EPCOS

# *SAW Components*

*Data Sheet X 6941 D*

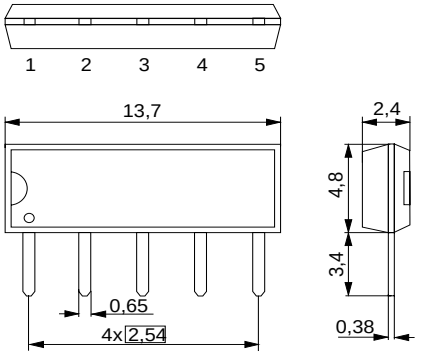


Data Sheet

**Standard**

Duroplast package **SIP5D**

- HDTV




**Features**

- Constant group delay
- Optimized for cascade of two devices
- Optimized for balanced to balanced operation
- Standard IC package

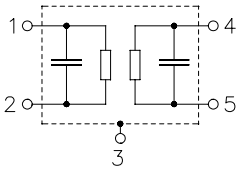
**Terminals**

- Tinned CuFe alloy

Dimensions in mm, approx. weight 0,5 g

**Pin configuration**

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




| Type | Ordering code | Marking and package according to | Packing according to |
|---|---|---|---|
| X 6941 D | B39440-X6941-N201 | C61157-A1-A21 | F61074-V8049-Z000 |

**Maximum ratings**

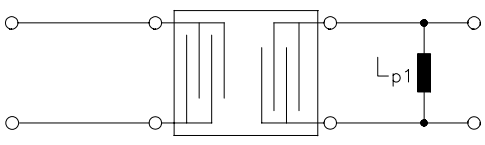
| | | | | |
|---|---|---|---|---|
| Operable temperature range | $T_A$ | –25/+65 | ˚C | |
| Storage temperature range | $T_{stg}$ | –40/+85 | ˚C | |
| DC voltage | $V_{DC}$ | 5 | V | between any terminals |
| AC voltage | $V_{pp}$ | 10 | V | between any terminals |

## Characteristics

Reference temperature: $T_A$ = 25 °C
Terminating source impedance: $Z_S$ = 50 Ω
Terminating load impedance: $Z_L$ = 2 kΩ || 3 pF and matching network

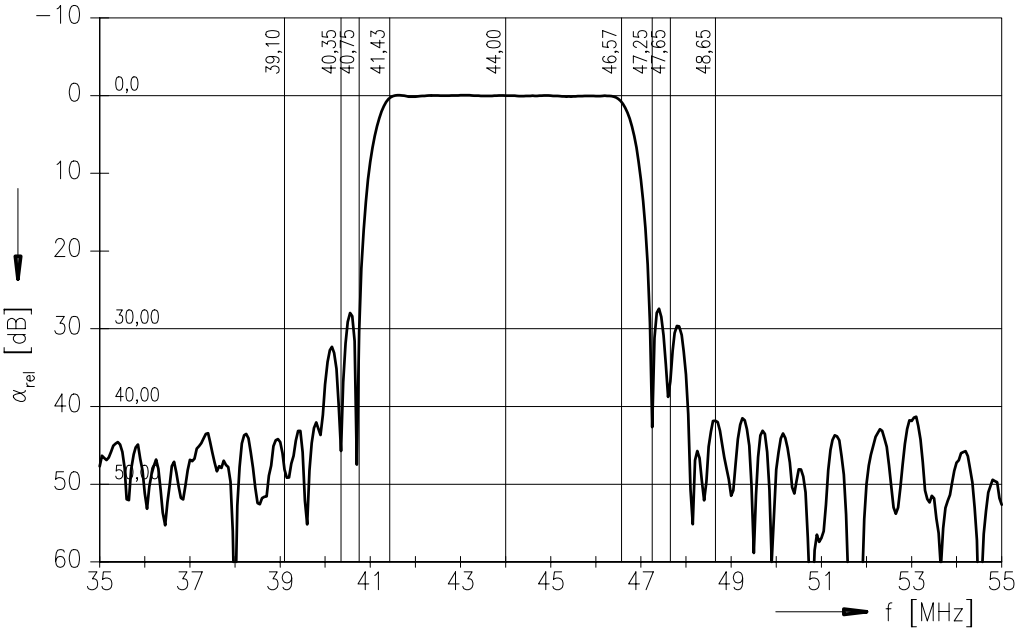
| | | | | min. | typ. | max. | |
|---|---|---|---|---|---|---|---|
| **Insertion attenuation** | | | α | | | | |
| Reference level for the following data | | 44,00 MHz | | 18,5 | 20,0 | 21,5 | dB |
| **Amplitude ripple** (p-p) | | | Δα | | | | |
| | 41,60 ... | 46,40 MHz | | — | 0,4 | — | dB |
| **Relative attenuation** | | | $\alpha_{rel}$ | | | | |
| | | 40,75 MHz | | 25,0 | 32,0 | — | dB |
| | | 41,31 MHz | | 1,1 | 1,6 | 2,1 | dB |
| | | 41,43 MHz | | –0,4 | 0,3 | 1,0 | dB |
| | | 41,60 MHz | | –0,4 | 0,1 | 0,6 | dB |
| | | 46,40 MHz | | –0,4 | 0,1 | 0,6 | dB |
| | | 46,57 MHz | | 0,1 | 0,6 | 1,1 | dB |
| | | 46,69 MHz | | 1,5 | 2,0 | 2,5 | dB |
| | | 47,25 MHz | | 25,0 | 36,0 | — | dB |
| Lower sidelobe | 35,00 ... | 39,10 MHz | | 34,0 | 42,0 | — | dB |
| | 39,10 ... | 40,35 MHz | | 27,0 | 32,0 | — | dB |
| Upper sidelobe | 47,65 ... | 48,65 MHz | | 25,0 | 30,0 | — | dB |
| | 48,65 ... | 55,00 MHz | | 32,0 | 37,0 | — | dB |
| **Reflected wave signal suppression** | | | | | | | |
| 1,5 µs ... 6,0 µs after main pulse (test pulse 250 ns, carrier frequency 44,00 MHz) | | | | 42,0 | 56,0 | — | dB |
| **Group delay ripple** (p-p) | | | Δτ | | | | |
| | 41,31 ... | 46,69 MHz | | — | 30 | 80 | ns |
| **Impedance** at 44,00 MHz | | | | | | | |
| Input: $Z_{IN} = R_{IN} \parallel C_{IN}$ | | | | — | 1,9 \|\| 22,2 | — | kΩ \|\| pF |
| Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$ | | | | — | 6,1 \|\| 5,7 | — | kΩ \|\| pF |
| **Temperature coefficient of frequency** | | | $TC_f$ | — | –18 | — | ppm/K |

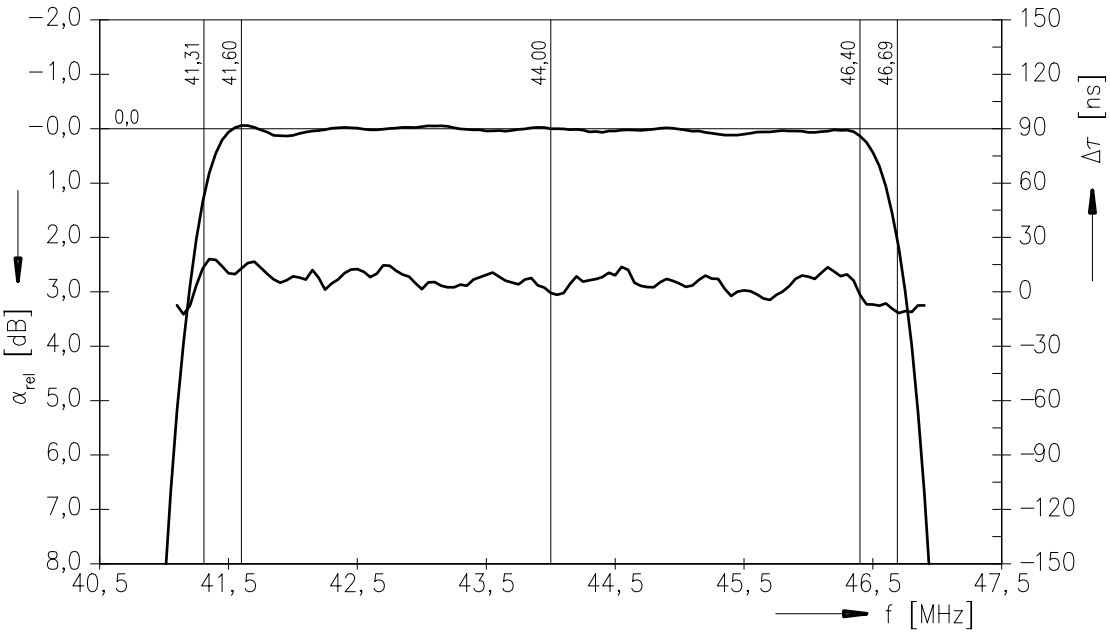
Matching network:



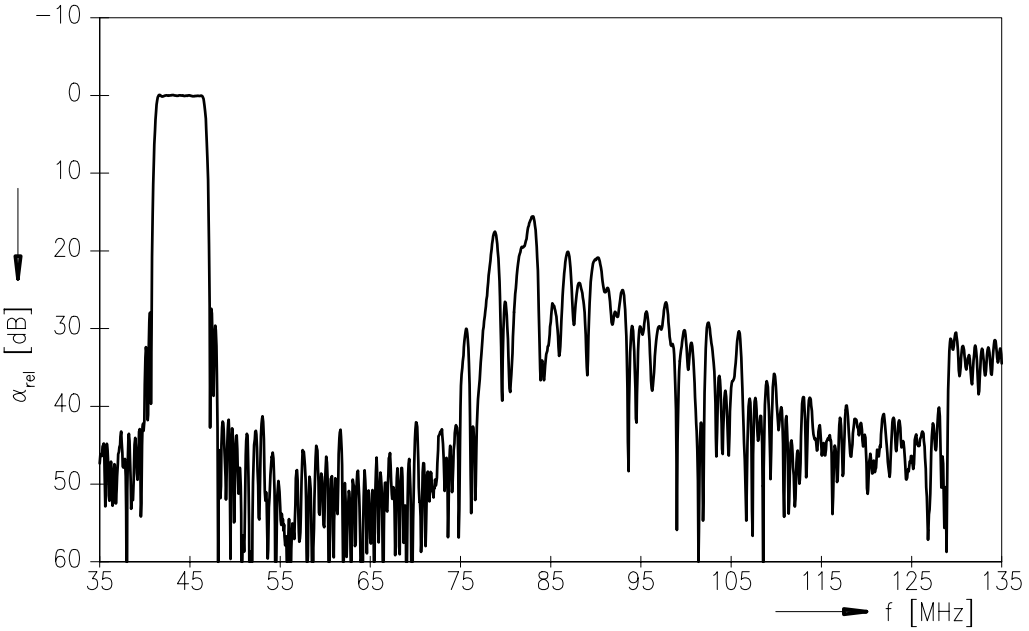

$L_{p1}$ = 1800 nH

**Frequency response**

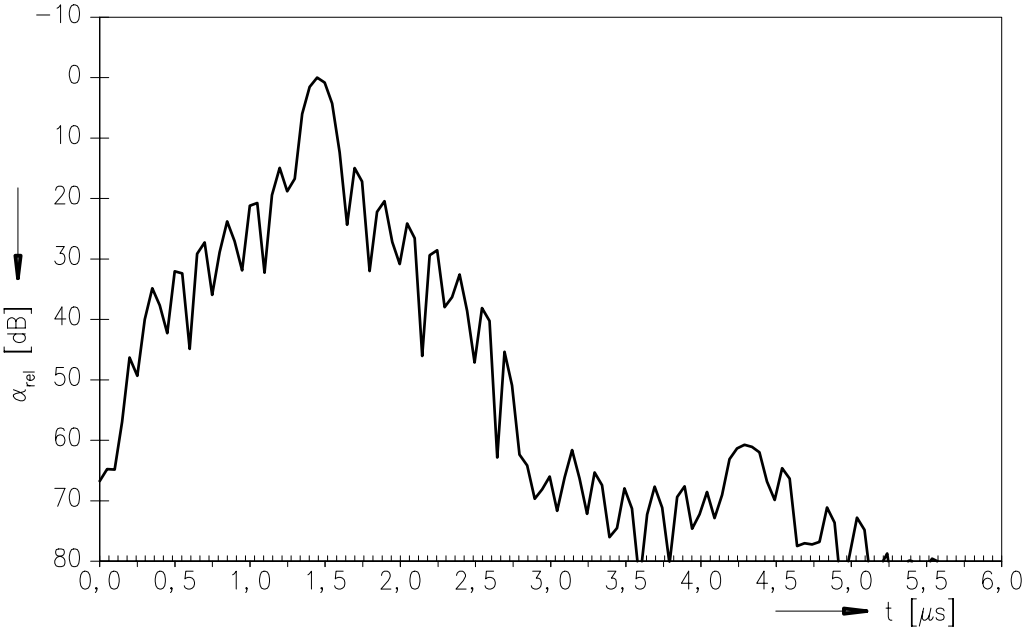


**Frequency response**




**Time domain response**



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