



# SAW Components

Data Sheet K 9656 M





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**K 9656 M**

**IF Filter for Audio Applications**

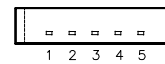
**33,90 MHz and 38,90 MHz**

**Data Sheet**

**Standard**

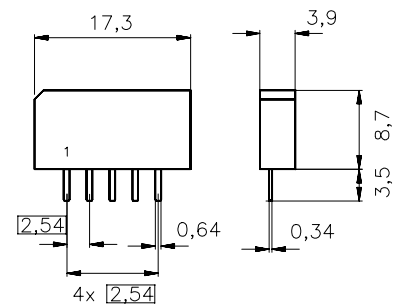
- B/G
- D/K
- I
- L/L'

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



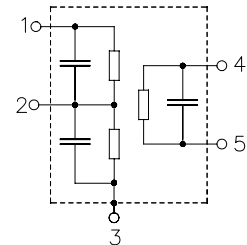
**Terminals**

Dimensions in mm, approx. weight 1,0 g

- Tinned CuFe alloy

**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	$V_{DC}$	5	V	between any terminals
AC voltage	$V_{pp}$	10	V	between any terminals



Data Sheet

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

Reference temperature:  $T_A = 25\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 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	40,40 MHz	14,8	16,3	17,8	dB
<b>Relative attenuation</b>					
	$\alpha_{rel}$				
	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
<b>Group delay ripple (p-p)</b>					
	$\Delta\tau$	—	40	—	ns
<b>Impedance at 40,40 MHz</b>					
Input:	$Z_{IN} = R_{IN} \parallel C_{IN}$	—	0,8 $\parallel$ 9,5	—	k $\Omega$ $\parallel$ pF
Output:	$Z_{OUT} = R_{OUT} \parallel C_{OUT}$	—	2,9 $\parallel$ 4,8	—	k $\Omega$ $\parallel$ pF
<b>Temperature coefficient of frequency</b>					
	$TC_f$	—	-72	—	ppm/K



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

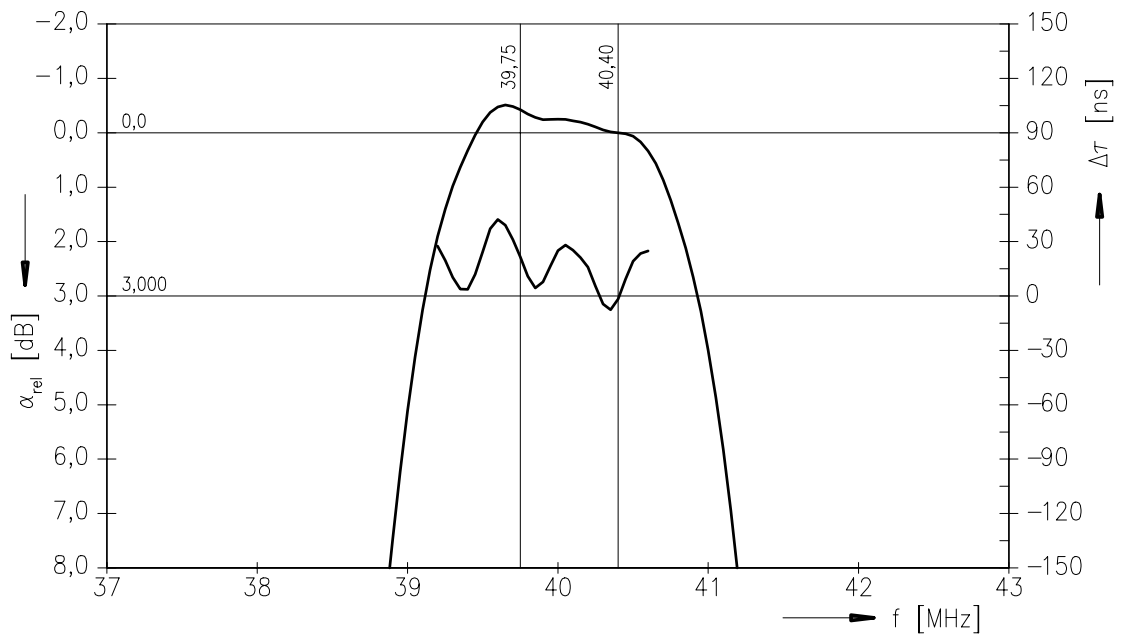
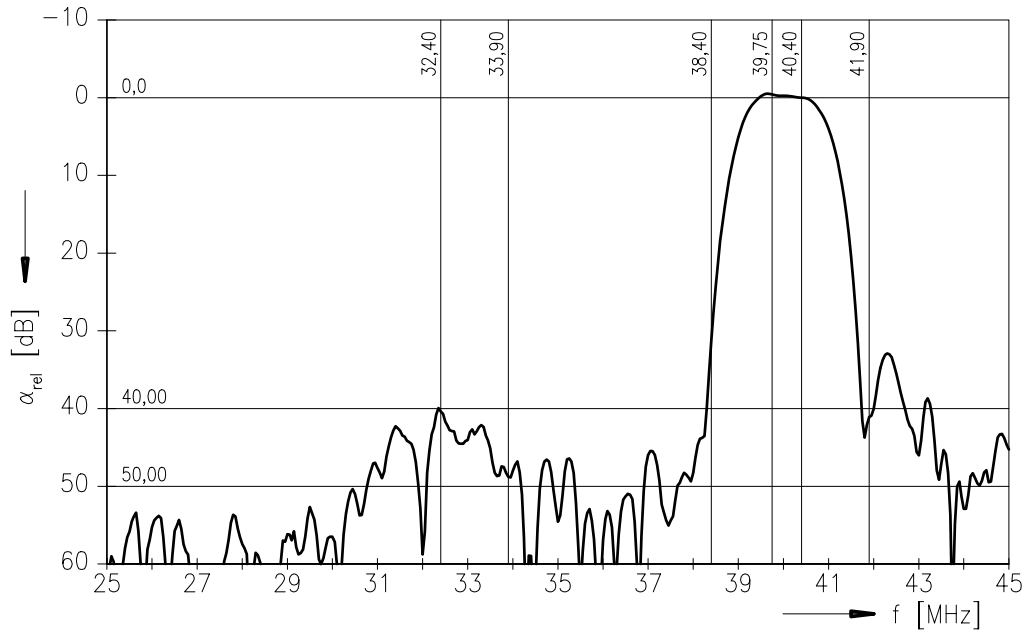
Reference temperature:  $T_A = 25\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 2\text{ k}\Omega \parallel 3\text{ pF}$

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Insertion attenuation</b>					
	$\alpha$				
Reference level for the following data	33,40 MHz	14,3	15,8	17,3	dB
<b>Relative attenuation</b>					
	$\alpha_{rel}$				
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
<b>Group delay ripple (p-p)</b>					
	$\Delta\tau$	—	40	—	ns
<b>Impedance at 33,40 MHz</b>					
Input:	$Z_{IN} = R_{IN} \parallel C_{IN}$	—	0,9 $\parallel$ 13,5	—	k $\Omega$ $\parallel$ pF
Output:	$Z_{OUT} = R_{OUT} \parallel C_{OUT}$	—	2,8 $\parallel$ 4,8	—	k $\Omega$ $\parallel$ pF
<b>Temperature coefficient of frequency</b>					
	$TC_f$	—	-72	—	ppm/K



Data Sheet

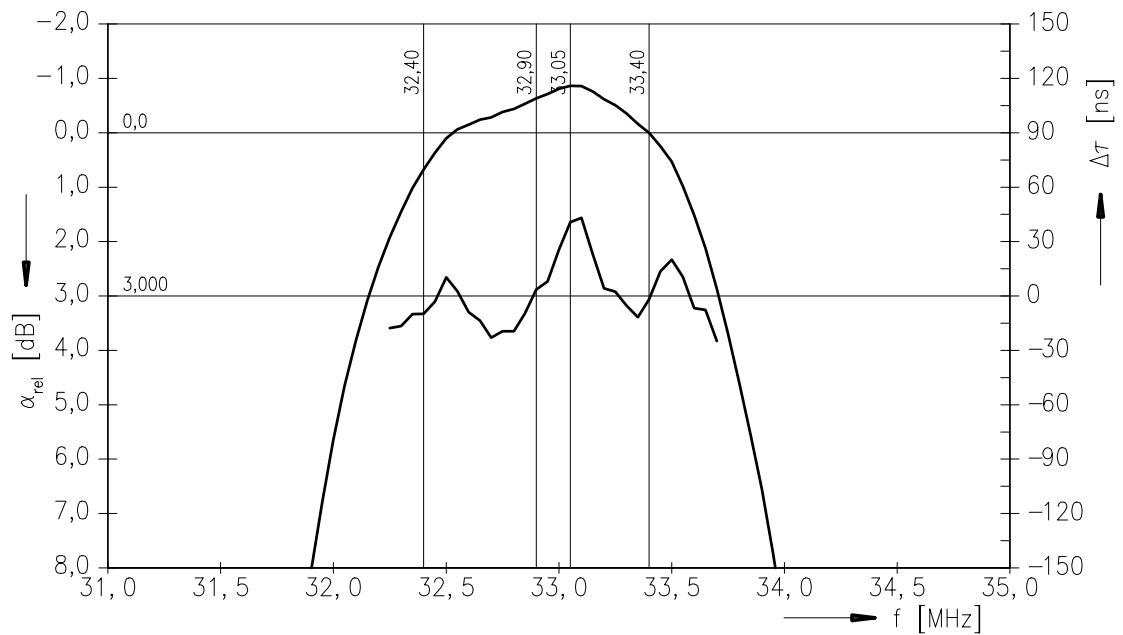
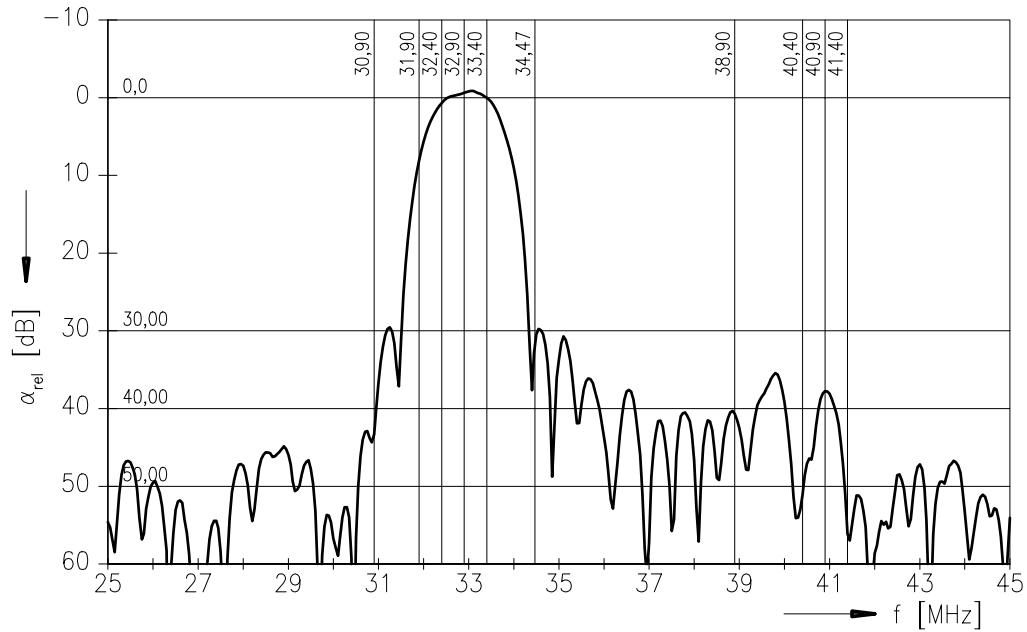
Frequency response of channel 1





Data Sheet

Frequency response of channel 2





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