



# SAW Components

Data Sheet K 9650 M





**SAW Components**

**K 9650 M**

**IF Filter for Audio Applications**

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

**Data Sheet**

**Standard**

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

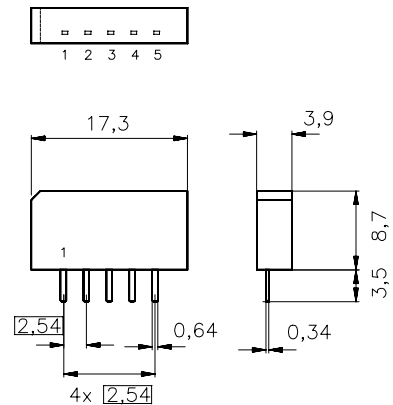
**Features**

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

**Terminals**

- Tinned CuFe alloy

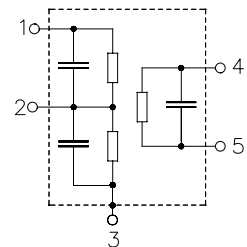
Plastic package **SIP5K**



Dimensions in mm, approx. weight 1,0 g

**Pin configuration**

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



Type	Ordering code	Marking and package according to	Packing according to
K 9650 M	B39389-K9650-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	12,4	13,9	15,4	dB
<b>Relative attenuation</b>					
	$\alpha_{rel}$				
Picture carrier	33,90 MHz	40,0	49,0	—	dB
	38,40 MHz	40,0	50,0	—	dB
Adjacent picture carrier	41,90 MHz	36,0	46,0	—	dB
Adjacent sound carrier	32,40 MHz	38,0	45,0	—	dB
Lower sidelobe	25,00 ... 38,40 MHz	37,0	44,0	—	dB
Upper sidelobe	41,90 ... 45,00 MHz	34,0	40,0	—	dB
<b>Impedance at 40,40 MHz</b>					
Input:	$Z_{IN} = R_{IN} \parallel C_{IN}$	—	0,8 $\parallel$ 9,1	—	k $\Omega$ $\parallel$ pF
Output:	$Z_{OUT} = R_{OUT} \parallel C_{OUT}$	—	2,2 $\parallel$ 5,4	—	k $\Omega$ $\parallel$ pF
<b>Temperature coefficient of frequency</b>					
	$TC_f$	—	-72	—	ppm/K



Data Sheet

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

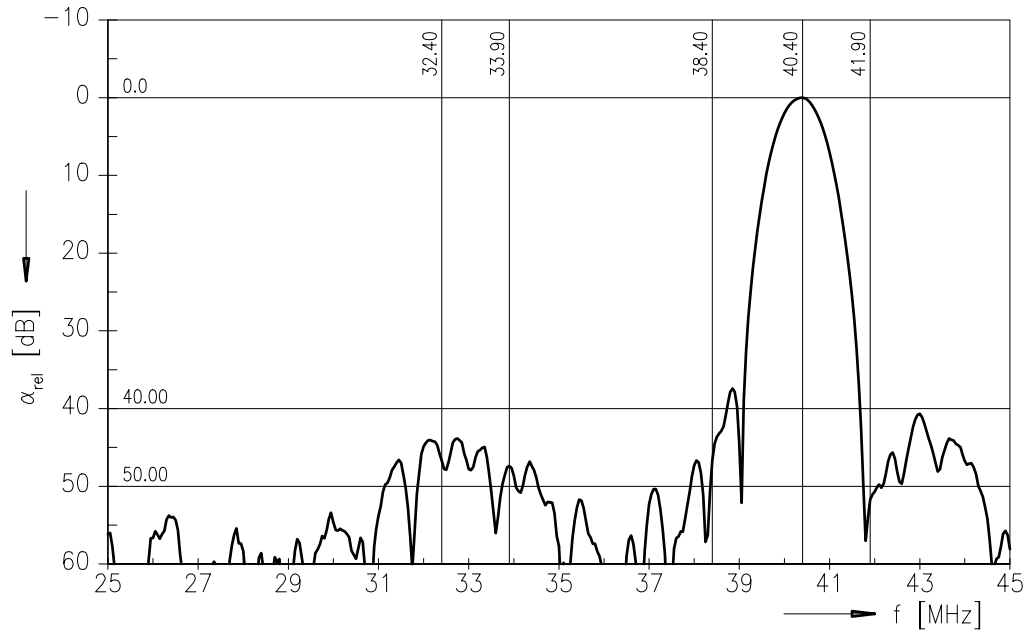
Reference temperature:  $T_A = 25\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 2\text{ k}\Omega \parallel 3\text{ pF}$

		min.	typ.	max.	
<b>Insertion attenuation</b>					
	$\alpha$				
Reference level for the following data	33,40 MHz	13,8	15,3	16,8	dB
<b>Relative attenuation</b>					
	$\alpha_{rel}$				
Sound carrier	33,05 MHz	-1,4	-0,4	0,6	dB
	32,90 MHz	-1,1	-0,1	0,9	dB
	32,40 MHz	-1,1	-0,1	0,9	dB
Picture carrier	38,90 MHz	38,0	49,0	—	dB
Color carrier	34,47 MHz	30,0	40,0	—	dB
Adjacent picture carrier	30,90 MHz	32,0	41,0	—	dB
Adjacent sound carrier	40,40 MHz	35,0	41,0	—	dB
	40,90 MHz	36,0	45,0	—	dB
	41,40 MHz	35,0	41,0	—	dB
Lower sidelobe	25,00 ... 30,50 MHz	38,0	46,0	—	dB
Upper sidelobe	38,90 ... 45,00 MHz	32,0	38,0	—	dB
<b>Impedance at 33,40 MHz</b>					
Input:	$Z_{IN} = R_{IN} \parallel C_{IN}$	—	1,0    13,5	—	k $\Omega$    pF
Output:	$Z_{OUT} = R_{OUT} \parallel C_{OUT}$	—	2,7    5,8	—	k $\Omega$    pF
<b>Temperature coefficient of frequency</b>					
	$TC_f$	—	-72	—	ppm/K



Data Sheet

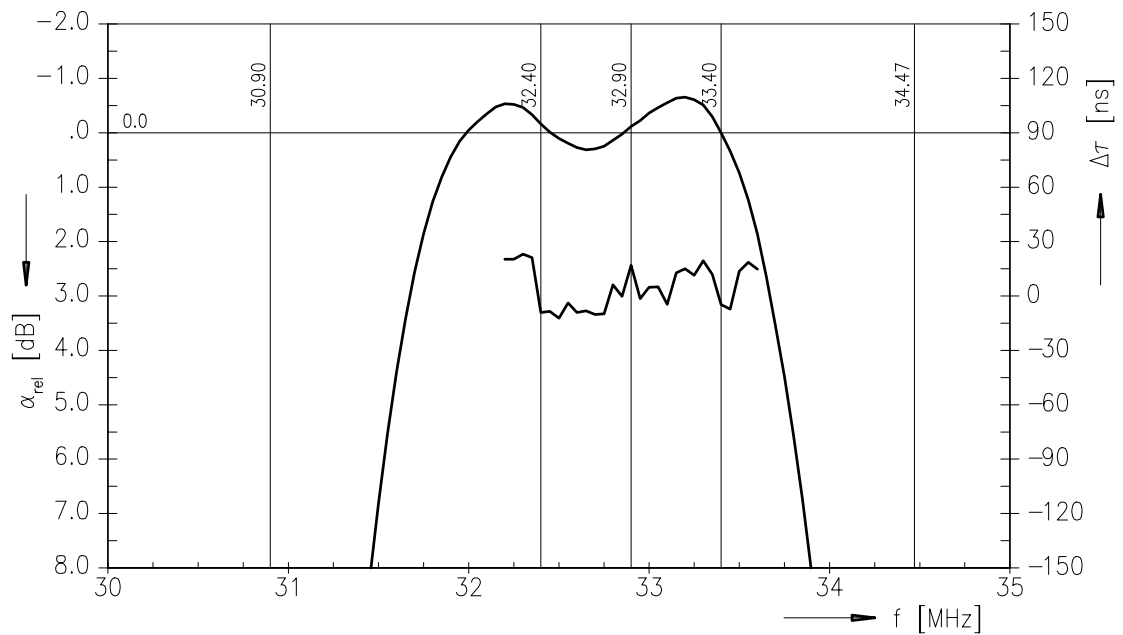
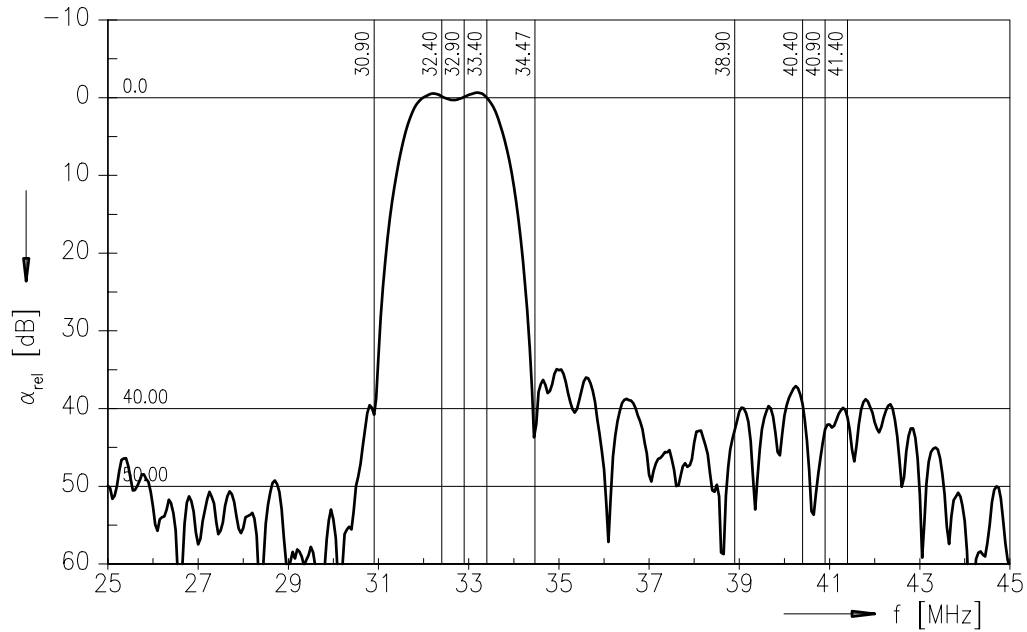
Frequency response of channel 1





Data Sheet

Frequency response of channel 2





**SAW Components**

**K 9650 M**

**IF Filter for Audio Applications**

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

**Data Sheet**

**Published by EPCOS AG**

**Surface Acoustic Wave Components Division, SAW CE MM PD**

**P.O. Box 80 17 09, D-81617 München**

© EPCOS AG 2001. All Rights Reserved.

As far as patents or other rights of third parties are concerned, liability is only assumed for components per se, not for applications, processes and circuits implemented within components or assemblies.

The information describes the type of component and shall not be considered as assured characteristics.

Terms of delivery and rights to change design reserved.

For questions on technology, prices and delivery please contact the sales offices of EPCOS AG or the international representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our sales offices.