



SAW Components

Data Sheet K 9656 M





SAW Components

K 9656 M

IF Filter for Audio Applications

33,90 MHz and 38,90 MHz

Data Sheet

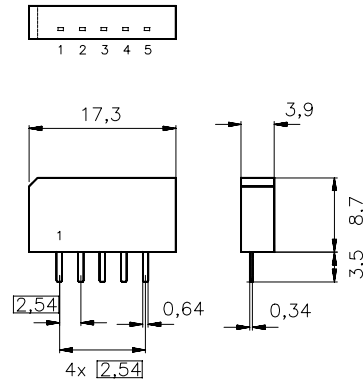
Standard

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

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

Plastic package **SIP5K**



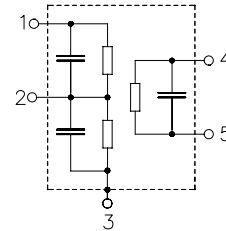
Terminals

- 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



SAW Components

K 9656 M

IF Filter for Audio Applications

33,90 MHz and 38,90 MHz

Data Sheet

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

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

		min.	typ.	max.	
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: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	0,8 \parallel 9,5	—	k Ω \parallel pF
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	2,9 \parallel 4,8	—	k Ω \parallel pF
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K



SAW Components

K 9656 M

IF Filter for Audio Applications

33,90 MHz and 38,90 MHz

Data Sheet

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

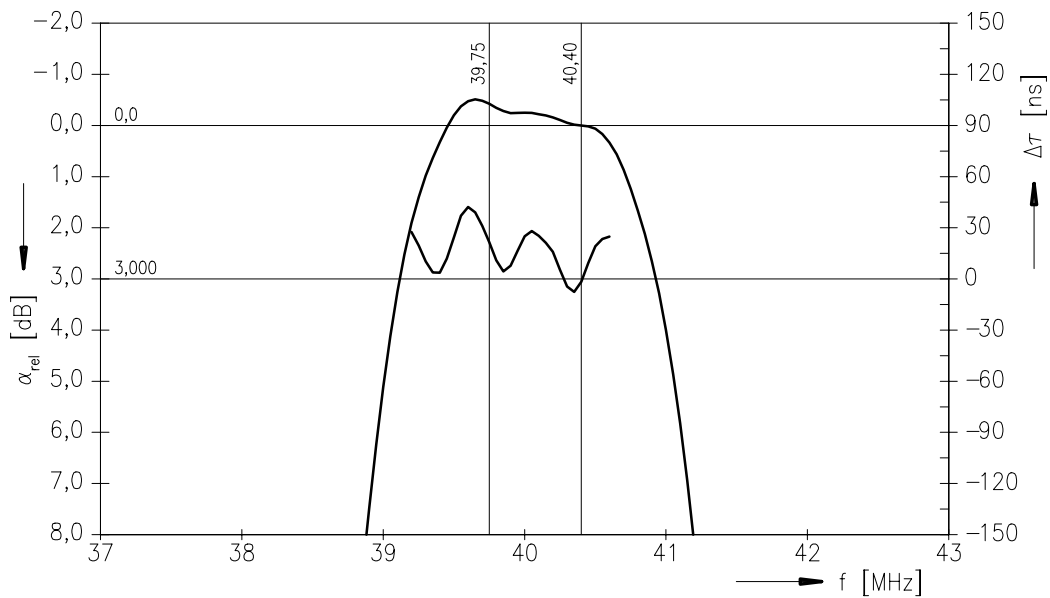
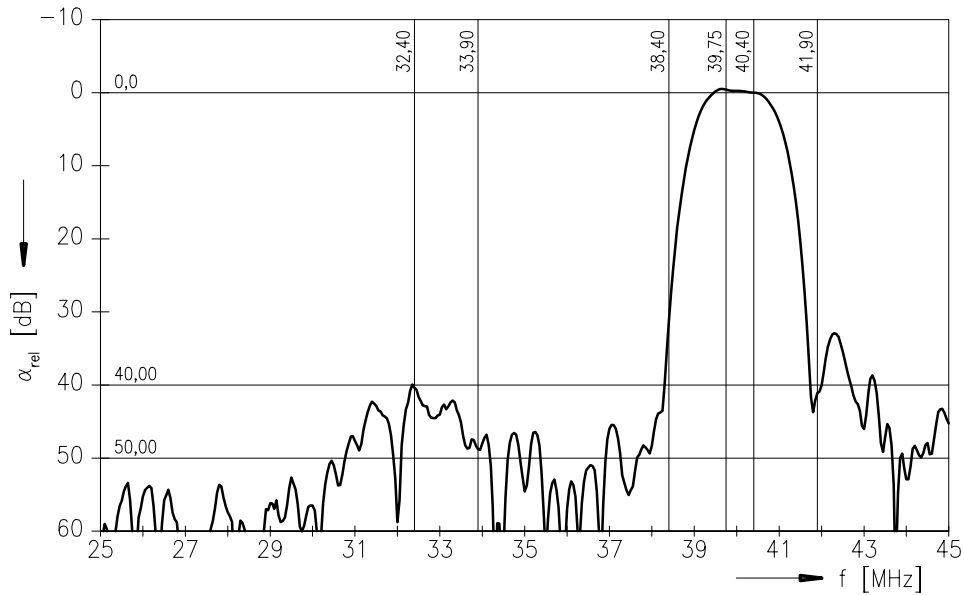
Reference temperature: $T_A = 25\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 2\text{ k}\Omega \parallel 3\text{ pF}$

		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



Data Sheet

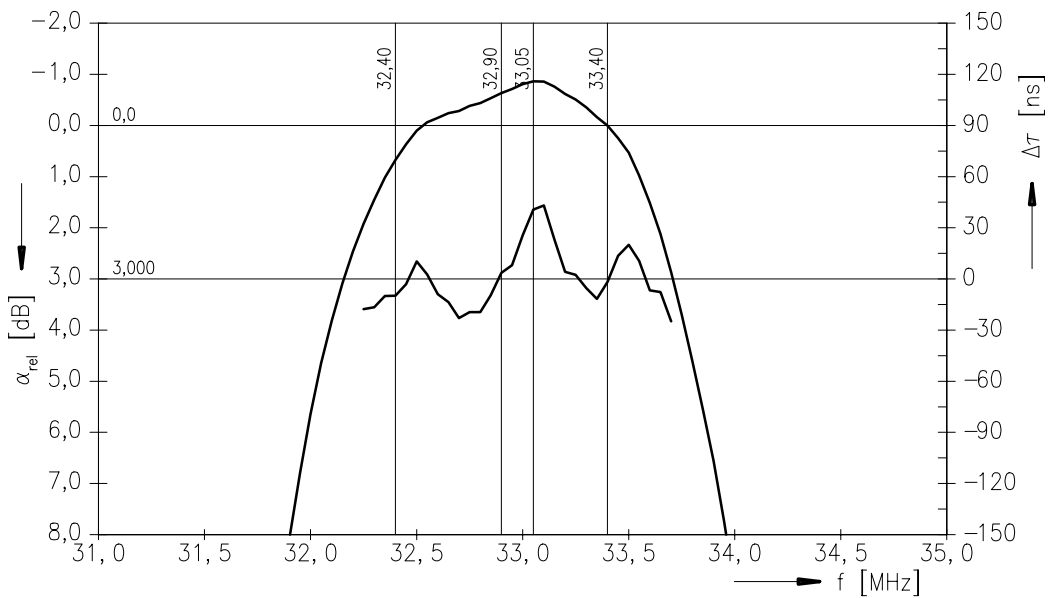
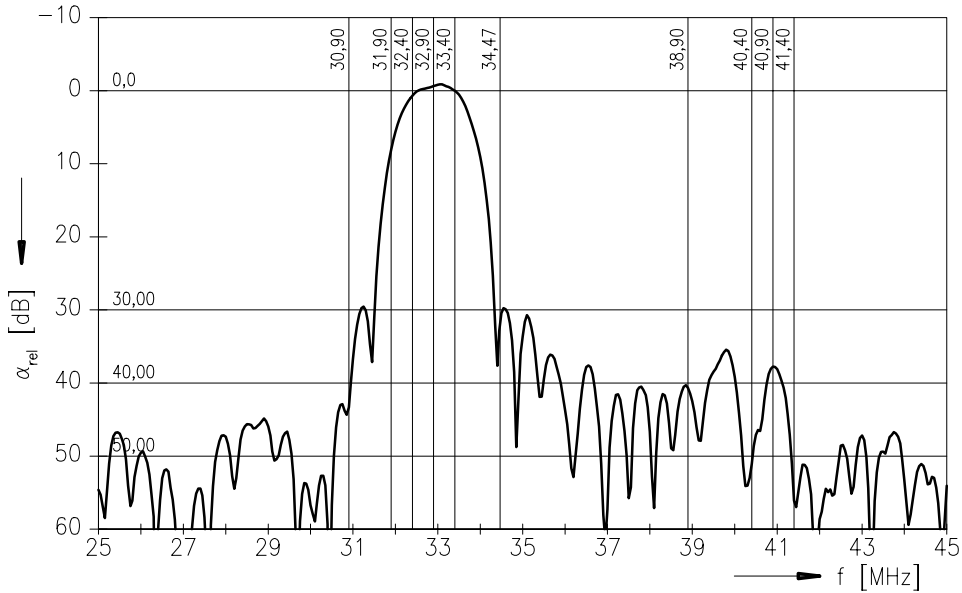
Frequency response of channel 1





Data Sheet

Frequency response of channel 2





SAW Components

K 9656 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.