EPCOS

# *SAW Components*

*Data Sheet X 6964 M*

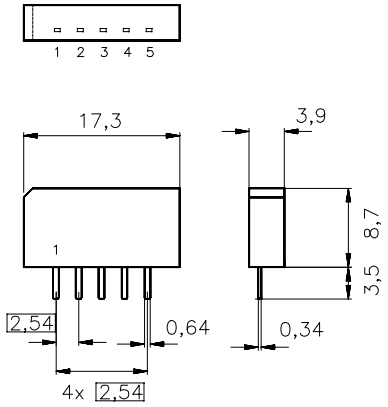
Plastic package **SIP5K**

### Features

- IF filter for digital cable TV

### Terminals

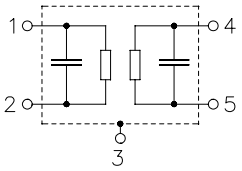
- Tinned CuFe alloy




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

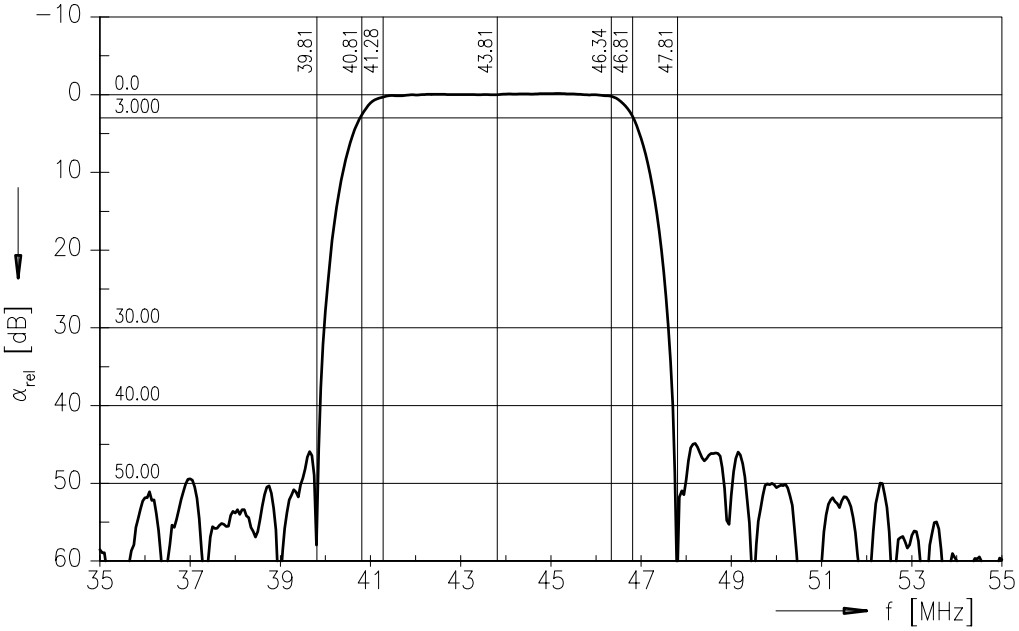
| | | | | |
|---|---|---|---|---|
| Operable temperature range | $T_A$ | –25/+65 | ˚C | |
| Storage temperature range | $T_{stg}$ | –40/+85 | ˚C | |
| DC voltage | $V_{DC}$ | 5 | V | between any terminals |
| AC voltage | $V_{pp}$ | 10 | V | between any terminals |

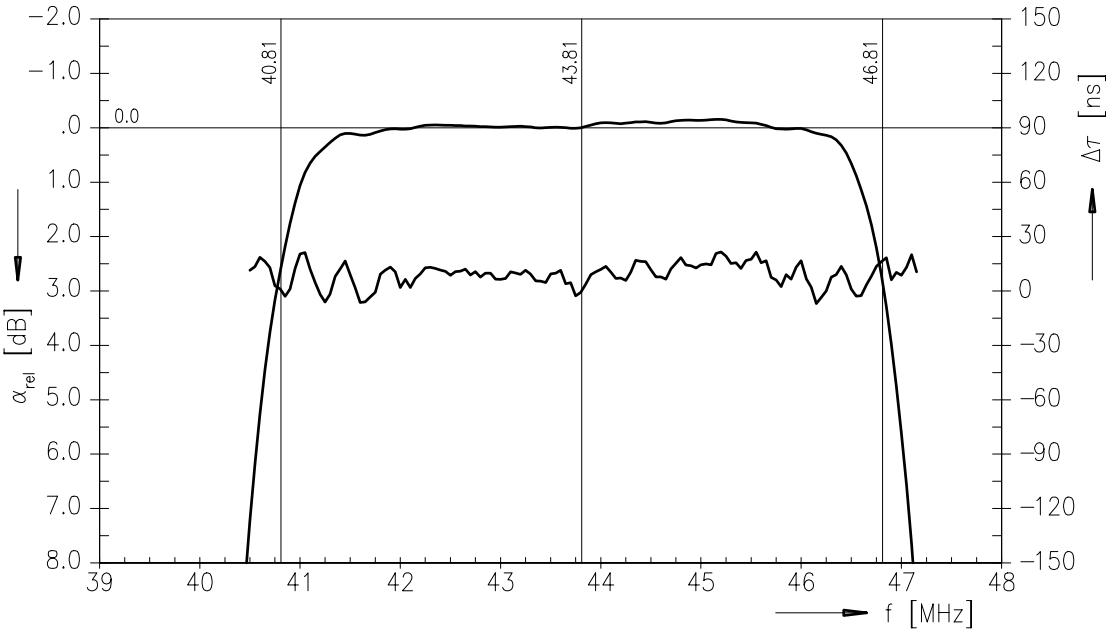
## Characteristics

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

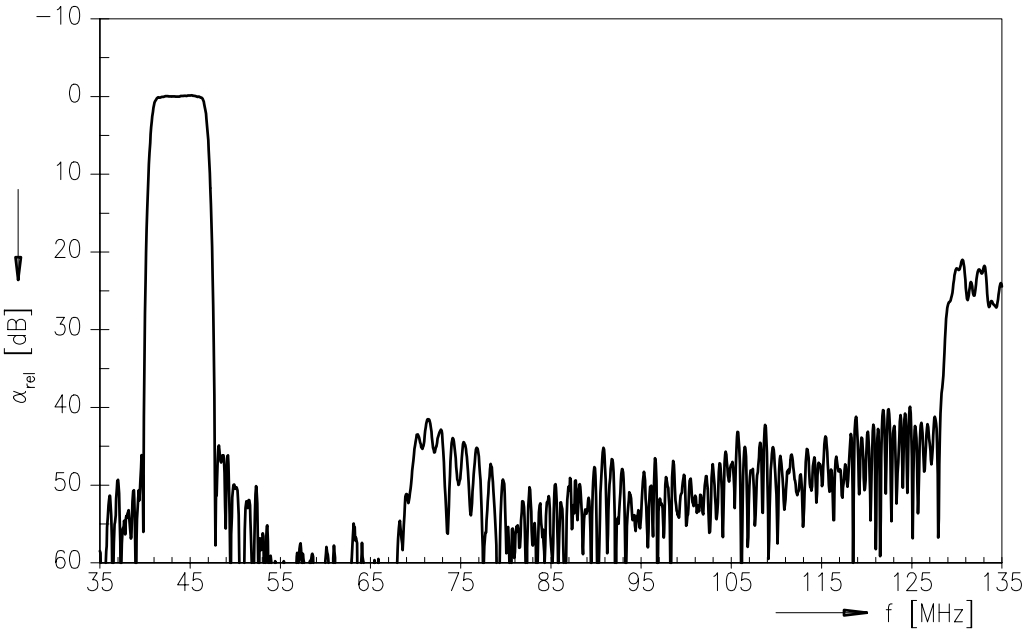
| | | min. | typ. | max. | |
|---|---|---|---|---|---|
| **Center frequency** (center between 3 dB points) | $f_C$ | — | 43,75 | — | MHz |
| **Insertion attenuation** | α | | | | |
| Reference level for the following data 43,81 (43,75) MHz | | 13,3 | 14,8 | 16,3 | dB |
| **Pass bandwith** | | | | | |
| $\alpha_{rel}$ ≤3 dB | $B_{3dB}$ | — | 6,0 | — | MHz |
| $\alpha_{rel}$ ≤30 dB | $B_{30dB}$ | — | 7,6 | — | MHz |
| **Relative attenuation** | $\alpha_{rel}$ | | | | |
| 41,28 (41,22) MHz | | –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 | | | | | |
| 35,06 ... 39,81 (35,00 ... 39,75) MHz | | 38,0 | 46,0 | — | dB |
| Upper sidelobe | | | | | |
| 47,81 ... 55,06 (47,75 ... 55,00) MHz | | 38,0 | 44,0 | — | dB |
| **Reflected wave signal suppression** | | | | | |
| 1,3 µs ... 6,0 µs after main pulse (test pulse 250 ns, carrier frequency 43,81 MHz) | | 42,0 | 52,0 | — | dB |
| **Feedthrough signal suppression** | | | | | |
| 1,3 µs ... 1,2 µs before main pulse (test pulse 250 ns, carrier frequency 43,81 MHz) | | 50,0 | 56,0 | — | dB |
| **Group delay ripple** (p-p) | Δτ | | | | |
| Aperture 50 kHz | | | | | |
| 40,81 ... 46,81 (40,75 ... 46,75) MHz | | — | 40 | — | ns |
| **Impedance** at 43,81 MHz | | | | | |
| Input: $Z_{IN} = R_{IN} \parallel C_{IN}$ | | — | 1,1 ‖16,4 | — | kΩ \|\| pF |
| Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$ | | — | 1,1 ‖ 5,0 | — | kΩ \|\| pF |
| **Temperature coefficient of frequency** | $TC_f$ | — | –72 | — | ppm/K |

**Frequency response**

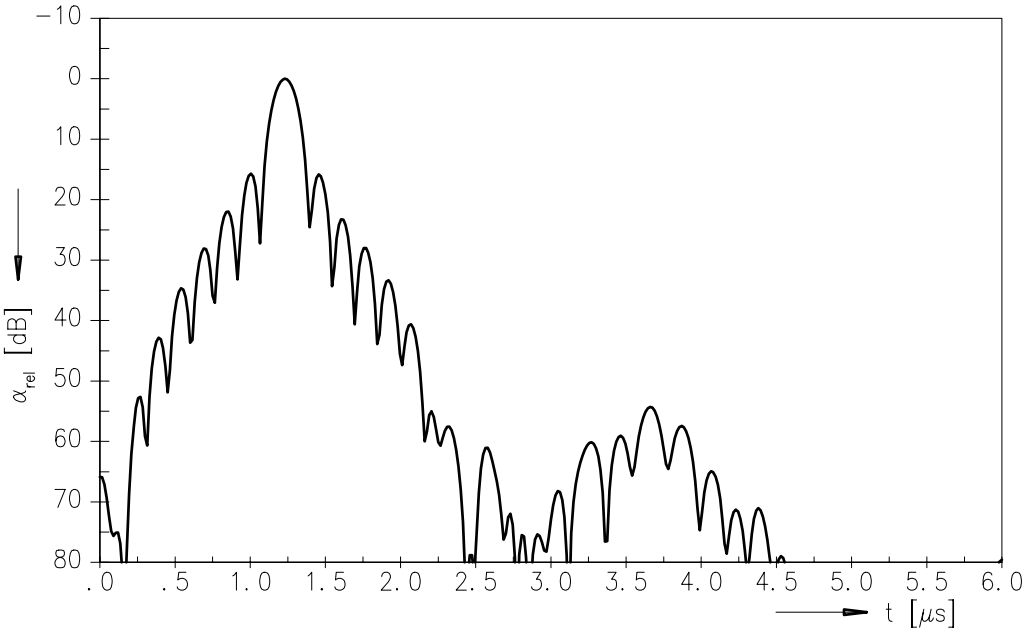


**Frequency response**




**Time domain response**



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