



## SAW Components

### SAW bandpass filter

Bandpass filters for digital cable applications

|                       |                          |
|-----------------------|--------------------------|
| <b>Series/type:</b>   | <b>X 6765 D</b>          |
| <b>Ordering code:</b> | <b>B39570-X6765-N201</b> |
| Date:                 | March 25, 2008           |
| Version:              | 2.0                      |

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X 6765 D

SAW bandpass filter

57.00 MHz

### Data Sheet

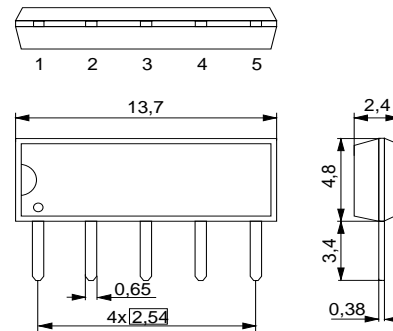
#### Application

- IF filter for digital cable TV
- Usable bandwidth 5.5 MHz
- Balanced input option



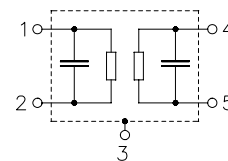
#### Features

- Duroplast package **SIP5D**
- Standard IC package
- Approximate weight 0.5 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:  $T_A = 25 (45) \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$   
 Terminating load impedance:  $Z_L = 2 \text{ k}\Omega \parallel 3 \text{ pF}$

|   | min. | typ.<br>@ 25 °C | max. |                  |
|---|------|-----------------|------|------------------|
| <b>Insertion attenuation</b> $\alpha$   |      |                 |      |                  |
| Reference level for 57.08 (57.00) MHz<br>the following data   | 11.0 | 12.5            | 14.0 | dB               |
| <b>Pass bandwidth</b>   |      |                 |      |                  |
| $\alpha_{\text{rel}} \leq 3 \text{ dB}$ $B_{3\text{dB}}$  | —    | 5.5             | —    | MHz              |
| <b>Relative attenuation</b> $\alpha_{\text{rel}}$   |      |                 |      |                  |
| 54.43 (54.35) MHz   | -0.8 | 0.2             | 1.2  | dB               |
| 59.28 (59.20) MHz   | -0.2 | 0.8             | 1.8  | dB               |
| 54.08 (54.00) MHz   | —    | 3.0             | —    | dB               |
| 59.58 (59.50) MHz   | —    | 3.6             | —    | dB               |
| 52.83 (52.75) MHz   | 34.0 | 42.0            | —    | dB               |
| 60.33 (60.25) MHz   | 30.0 | 38.0            | —    | dB               |
| <b>Lower sidelobe</b>   |      |                 |      |                  |
| 45.08 ... 52.83 (45.00 ... 52.75) MHz   | 36.0 | 42.0            | —    | dB               |
| <b>Upper sidelobe</b>   |      |                 |      |                  |
| 60.33 ... 61.58 (60.25 ... 61.50) MHz   | 32.0 | 38.0            | —    | dB               |
| 61.58 ... 65.08 (61.50 ... 65.00) MHz   | 36.0 | 42.0            | —    | dB               |
| <b>Reflected wave signal suppression</b>  |      |                 |      |                  |
| 1.2 $\mu\text{s}$ ... 6.0 $\mu\text{s}$ after main pulse<br>(test pulse 250 ns,<br>carrier frequency 57.08 MHz) | 42.0 | 52.0            | —    | dB               |
| <b>Group delay ripple (p-p)</b> $\Delta\tau$  |      |                 |      |                  |
| Aperture 50kHz<br>54.08 ... 59.58 (54.00 ... 59.50) MHz   | —    | 50              | —    | ns               |
| <b>Impedance at 57.08 MHz</b>   |      |                 |      |                  |
| Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$  | —    | 0.9    11.8     | —    | k $\Omega$    pF |
| Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$  | —    | 1.2    3.1      | —    | k $\Omega$    pF |
| <b>Temperature coefficient of frequency</b> $\text{TC}_f$   | —    | -72             | —    | ppm/K            |

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Maximum ratings

|                            |                  |           |    |                       |
|----------------------------|------------------|-----------|----|-----------------------|
| Operable temperature range | T                | -25 / +65 | °C |                       |
| Storage temperature range  | T <sub>stg</sub> | -40 / +85 | °C |                       |
| DC voltage                 | V <sub>DC</sub>  | 5         | V  |                       |
| AC voltage                 | V <sub>pp</sub>  | 10        | V  | between any terminals |

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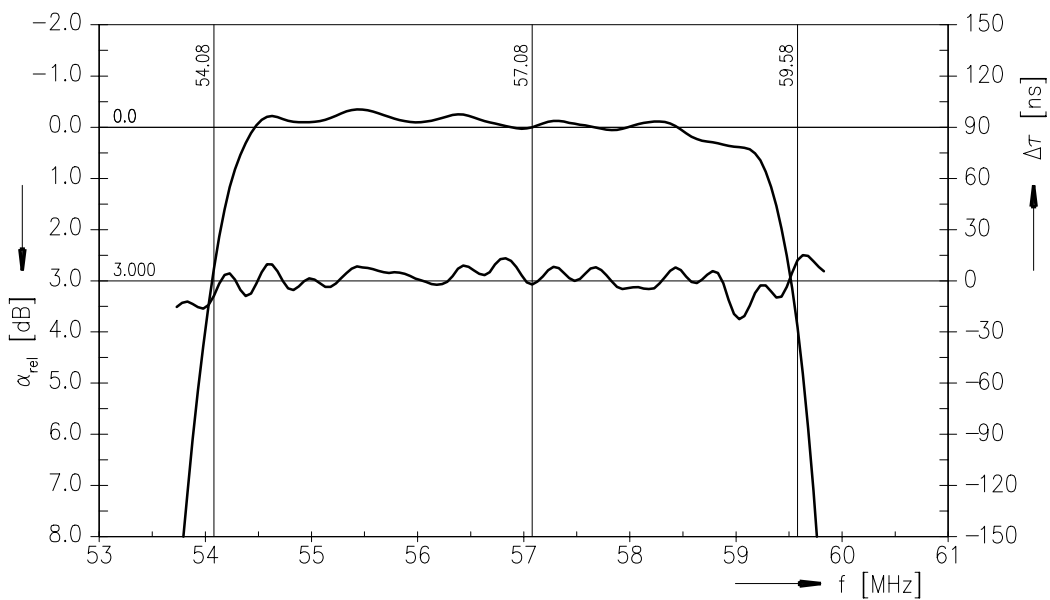
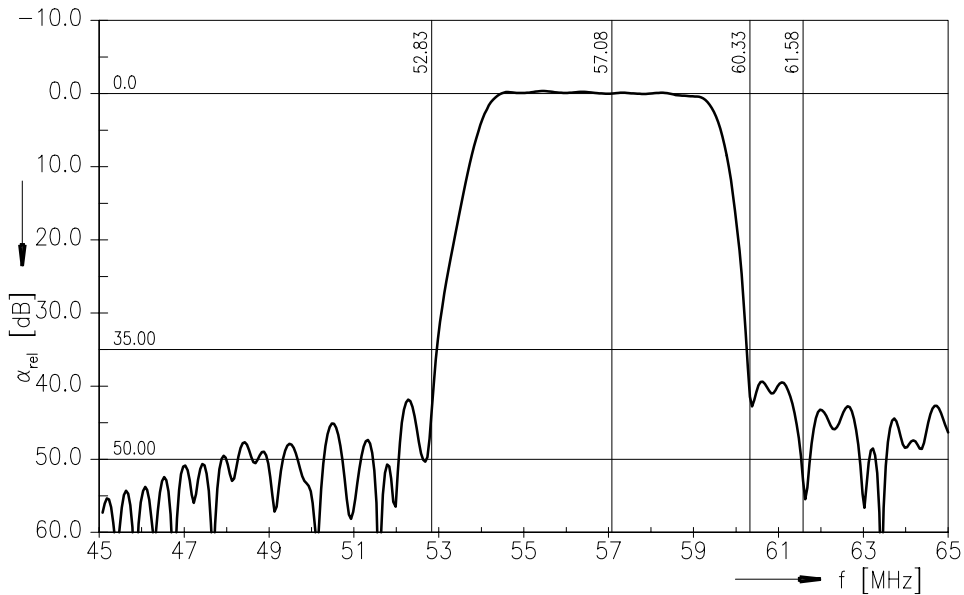
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Data Sheet

Frequency response



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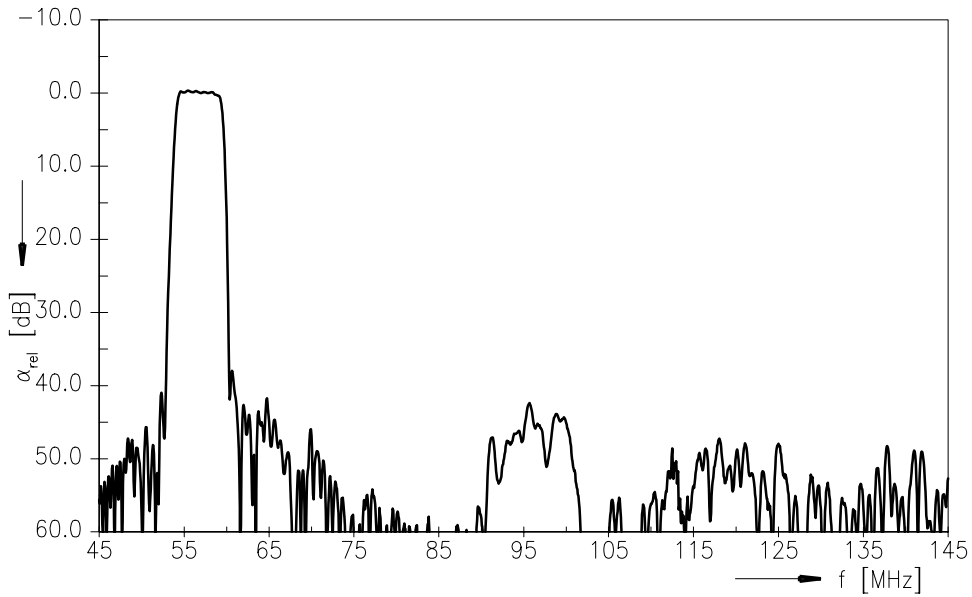
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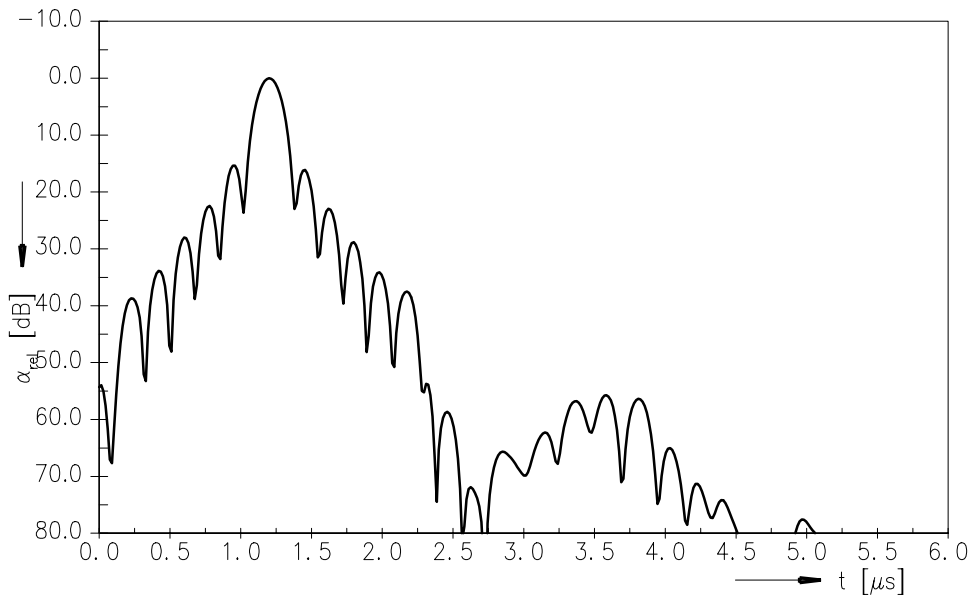
57.00 MHz

Data Sheet

Frequency response



Time domain response



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**SAW Components** X 6765 D

**SAW bandpass filter** 57.00 MHz

Data Sheet

References

|                            |  |
|----------------------------|--|
| <b>Type</b>                | X 6765 D   |
| <b>Ordering code</b>       | B39570-X6765-N201  |
| <b>Marking and package</b> | C61157-A1-A21  |
| <b>Packaging</b>           | F61074-V8049-Z000  |
| <b>Date codes</b>          | L_1126   |
| <b>S-parameters</b>        | X6765N_NB.s4p  |
| <b>Soldering profile</b>   | S_6001   |
| <b>RoHS compatible</b>     | defined as compatible with the following documents:<br>"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." |

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