



SAW Components

Data Sheet K 9656 M





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IF Filter for Audio Applications

33,90 MHz and 38,90 MHz

Data Sheet

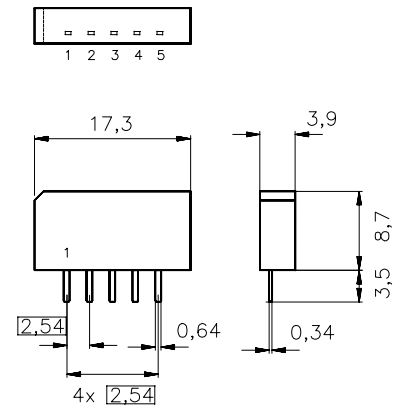
Standard

- B/G
- D/K
- I
- L/L'

Plastic package **SIP5K**

Features

- TV IF audio filter with two channels
- Channel 1 (L') with one pass band for sound carriers at 40,40 MHz (L') and 39,75 MHz (L' - NICAM)
- Channel 2 (B/G,D/K,L,I) with one pass band for sound carriers between 32,35 MHz and 33,40 MHz



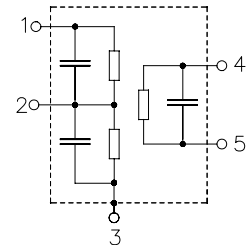
Terminals

- Tinned CuFe alloy

Dimensions in mm, approx. weight 1,0 g

Pin configuration

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



Type	Ordering code	Marking and package according to	Packing according to
K 9656 M	B39389-K9656-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}	12	V	between any terminals
AC voltage	V_{pp}	10	V	between any terminals



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Characteristics of channel 1 (switching pin 2 connected to ground)

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.	
Insertion attenuation	α				
Reference level for the following data	40,40 MHz	14,8	16,3	17,8	dB
Relative attenuation	α_{rel}				
	39,75 MHz	-1,3	-0,3	0,7	dB
	38,40 MHz	26,0	36,0	—	dB
Picture carrier	33,90 MHz	39,0	51,0	—	dB
Adjacent picture carrier	41,90 MHz	28,0	41,0	—	dB
Adjacent sound carrier	32,40 MHz	34,0	42,0	—	dB
Lower sidelobe	25,00 ... 33,90 MHz	34,0	41,0	—	dB
Upper sidelobe	41,90 ... 45,00 MHz	27,0	34,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$	—	40	—	ns
Impedance at 40,40 MHz					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	0,8 \parallel 9,5	—	k Ω \parallel pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	2,9 \parallel 4,8	—	k Ω \parallel pF
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K



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Characteristics of channel 2 (switching pin 2 connected to pin 1)

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.	
Insertion attenuation α					
Reference level for the following data	33,40 MHz	14,3	15,8	17,3	dB
Relative attenuation α_{rel}					
Sound carrier B/G-NICAM	33,05 MHz	-1,5	-0,5	0,5	dB
Sound carrier I	32,90 MHz	-1,4	-0,4	0,6	dB
Sound carrier D/K, L	32,40 MHz	0,1	1,1	2,1	dB
Picture carrier	38,90 MHz	35,0	41,0	—	dB
Color carrier	34,47 MHz	23,0	32,0	—	dB
Adjacent picture carrier	30,90 MHz	38,0	47,0	—	dB
	31,90 MHz	—	9,3	—	dB
Adjacent sound carrier	40,40 MHz	38,0	46,0	—	dB
	40,90 MHz	34,0	39,0	—	dB
	41,40 MHz	40,0	52,0	—	dB
Lower sidelobe	25,00 ... 30,90 MHz	37,0	43,0	—	dB
Upper sidelobe	40,40 ... 45,00 MHz	32,0	38,0	—	dB
Group delay ripple (p-p) $\Delta\tau$					
		—	40	—	ns
Impedance at 33,40 MHz					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	0,9 \parallel 13,5	—	k Ω \parallel pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	2,8 \parallel 4,8	—	k Ω \parallel pF
Temperature coefficient of frequency TC_f					
		—	-72	—	ppm/K



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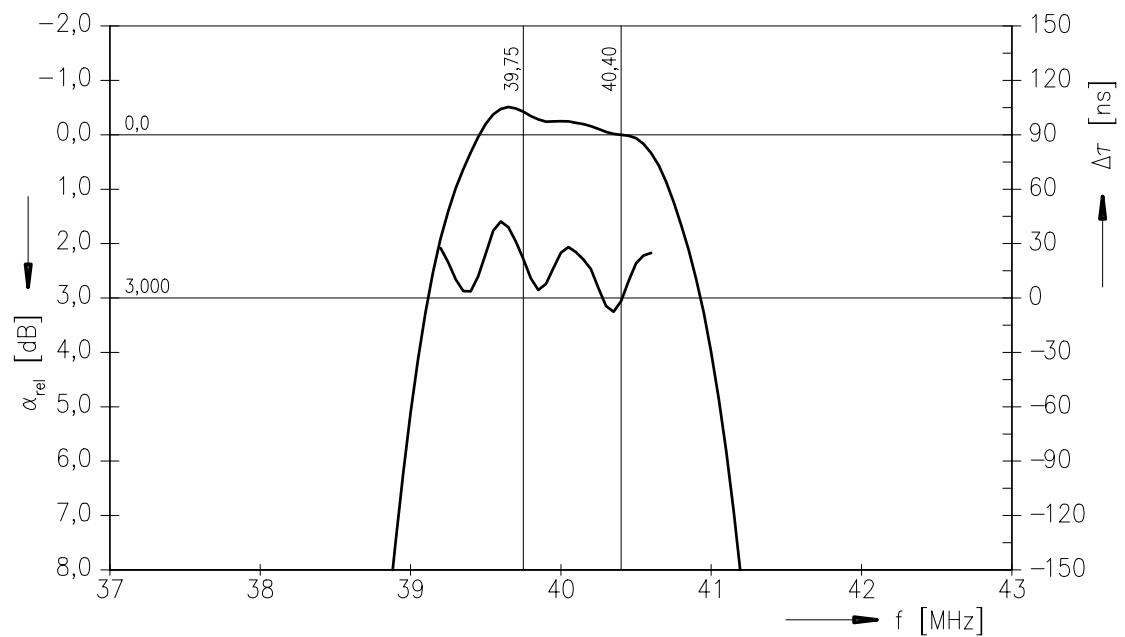
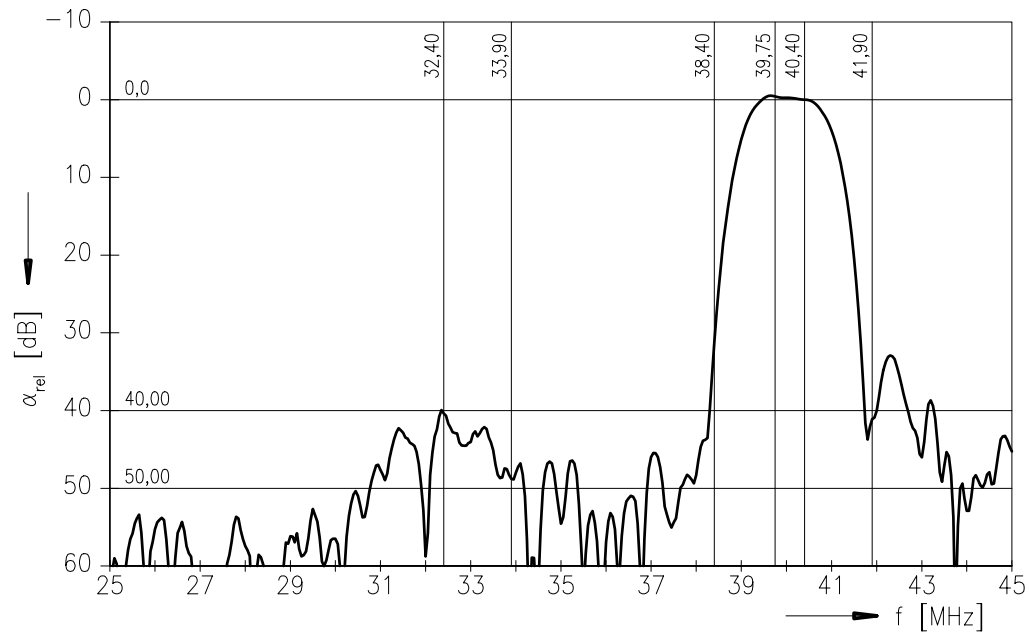
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Frequency response of channel 1





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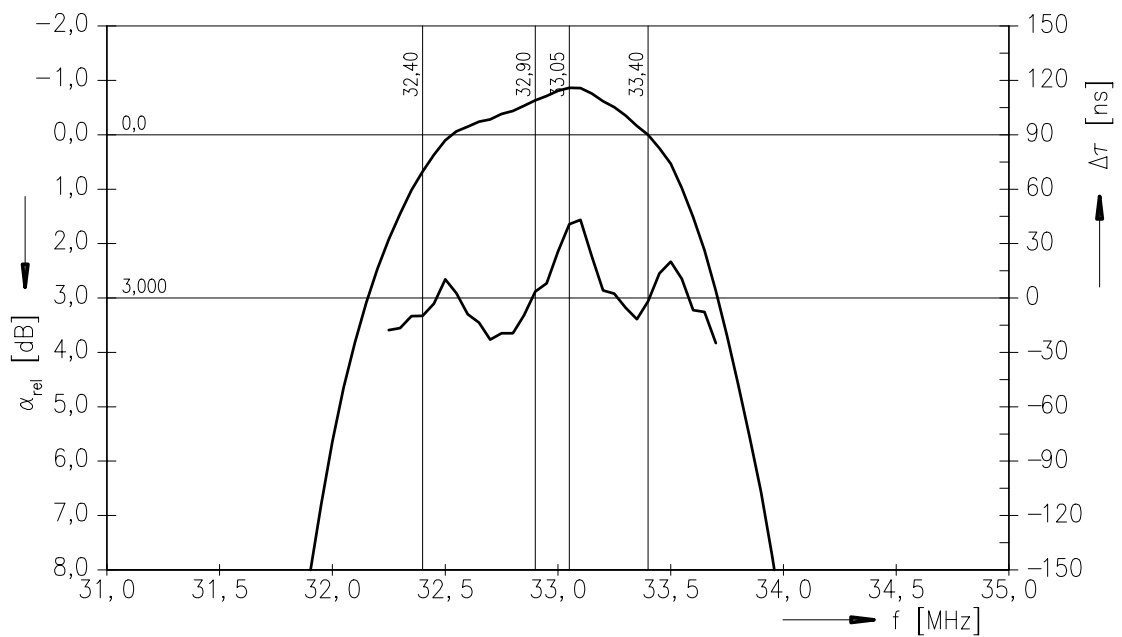
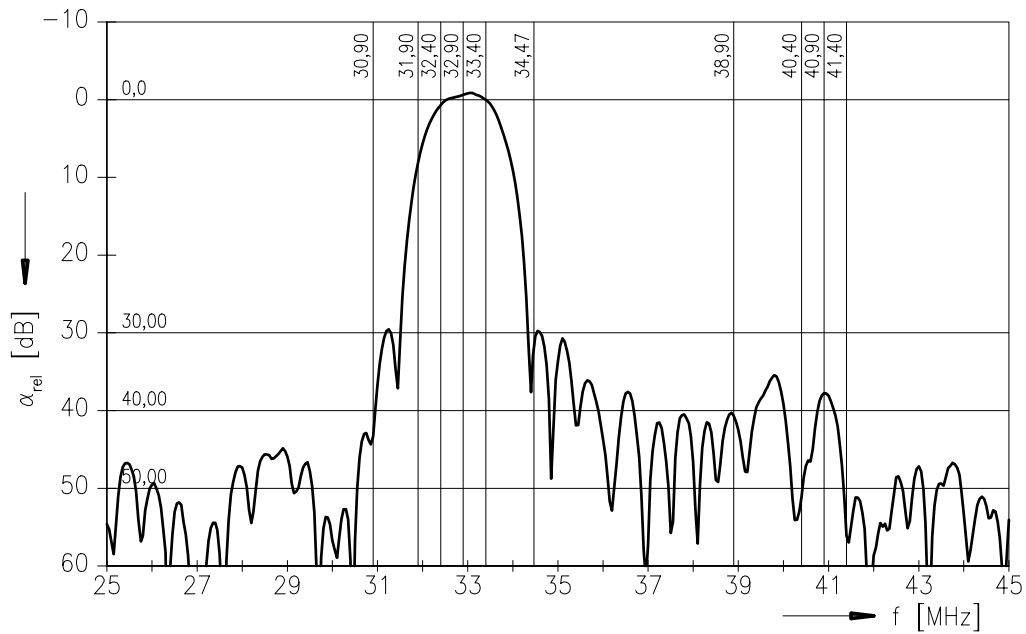
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Frequency response of channel 2





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