



# SAW Components

Data Sheet X 6965 M





**SAW Components**

**X 6965 M**

**Bandpass Filter**

**44,00 MHz**

Data Sheet

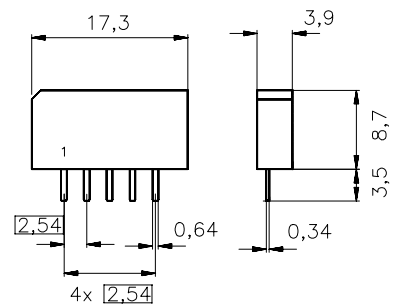
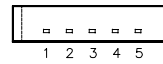
Plastic package **SIP5K**

**Features**

- IF filter for digital cable TV

**Terminals**

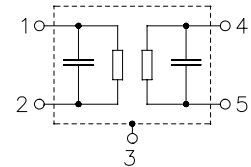
- Tinned CuFe alloy



Dimensions in mm, approx. weight 1,0 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 6965 M | B39440-X6965-M100 | C61157-A1-A15                    | F61074-V8067-Z000    |

**Maximum ratings**

|                            |           |         |    |                       |
|----------------------------|-----------|---------|----|-----------------------|
| Operable temperature range | $T_A$     | -25/+65 | °C |                       |
| Storage temperature range  | $T_{stg}$ | -40/+85 | °C |                       |
| DC voltage                 | $V_{DC}$  | 12      | V  | between any terminals |
| AC voltage                 | $V_{pp}$  | 10      | V  | between any terminals |



|                        |                  |
|------------------------|------------------|
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**Characteristics**

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

|   |                                       | <b>min.</b> | <b>typ.</b>          | <b>max.</b> |                           |
|---|---------------------------------------|-------------|----------------------|-------------|---------------------------|
| <b>Center frequency</b><br>(center between 3 dB points)   | $f_C$                                 | —           | 44,00                | —           | MHz                       |
| <b>Insertion attenuation</b><br>Reference level for the following data  | $\alpha$                              | 12,9        | 14,4                 | 15,9        | dB                        |
|   | 44,06 (44,00) MHz                     |             |                      |             |                           |
| <b>Pass bandwidth</b>   |                                       |             |                      |             |                           |
| $\alpha_{rel} \leq 3$ dB  | $B_{3dB}$                             | —           | 6,0                  | —           | MHz                       |
| $\alpha_{rel} \leq 30$ dB   | $B_{30dB}$                            | —           | 7,6                  | —           | MHz                       |
| <b>Amplitude ripple</b><br>Aperture: 250 kHz  | $\Delta\alpha$                        | —           | 0,4                  | 0,8         | dB                        |
|   | 41,53 ... 46,59 MHz                   |             |                      |             |                           |
| <b>Relative attenuation</b>   | $\alpha_{rel}$                        |             |                      |             |                           |
|   | 41,53 (41,47) MHz                     | —           | 0,4                  | —           | dB                        |
|   | 46,59 (46,53) MHz                     | —           | 0,4                  | —           | dB                        |
|   | 41,06 (41,00) MHz                     | 1,8         | 3,0                  | 4,2         | dB                        |
|   | 47,06 (47,00) MHz                     | 1,5         | 2,7                  | 3,9         | dB                        |
|   | 47,31 (47,25) MHz                     | —           | 6,2                  | —           | dB                        |
|   | 39,81 (39,75) MHz                     | 40,0        | 52,0                 | —           | dB                        |
| <b>Lower sidelobe</b>   |                                       |             |                      |             |                           |
|   | 35,06 ... 39,46 (35,00 ... 39,40) MHz | 44,0        | 50,0                 | —           | dB                        |
|   | 39,46 ... 40,06 (39,40 ... 40,00) MHz | 38,0        | 44,0                 | —           | dB                        |
| <b>Upper sidelobe</b>   |                                       |             |                      |             |                           |
|   | 48,06 ... 50,06 (48,00 ... 50,00) MHz | 36,0        | 43,0                 | —           | dB                        |
|   | 50,06 ... 55,06 (50,00 ... 55,00) MHz | 42,0        | 48,0                 | —           | dB                        |
| <b>Reflected wave signal suppression</b><br>1,3 $\mu s$ ... 6,0 $\mu s$ after main pulse<br>(test pulse 250 ns,<br>carrier frequency 44,06 MHz) |                                       | 42,0        | 52,0                 | —           | dB                        |
| <b>Feedthrough signal suppression</b><br>1,3 $\mu s$ ... 1,2 $\mu s$ before main pulse<br>(test pulse 250 ns,<br>carrier frequency 44,06 MHz)   |                                       | 50,0        | 56,0                 | —           | dB                        |
| <b>Group delay ripple (p-p)</b><br>Aperture 250 kHz   | $\Delta\tau$                          | —           | 20                   | 40          | ns                        |
|   | 41,53 ... 46,59 MHz                   |             |                      |             |                           |
| <b>Impedance at 44,06 MHz</b>   |                                       |             |                      |             |                           |
| Input: $Z_{IN} = R_{IN} \parallel C_{IN}$   |                                       | —           | 1,3 $\parallel$ 16,1 | —           | k $\Omega$ $\parallel$ pF |
| Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$   |                                       | —           | 1,1 $\parallel$ 5,6  | —           | k $\Omega$ $\parallel$ pF |
| <b>Temperature coefficient of frequency</b>   | $TC_f$                                | —           | -72                  | —           | ppm/K                     |



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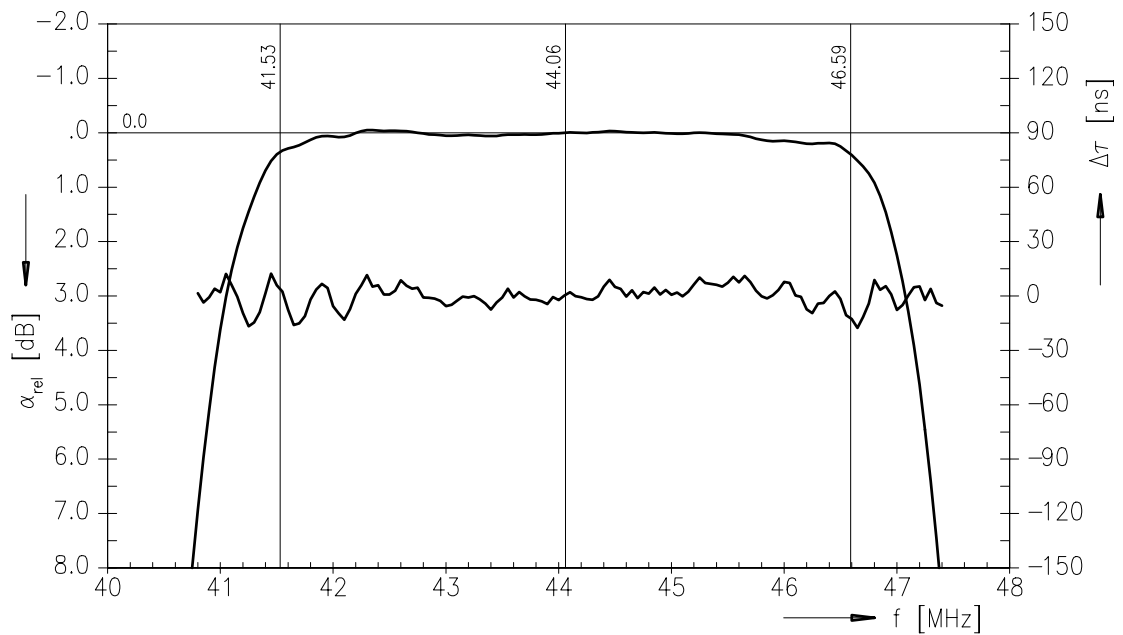
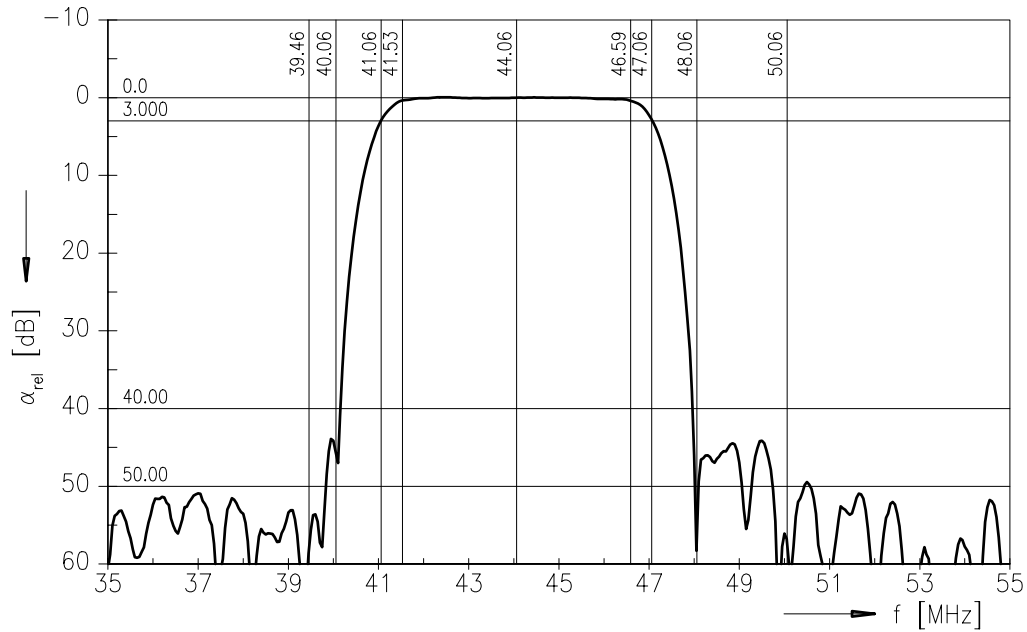
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44,00 MHz

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Frequency response





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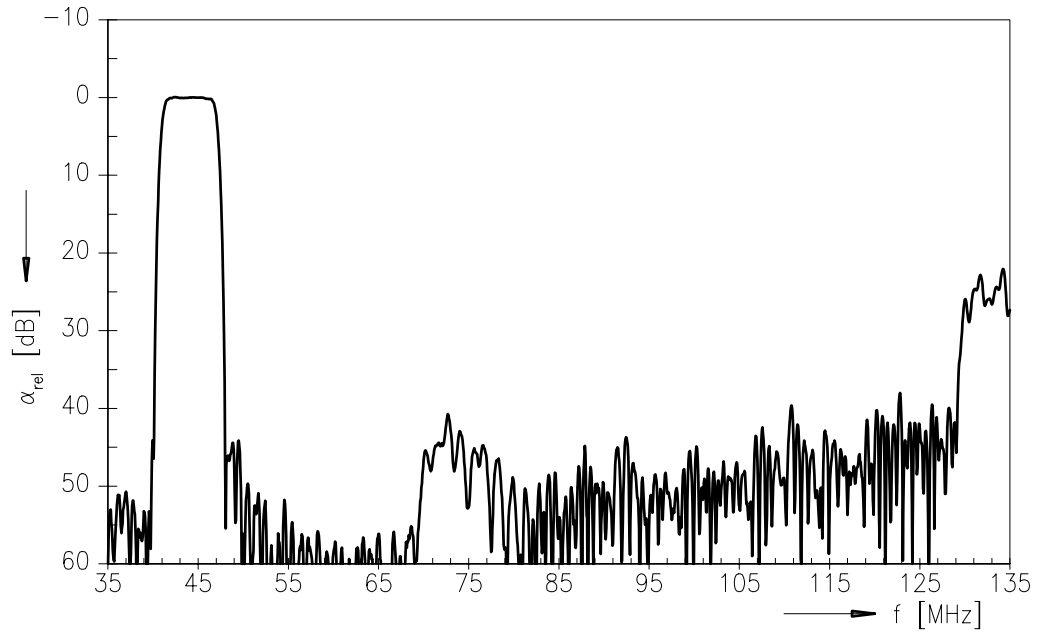
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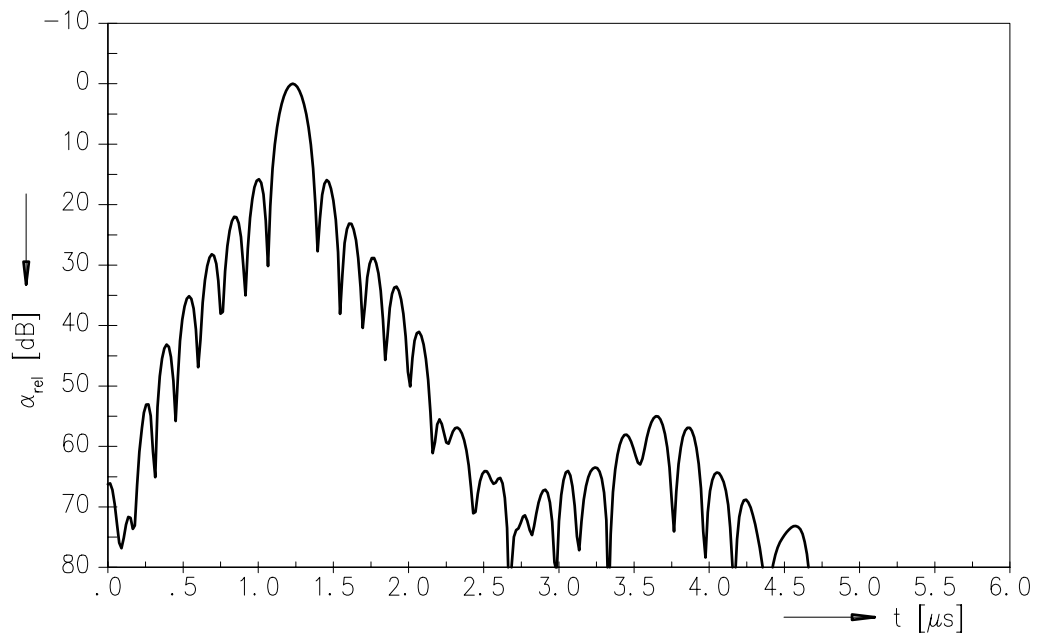
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Frequency response



Time domain response





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