



SAW Components

SAW bandpass filter

Bandpass Filter for terrestrial TV Applications

| | |
|-----------------------|--------------------------|
| Series/type: | X 6768 M |
| Ordering code: | B39376-X6768-M100 |
| Date: | December 28, 2007 |
| Version: | 2.0 |



SAW Components

X 6768 M

SAW bandpass filter

37.60 MHz

Data sheet

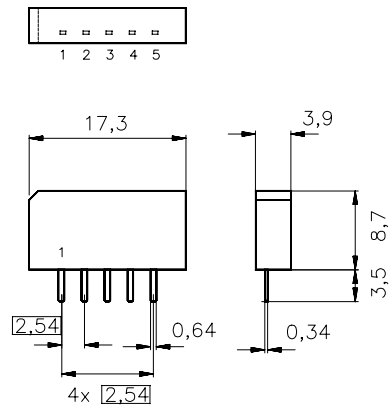
Application

- IF filter for digital TV
- Balanced input option
- Usable bandwidth 5.8 MHz



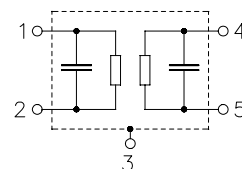
Features

- Plastic package **SIP5K**
- Approximate weight 1.0 g
- RoHS compatible
- Tinned CuFe alloy terminals



Pin configuration

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



Please read *cautions and warnings and important notes* at the end of this document.



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Characteristics

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

| | | min. | typ. @ 25 °C | max. | |
|-----------------------------------------------------------------------------------------------------------------|-------------------|-------------|-------------------------|-------------|---------------------------|
| Center frequency | f_C | — | 37.67 | — | MHz |
| (center between 10 dB points) | | | | | |
| Insertion attenuation | α | | | | |
| Reference level for the following data | 37.67 (37.60) MHz | 15.5 | 17.0 | 18.5 | dB |
| Pass bandwidth | | | | | |
| $\alpha_{rel} \leq 3\text{dB}$ | $B_{3\text{dB}}$ | — | 5.8 | — | MHz |
| $\alpha_{rel} \leq 30\text{dB}$ | $B_{30\text{dB}}$ | — | 7.2 | — | MHz |
| Relative attenuation | α_{rel} | | | | |
| 35.51 (35.44) MHz | | — | -0.2 | — | dB |
| 39.95 (39.88) MHz | | — | -0.1 | — | dB |
| 34.77 (34.70) MHz | | — | 3.3 | — | dB |
| 40.57 (40.50) MHz | | 1.5 | 2.5 | 3.5 | dB |
| 34.45 (34.38) MHz | | 8.5 | 10.0 | — | dB |
| 31.95 (31.88) MHz | | 40.0 | 56.0 | — | dB |
| 32.95 (32.88) MHz | | 40.0 | 58.0 | — | dB |
| 41.45 (41.38) MHz | | 33.0 | 39.0 | — | dB |
| 42.45 (42.38) MHz | | 40.0 | 48.0 | — | dB |
| Lower sidelobe | | | | | |
| 27.07 ... 32.95 (27.00 ...32.88) MHz | | 37.0 | 47.0 | — | dB |
| Upper sidelobe | | | | | |
| 41.45 ... 42.45 (41.38 ...42.38) MHz | | 32.0 | 38.0 | — | dB |
| 42.45 ... 47.07 (42.38 ...47.00) MHz | | 37.0 | 43.0 | — | dB |
| Reflected wave signal suppression | | | | | |
| 1.2 μs ... 6.0 μs after main pulse (test pulse 250 ns, carrier frequency 37.67 MHz) | | 40.0 | 50.0 | — | dB |
| Group delay ripple (p-p) | $\Delta\tau$ | | | | |
| 34.77 ... 40.61 (34.70 ...40.54) MHz | | — | 60 | — | ns |
| Impedance at 37.67 MHz | | | | | |
| Input: $Z_{IN} = R_{IN} \parallel C_{IN}$ | | — | 2.4 \parallel 12.8 | — | k Ω \parallel pF |
| Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$ | | — | 1.9 \parallel 3.9 | — | k Ω \parallel pF |
| Temperature coefficient of frequency | TC_f | — | -72 | — | ppm/K |



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Maximum ratings

| | | | | |
|----------------------------|------------------|-----------|----|-----------------------|
| Operable temperature range | T | -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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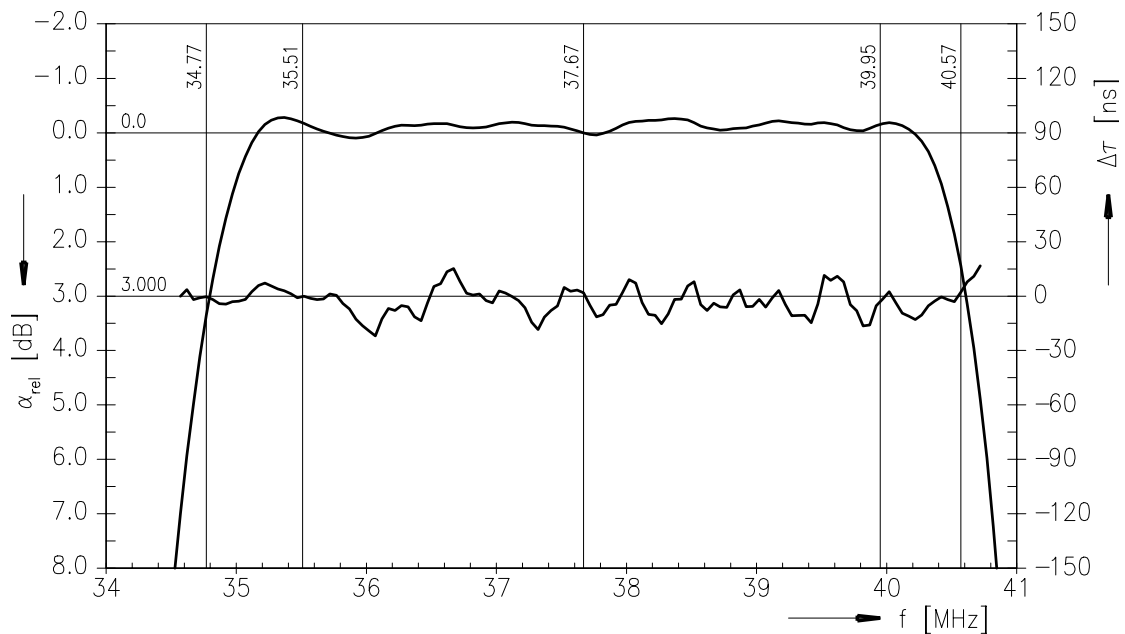
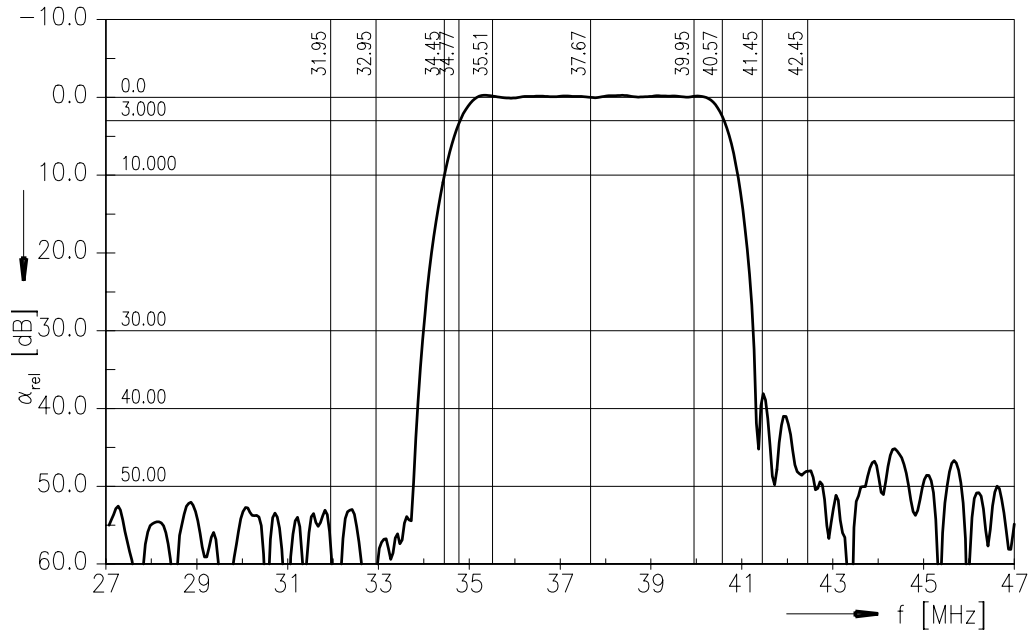
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Frequency response



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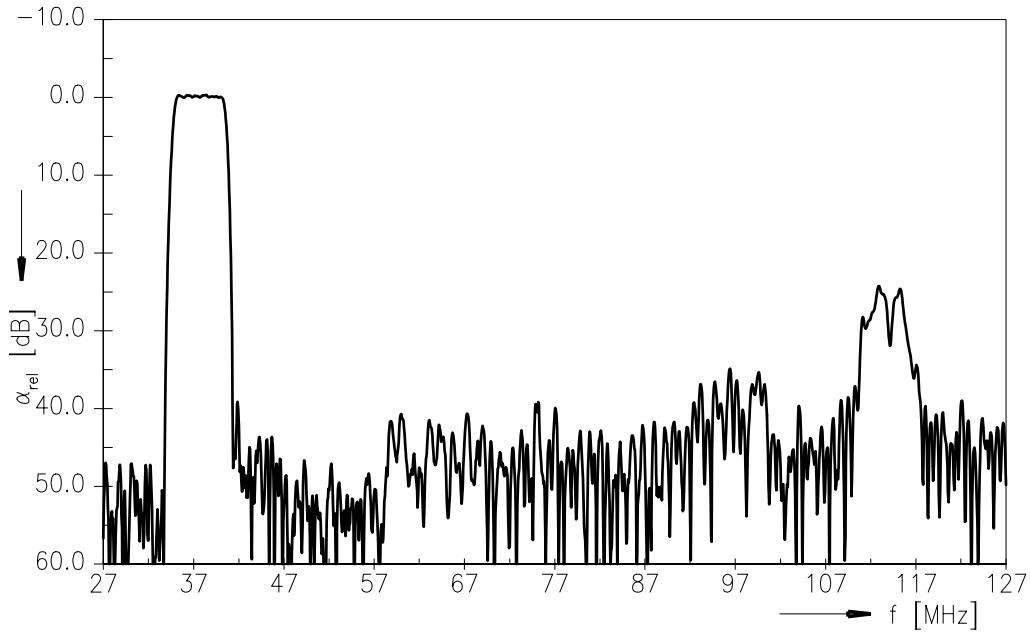
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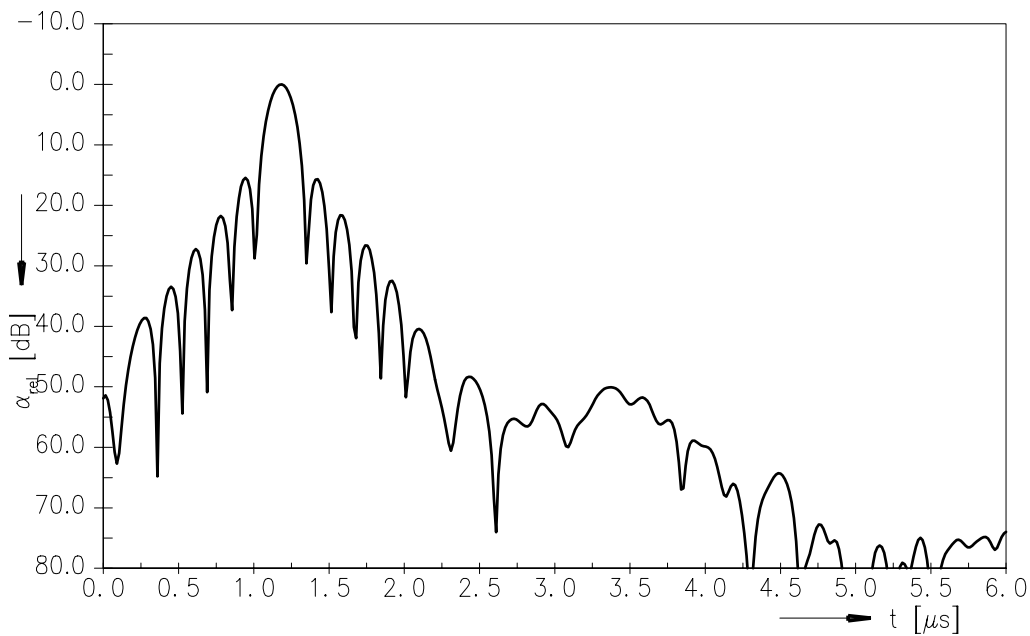
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Frequency response



Time domain response



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References

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|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type | X 6768 M |
| Ordering code | B39376-X6768-M100 |
| Marking and package | C61157-A1-A15 |
| Packaging | F61074-V8067-Z000 |
| Date codes | L_1126 |
| S-parameters | X6768M_NB.s4p |
| Soldering profile | S_6001 |
| RoHS compatible | defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment." |

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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