



# *SAW Components*

*Data Sheet G 3963 M*

Data Sheet

EPCOS



## SAW Components

G 3963 M

## IF Filter for Video Applications

38,90 MHz

### Data Sheet

#### Standard

Plastic package **SIP5K**

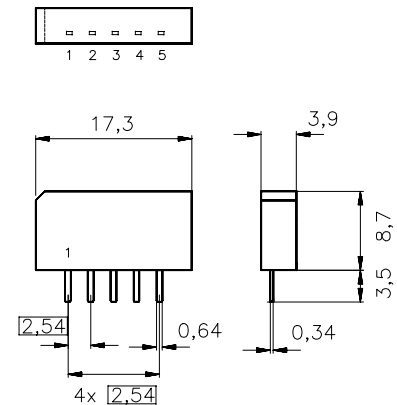
- B/G

#### Features

- TV IF filter with Nyquist slope and sound suppression
- Constant group delay
- Suitable for CENELEC EN 55020

#### Terminals

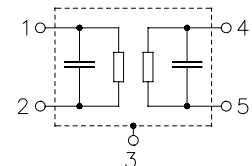
- Tinned CuFe alloy



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 |
|----------|-------------------|----------------------------------|----------------------|
| G 3963 M | B39389-G3963-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 |



|                                         |                  |
|-----------------------------------------|------------------|
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### Characteristics

Reference temperature:  $T_A = 25\text{ °C}$   
Terminating source impedance:  $Z_S = 50\text{ }\Omega$   
Terminating load impedance:  $Z_L = 2\text{ k}\Omega \parallel 3\text{ pF}$

|                                                                                                       |                     | min. | typ.                 | max. |                           |
|-------------------------------------------------------------------------------------------------------|---------------------|------|----------------------|------|---------------------------|
| <b>Insertion attenuation</b> $\alpha$                                                                 |                     |      |                      |      |                           |
| Reference level for the following data                                                                | 37,40 MHz           | 13,0 | 14,5                 | 16,0 | dB                        |
| <b>Relative attenuation</b> $\alpha_{rel}$                                                            |                     |      |                      |      |                           |
| Picture carrier                                                                                       | 38,90 MHz           | 4,6  | 5,6                  | 6,6  | dB                        |
| Color carrier                                                                                         | 34,47 MHz           | 1,7  | 2,7                  | 3,7  | dB                        |
| Sound carrier                                                                                         | 33,40 MHz           | 42,0 | 56,0                 | —    | dB                        |
|                                                                                                       | 32,40 MHz           | 46,0 | 56,0                 | —    | dB                        |
| Adjacent picture carrier                                                                              | UHF 30,90 MHz       | 46,0 | 58,0                 | —    | dB                        |
|                                                                                                       | VHF 31,90 MHz       | 46,0 | 57,0                 | —    | dB                        |
|                                                                                                       | 40,15 MHz           | 38,0 | 45,0                 | —    | dB                        |
| Adjacent sound carrier                                                                                | VHF 40,40 MHz       | 45,0 | 55,0                 | —    | dB                        |
|                                                                                                       | UHF 41,40 MHz       | 44,0 | 51,0                 | —    | dB                        |
| Lower sidelobe                                                                                        | 25,00 ... 31,90 MHz | 42,0 | 47,0                 | —    | dB                        |
| Upper sidelobe                                                                                        | 40,40 ... 45,00 MHz | 38,0 | 43,0                 | —    | dB                        |
| <b>Reflected wave signal suppression</b>                                                              |                     |      |                      |      |                           |
| 1,1 $\mu$ s ... 6,0 $\mu$ s after main pulse<br>(test pulse 250 ns,<br>carrier frequency 37,40 MHz)   |                     | 44,0 | 54,0                 | —    | dB                        |
| <b>Feedthrough signal suppression</b>                                                                 |                     |      |                      |      |                           |
| 1,2 $\mu$ s ... 1,05 $\mu$ s before main pulse<br>(test pulse 250 ns,<br>carrier frequency 37,40 MHz) |                     | 50,0 | 56,0                 | —    | dB                        |
| <b>Group delay ripple (p-p)</b> $\Delta\tau$                                                          |                     | —    | 50                   | —    | ns                        |
| <b>Impedance at 37,40 MHz</b>                                                                         |                     |      |                      |      |                           |
| Input: $Z_{IN} = R_{IN} \parallel C_{IN}$                                                             |                     | —    | 1,7 $\parallel$ 14,1 | —    | k $\Omega$ $\parallel$ pF |
| Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$                                                         |                     | —    | 1,3 $\parallel$ 5,5  | —    | k $\Omega$ $\parallel$ pF |
| <b>Temperature coefficient of frequency</b> $TC_f$                                                    |                     | —    | -72                  | —    | ppm/K                     |



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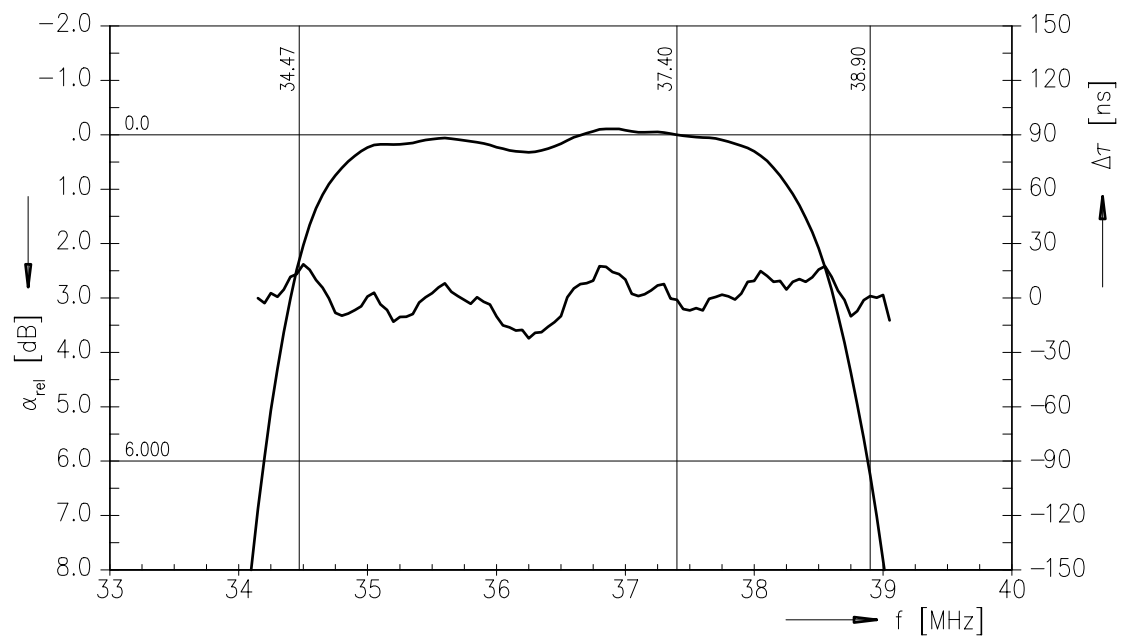
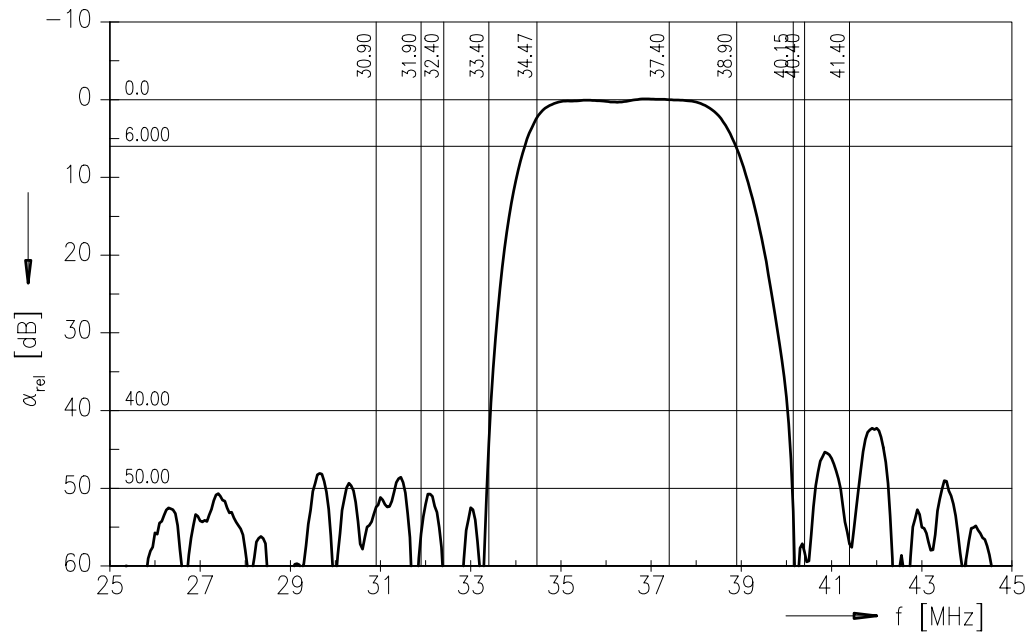
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Frequency response





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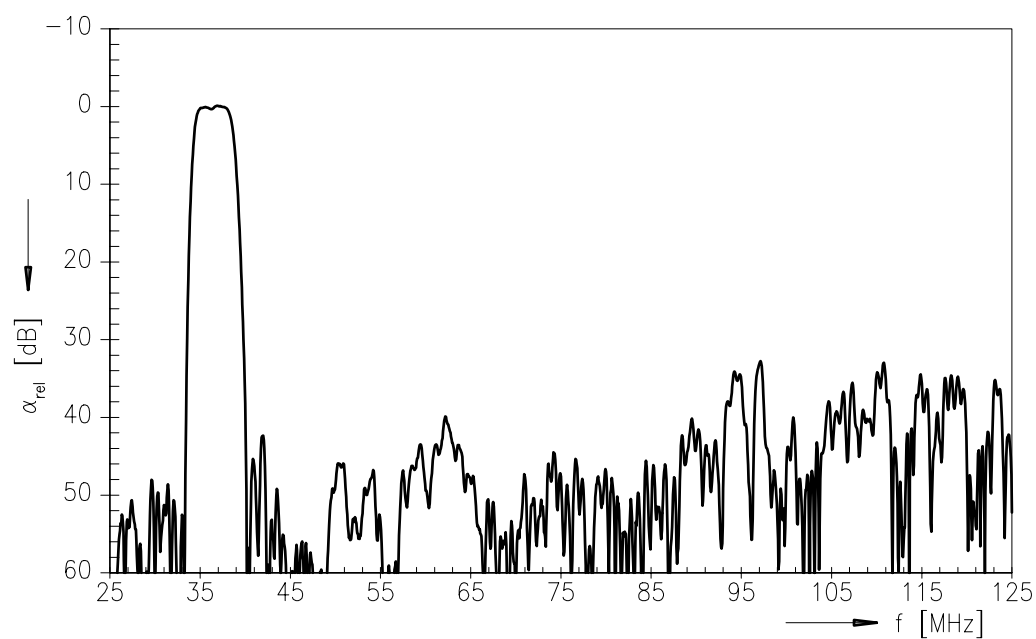
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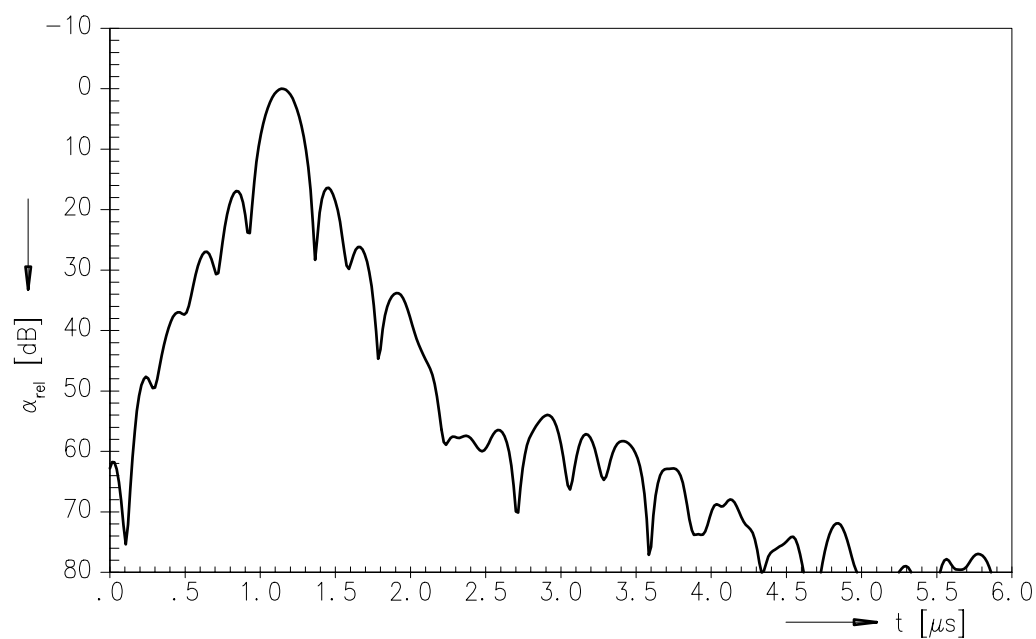
38,90 MHz

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Frequency response



Time domain response





|                                         |                  |
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