



SAW Components

SAW bandpass filter

Bandpass Filter for terrestrial TV Applications

Series/type:	X 6778 M
Ordering code:	B39361-X6778-M100
Date:	February 15, 2008
Version:	2.0



SAW Components

X 6778 M

SAW bandpass filter

36.125 MHz

Data Sheet

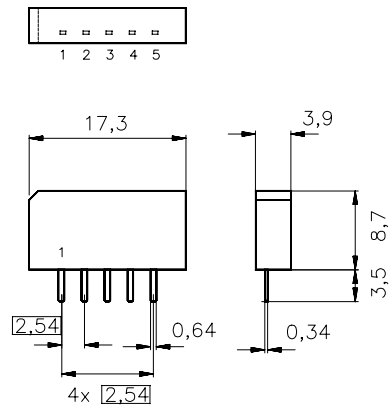
Application

- IF filter for digital TV
- Usable bandwidth 6.9 MHz
- Balanced input option



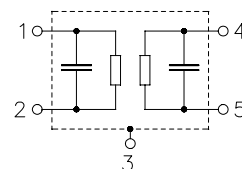
Features

- 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: $T_A = 25 (45) \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega$
 Terminating load impedance: $Z_L = 2 \text{ k}\Omega \parallel 3 \text{ pF}$

		min.	typ. @ 25 °C	max.	
Center frequency (center between 3 dB points)	f_C	—	36.18	—	MHz
Insertion attenuation Reference level for the following data	α 36.18 (36.13) MHz	17.5	19.0	20.5	dB
Pass bandwidth $\alpha_{rel} \leq 3.0 \text{ dB}$ $\alpha_{rel} \leq 30.0 \text{ dB}$	$B_{3\text{dB}}$ $B_{30\text{dB}}$	—	6.9 8.6	—	MHz MHz
Relative attenuation 33.13 (33.08) MHz 39.23 (39.17) MHz 32.68 (32.63) MHz 39.68 (39.63) MHz	α_{rel}	—	0.1 0.1 3.6 3.3	—	dB dB dB dB
Lower sidelobe 25.05 ... 31.70 (25.00 ... 31.65) MHz		35.0	42.0	—	dB
Upper sidelobe 40.70 ... 45.05 (40.65 ... 45.00) MHz		34.0	41.0	—	dB
Reflected wave signal suppression 1.1 μs ... 6.0 μs after main pulse (test pulse 250 ns, carrier frequency 36.18 MHz)		42.0	53.0	—	dB
Feedthrough signal suppression 1.3 μs ... 1.2 μs before main pulse (test pulse 250 ns, carrier frequency 36.18 MHz)		48.0	52.0	—	dB
Group delay ripple (p-p) 32.68 ... 39.68 (32.63 ... 39.63) MHz	$\Delta\tau$	—	50.0	—	ns
Impedance at 36.18 MHz Input: $Z_{IN} = R_{IN} \parallel C_{IN}$ Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	3.3 \parallel 9.5 3.2 \parallel 3.5	—	$\text{k}\Omega \parallel \text{pF}$ $\text{k}\Omega \parallel \text{pF}$
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K

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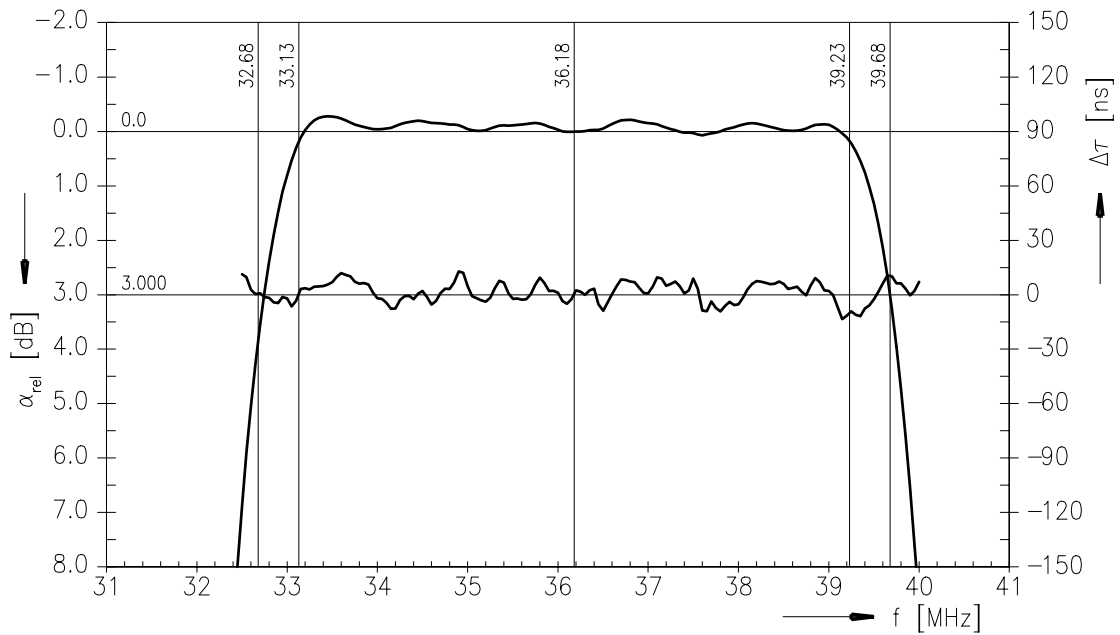
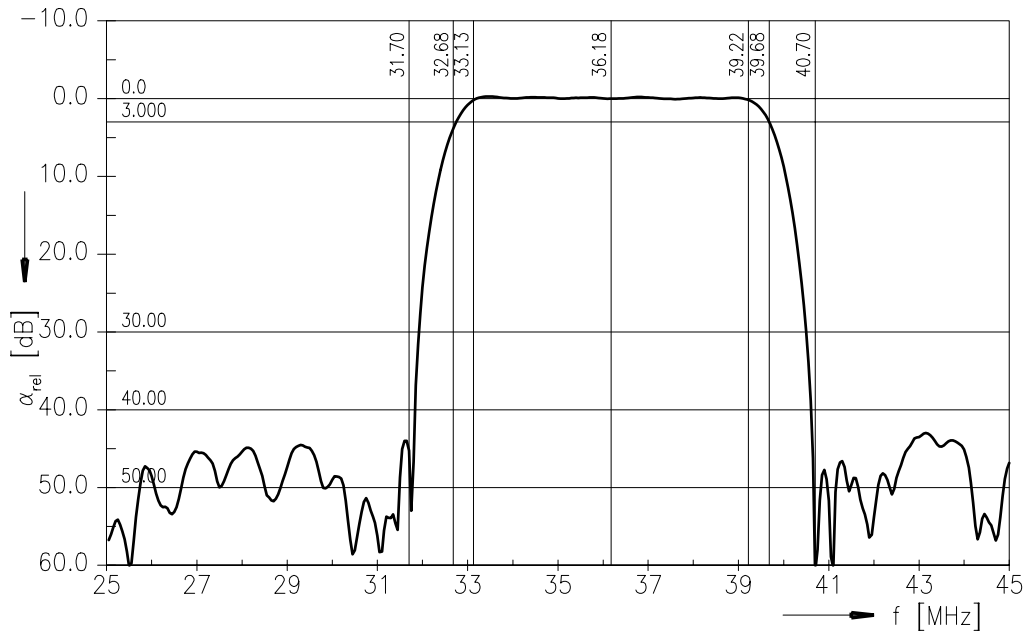
Maximum ratings

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



Data Sheet

Frequency response



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SAW Components

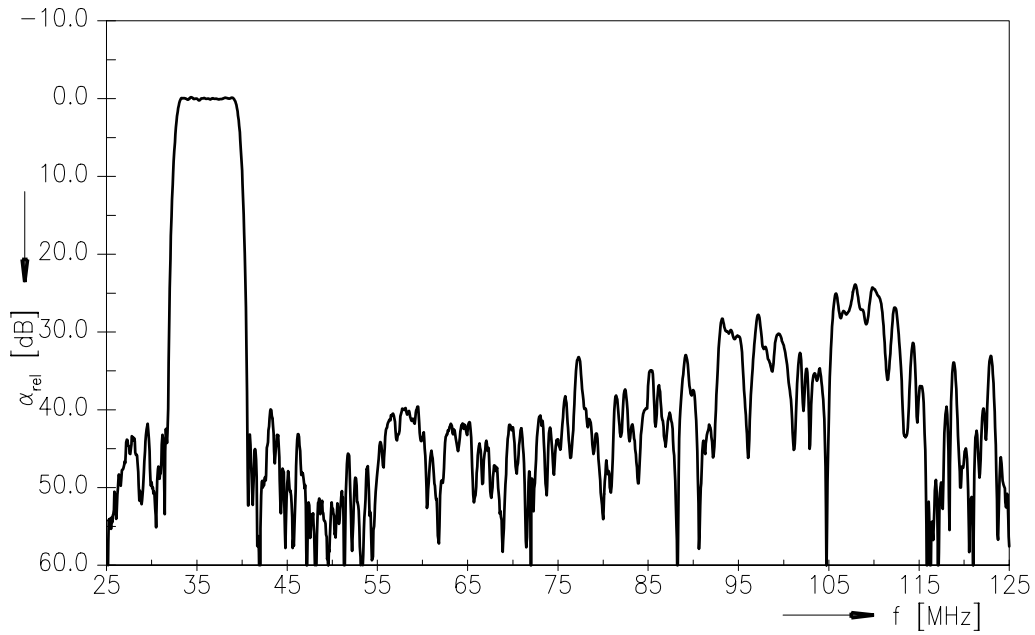
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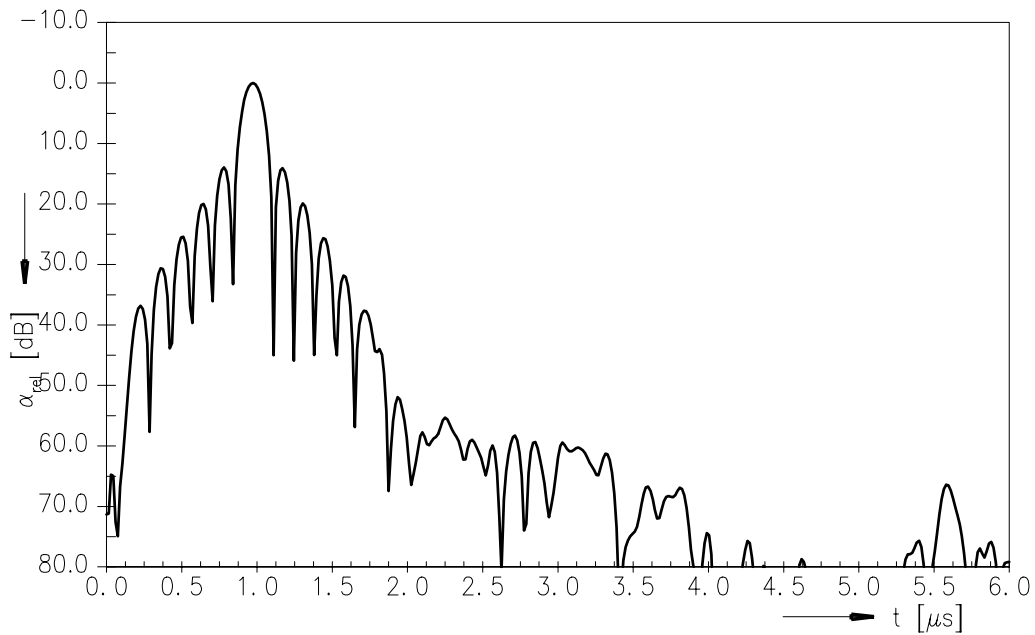
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Data Sheet

Frequency response



Time domain response



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Data Sheet

References

Type	X 6778 M
Ordering code	B39361-X6778-M100
Marking and package	C61157-A1-A15
Packaging	F61074-V8067-Z000
Date codes	L_1126
S-parameters	X6778M_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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