



# SAW Components

Data Sheet X 6964 M





**SAW Components**

**X 6964 M**

**Bandpass Filter**

**43,75 MHz**

Data Sheet

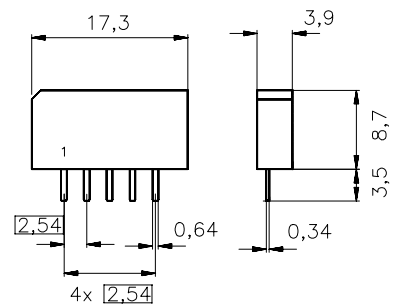
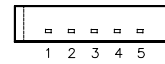
Plastic package **SIP5K**

**Features**

- IF filter for digital cable TV

**Terminals**

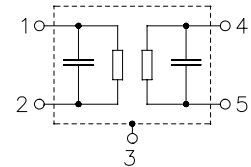
- Tinned CuFe alloy



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 6964 M | B39438-X6964-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:  $T_A = 25 (45) \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$   
 Terminating load impedance:  $Z_L = 2 \text{ k}\Omega \parallel 3 \text{ pF}$

|   |                               | <b>min.</b> | <b>typ.</b>                                 | <b>max.</b> |  |
|---|-------------------------------|-------------|---|-------------|--|
| <b>Center frequency</b><br>(center between 3 dB points)   | $f_C$                         | —           | 43,75                                       | —           | MHz  |
| <b>Insertion attenuation</b><br>Reference level for the following data  | $\alpha$<br>43,81 (43,75) MHz | 13,3        | 14,8  | 16,3        | dB   |
| <b>Pass bandwidth</b><br>$\alpha_{\text{rel}} \leq 3 \text{ dB}$  | $B_{3\text{dB}}$              | —           | 6,0   | —           | MHz  |
| $\alpha_{\text{rel}} \leq 30 \text{ dB}$  | $B_{30\text{dB}}$             | —           | 7,6   | —           | MHz  |
| <b>Relative attenuation</b><br>41,28 (41,22) MHz  | $\alpha_{\text{rel}}$         | -0,8        | 0,2   | 1,2         | dB   |
| 46,34 (46,28) MHz   |                               | -0,7        | 0,3   | 1,3         | dB   |
| 40,81 (40,75) MHz   |                               | 1,3         | 2,5   | 3,7         | dB   |
| 46,81 (46,75) MHz   |                               | 1,6         | 2,8   | 4,0         | dB   |
| 40,31 (40,25) MHz   |                               | 9,0         | 12,0  | —           | dB   |
| 47,31 (47,25) MHz   |                               | 9,0         | 13,0  | —           | dB   |
| 39,81 (39,75) MHz   |                               | 38,0        | 50,0  | —           | dB   |
| 47,81 (47,75) MHz   |                               | 38,0        | 52,0  | —           | dB   |
| Lower sidelobe<br>35,06 ... 39,81 (35,00 ... 39,75) MHz   |                               | 38,0        | 46,0  | —           | dB   |
| Upper sidelobe<br>47,81 ... 55,06 (47,75 ... 55,00) MHz   |                               | 38,0        | 44,0  | —           | dB   |
| <b>Reflected wave signal suppression</b><br>1,3 $\mu\text{s}$ ... 6,0 $\mu\text{s}$ after main pulse<br>(test pulse 250 ns,<br>carrier frequency 43,81 MHz)           |                               | 42,0        | 52,0  | —           | dB   |
| <b>Feedthrough signal suppression</b><br>1,3 $\mu\text{s}$ ... 1,2 $\mu\text{s}$ before main pulse<br>(test pulse 250 ns,<br>carrier frequency 43,81 MHz)             |                               | 50,0        | 56,0  | —           | dB   |
| <b>Group delay ripple (p-p)</b><br>Aperture 50 kHz  | $\Delta\tau$                  | —           | 40  | —           | ns   |
| <b>Impedance at 43,81 MHz</b><br>Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$<br>Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$ |                               | —           | 1,1 $\parallel$ 16,4<br>1,1 $\parallel$ 5,0 | —           | k $\Omega$ $\parallel$ pF<br>k $\Omega$ $\parallel$ pF |
| <b>Temperature coefficient of frequency</b>   | $TC_f$                        | —           | -72   | —           | ppm/K  |



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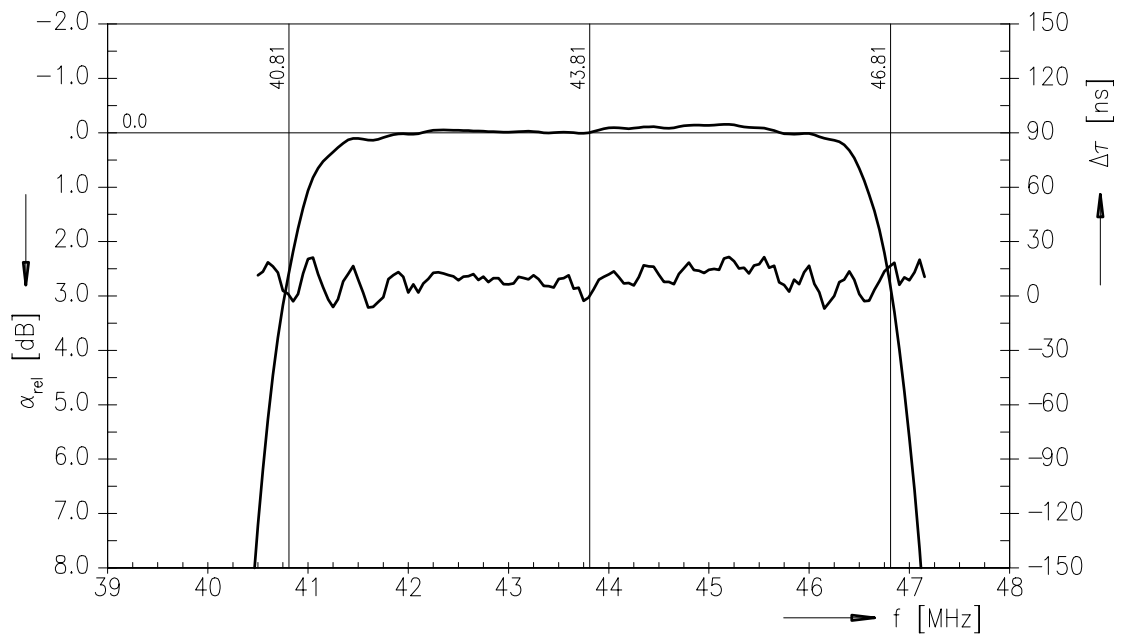
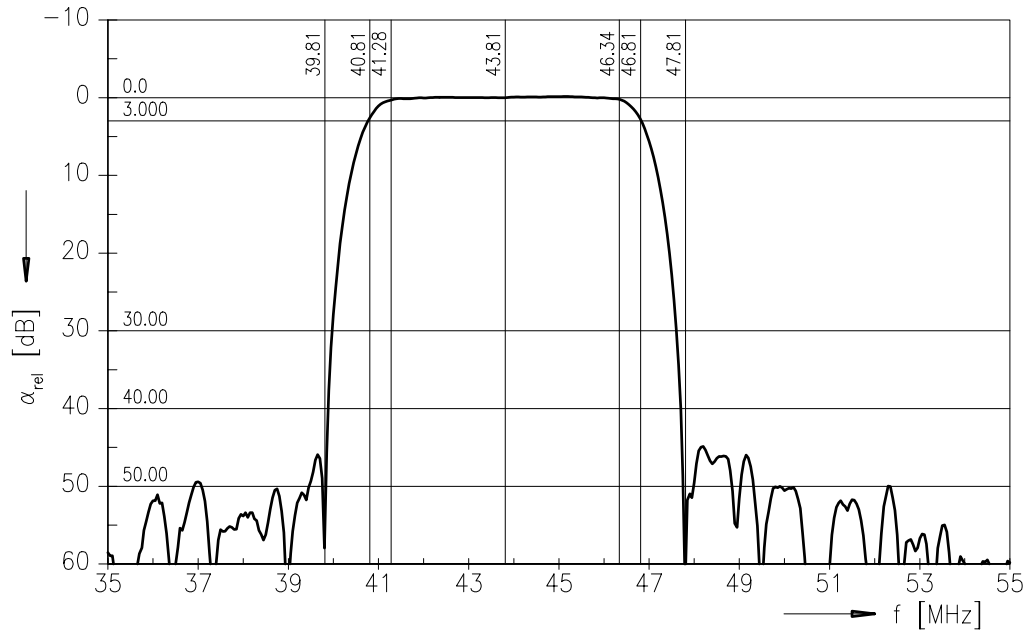
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Frequency response





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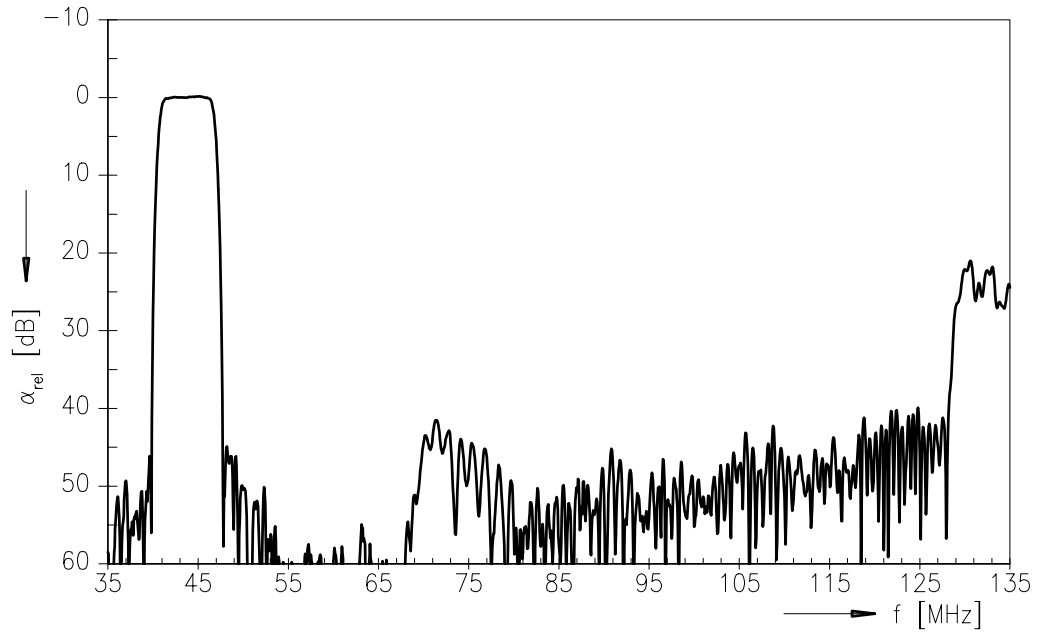
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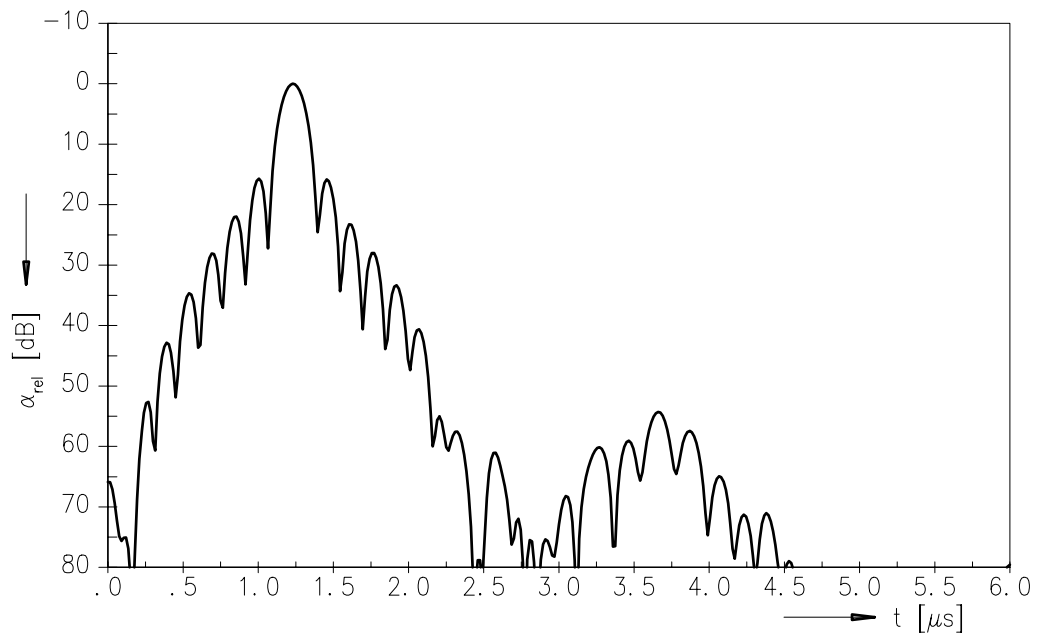
43,75 MHz

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Frequency response



Time domain response





|                        |                  |
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