                                          | $f_C$                 | —    | 36,125               | —    | MHz                       |
| (center between 10 dB points)                                                                                    |                       |      |                      |      |                           |
| <b>Insertion attenuation</b>                                                                                     | $\alpha$              |      |                      |      |                           |
| Reference level for the following data                                                                           | 36,13 MHz             | 18,5 | 20,0                 | 21,5 | dB                        |
| Pass bandwidth                                                                                                   |                       |      |                      |      |                           |
| $\alpha_{\text{rel}} \leq 3\text{ dB}$                                                                           | $B_{3\text{dB}}$      | —    | 6,9                  | —    | MHz                       |
| $\alpha_{\text{rel}} \leq 30\text{ dB}$                                                                          | $B_{30\text{dB}}$     | —    | 8,5                  | —    | MHz                       |
| <b>Relative attenuation</b>                                                                                      | $\alpha_{\text{rel}}$ |      |                      |      |                           |
|                                                                                                                  | 33,08 MHz             | —    | 0,5                  | —    | dB                        |
|                                                                                                                  | 39,17 MHz             | —    | 0,6                  | —    | dB                        |
|                                                                                                                  | 32,63 MHz             | —    | 3,6                  | —    | dB                        |
|                                                                                                                  | 39,63 MHz             | —    | 3,8                  | —    | dB                        |
| Lower sidelobe                                                                                                   | 25,00 ... 31,65 MHz   | 38,0 | 46,0                 | —    |                           |
| Upper sidelobe                                                                                                   | 40,65 ... 45,00 MHz   | 37,0 | 42,0                 | —    |                           |
| <b>Reflected wave signal suppression</b>                                                                         |                       |      |                      |      |                           |
| 1,3 $\mu\text{s}$ ... 6,0 $\mu\text{s}$ after main pulse<br>(test pulse 250 ns,<br>carrier frequency 36,13 MHz)  |                       | 42,0 | 52,0                 | —    | dB                        |
| <b>Feedthrough signal suppression</b>                                                                            |                       |      |                      |      |                           |
| 1,3 $\mu\text{s}$ ... 1,2 $\mu\text{s}$ before main pulse<br>(test pulse 250 ns,<br>carrier frequency 36,13 MHz) |                       | 50,0 | 56,0                 | —    | dB                        |
| <b>Group delay ripple (p-p)</b>                                                                                  | $\Delta\tau$          |      |                      |      |                           |
|                                                                                                                  | 32,63 ... 39,63 MHz   | —    | 40                   | —    | ns                        |
| <b>Impedance at 36,13 MHz</b>                                                                                    |                       |      |                      |      |                           |
| Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$                                                   |                       | —    | 3,4 $\parallel$ 13,3 | —    | k $\Omega$ $\parallel$ pF |
| Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$                                               |                       | —    | 2,2 $\parallel$ 4,3  | —    | k $\Omega$ $\parallel$ pF |
| <b>Temperature coefficient of frequency</b>                                                                      | $TC_f$                | —    | -72                  | —    | ppm/K                     |



SAW Components

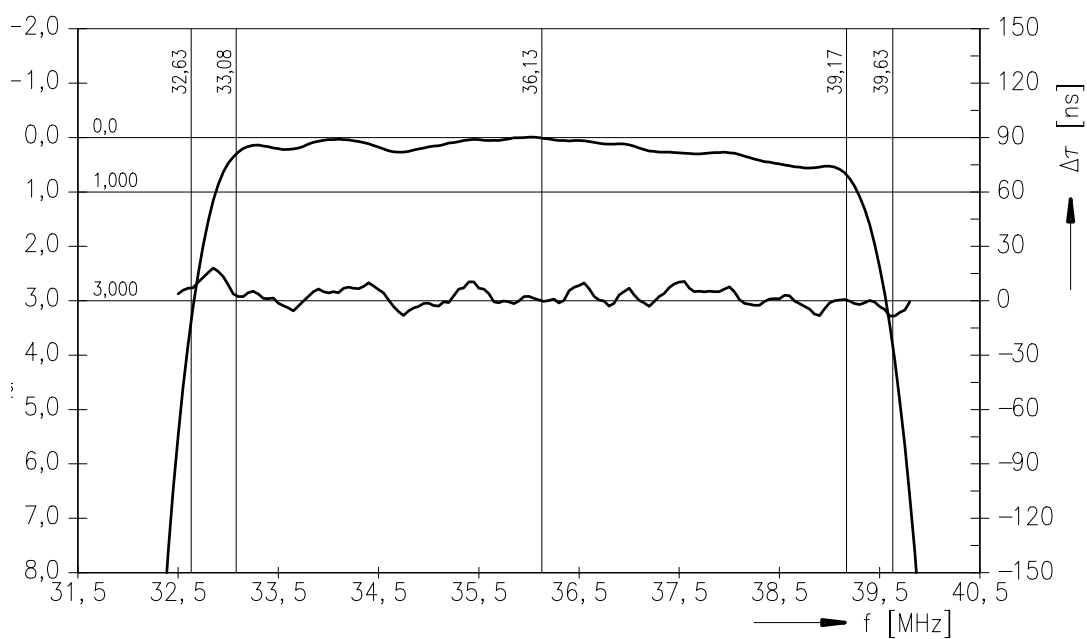
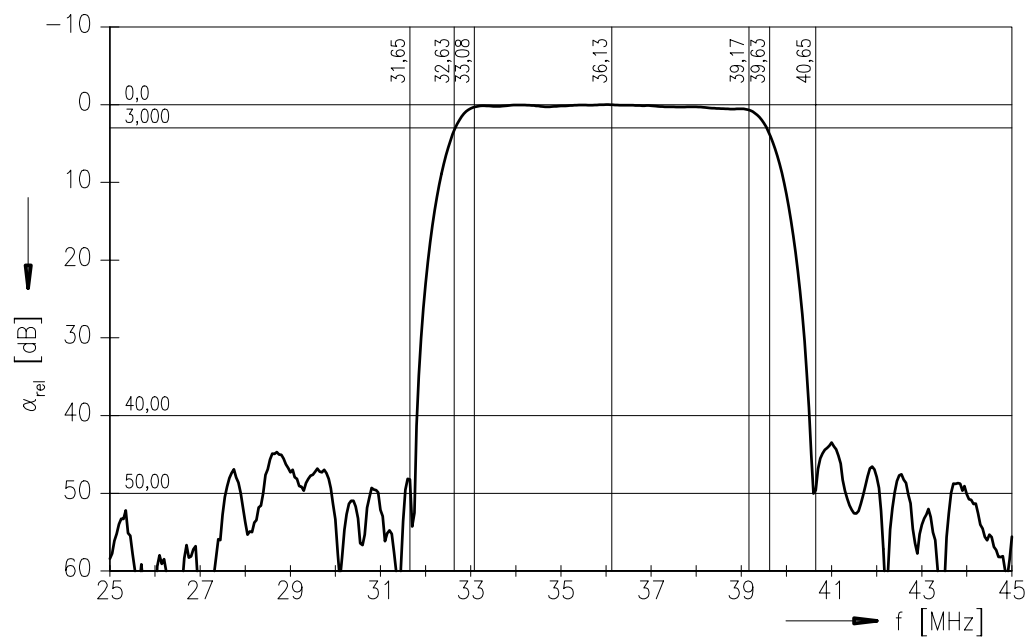
X6872D

Bandpass Filter

36,125 MHz

Data Sheet

Frequency response





SAW Components

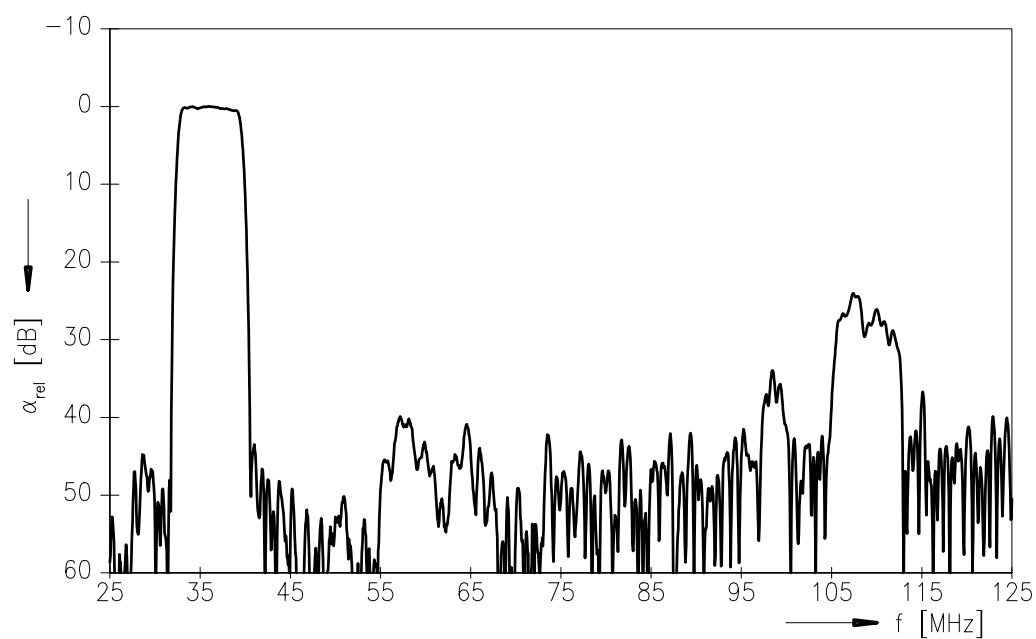
X6872D

Bandpass Filter

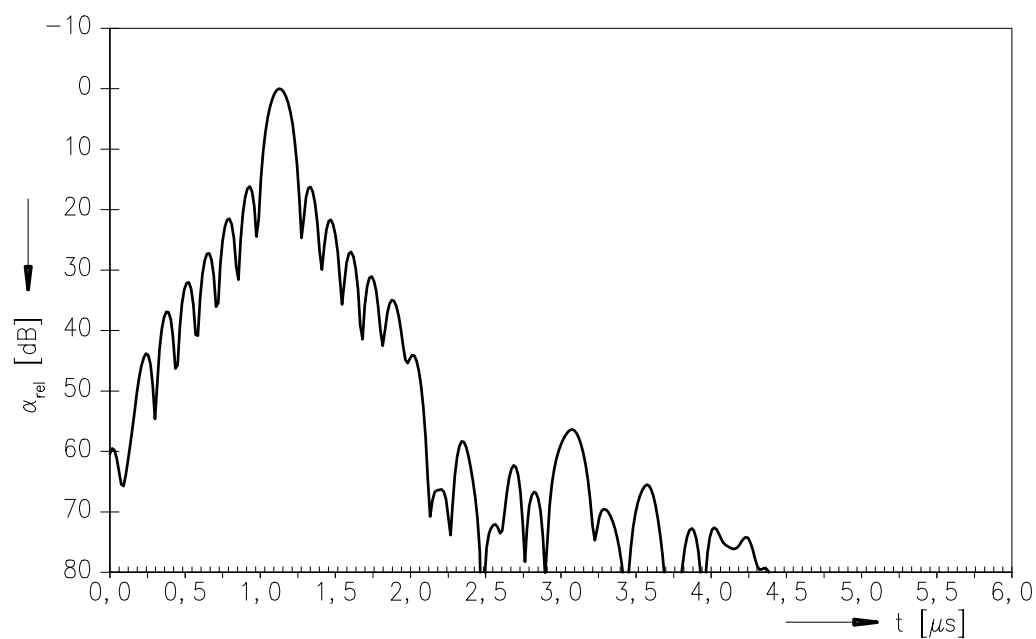
36,125 MHz

Data Sheet

Frequency response



Time domain response





|                        |                   |
|------------------------|-------------------|
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| <b>Bandpass Filter</b> | <b>36,125 MHz</b> |

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