



SAW Components

Data Sheet M 3654 K

Data Sheet

An abstract, grayscale image featuring a large, glowing, 3D-style "EPCOS" logo. The logo is tilted and appears to be part of a larger, curved structure, possibly a circuit board or a stylized wave. The background is dark and textured with some faint, glowing lines.



SAW Components

M 3654 K

IF Filter for Quasi/Split Sound Applications

45,75 MHz

Data Sheet

Standard

Plastic package **DIP10K**

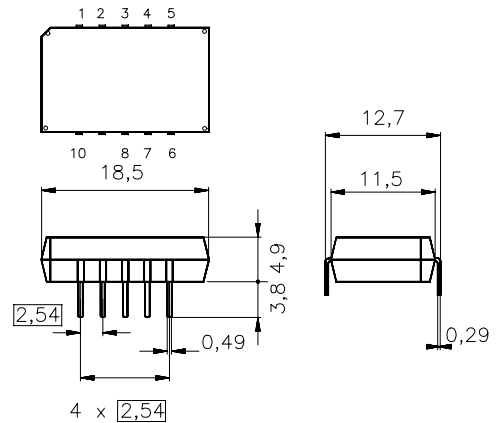
■ M/N

Features

- TV IF filter for quasi/split sound applications (separate picture and sound channel)
- Picture channel with Nyquist slope and sound suppression
- High color carrier level
- Customized group delay predistortion
- Sound channel with passband for sound carrier only

Terminals

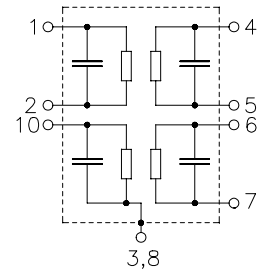
- Tinned CuFe alloy



Dimensions in mm, approx. weight 1,8 g

Pin configuration

- | | |
|------|-----------------------|
| 1 | Input - sound |
| 2 | Input - ground |
| 3; 8 | Chip carrier - ground |
| 4; 5 | Output - sound |
| 6; 7 | Output - picture |
| 9 | Free |
| 10 | Input picture |



Type	Ordering code	Marking and package according to	Packing according to
M 3654 K	B39458-M3654-K100	C61157-A2-A3	F61074-V8068-Z000

Maximum ratings

Operable temperature range	T_A	-25/+65	°C	between any terminals
Storage temperature range	T_{stg}	-40/+85	°C	
DC voltage	V_{DC}	5	V	
AC voltage	V_{pp}	10	V	



SAW Components

M 3654 K

IF Filter for Quasi/Split Sound Applications

45,75 MHz

Data Sheet

Characteristics of picture channel

Reference temperature: $T_A = 25 (45)^\circ\text{C}$
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	44,06 (44,00) MHz	11,5	13,0	14,5	dB
Relative attenuation	α_{rel}				
Picture carrier	45,81 (45,75) MHz	5,3	6,0	6,7	dB
Color carrier	42,23 (42,17) MHz	-0,1	0,9	1,9	dB
Sound carrier	41,31 (41,25) MHz	25,0	39,0	—	dB
Adjacent picture carrier	39,81 (39,75) MHz	45,0	56,0	—	dB
Adjacent sound carrier	47,31 (47,25) MHz	44,0	51,0	—	dB
Lower sidelobe	35,06 ... 39,81 (35,00 ... 39,75) MHz	37,0	41,0	—	dB
Upper sidelobe	47,31 ... 55,06 (47,25 ... 55,00) MHz	37,0	42,0	—	dB
Reflected wave signal suppression					
1,2 μs ... 6,0 μs after main pulse (test pulse 250 ns, carrier frequency 44,06 MHz)		42,0	52,0	—	dB
Feedthrough signal suppression					
1,2 μs ... 1,1 μs before main pulse (test pulse 250 ns, carrier frequency 44,06 MHz)		—	50,0	—	dB
Group delay predistortion (reference frequency 45,81 MHz)					
42,23 (42,17) MHz		—	-40	—	ns
Impedance at 44,06 MHz					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	1,2 $\parallel$ 12,4	—	k Ω $\parallel$ pF
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	1,2 $\parallel$ 3,5	—	k Ω $\parallel$ pF
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K



SAW Components

M 3654 K

IF Filter for Quasi/Split Sound Applications

45,75 MHz

Data Sheet

Characteristics of sound channel

Reference temperature: $T_A = 25 (45) ^\circ \text{C}$
 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	41,31 (41,25) MHz	9,4	10,9	12,4	dB
Pass bandwidth					
$\alpha_{\text{rel}} \leq 3 \text{ dB}$	$B_{3\text{dB}}$	—	0,6	—	MHz
$\alpha_{\text{rel}} \leq 20 \text{ dB}$	$B_{20\text{dB}}$	—	1,35	—	MHz
Relative attenuation	α_{rel}				
Picture carrier	45,81 (45,75) MHz	45,0	55,0	—	dB
Color carrier	42,23 (42,17) MHz	22,0	26,0	—	dB
Adjacent picture carrier	39,81 (39,75) MHz	40,0	47,0	—	dB
Adjacent sound carrier	47,31 (47,25) MHz	43,0	52,0	—	dB
Lower sidelobe					
35,06 ... 39,06 (35,00 ... 39,00) MHz		34,0	38,0	—	dB
39,06 ... 39,41 (39,00 ... 39,35) MHz		36,0	42,0	—	dB
Upper sidelobe					
47,31 ... 55,06 (47,25 ... 55,00) MHz		42,0	48,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
41,01 ... 41,61 (40,95 ... 41,55) MHz		—	80	—	ns
Impedance at 41,31 MHz					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	0,6 $\parallel$ 14,2	—	k Ω $\parallel$ pF
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	2,8 $\parallel$ 2,4	—	k Ω $\parallel$ pF
Temperature coefficient of frequency	TC_f	—	-72	—	ppm/K



SAW Components

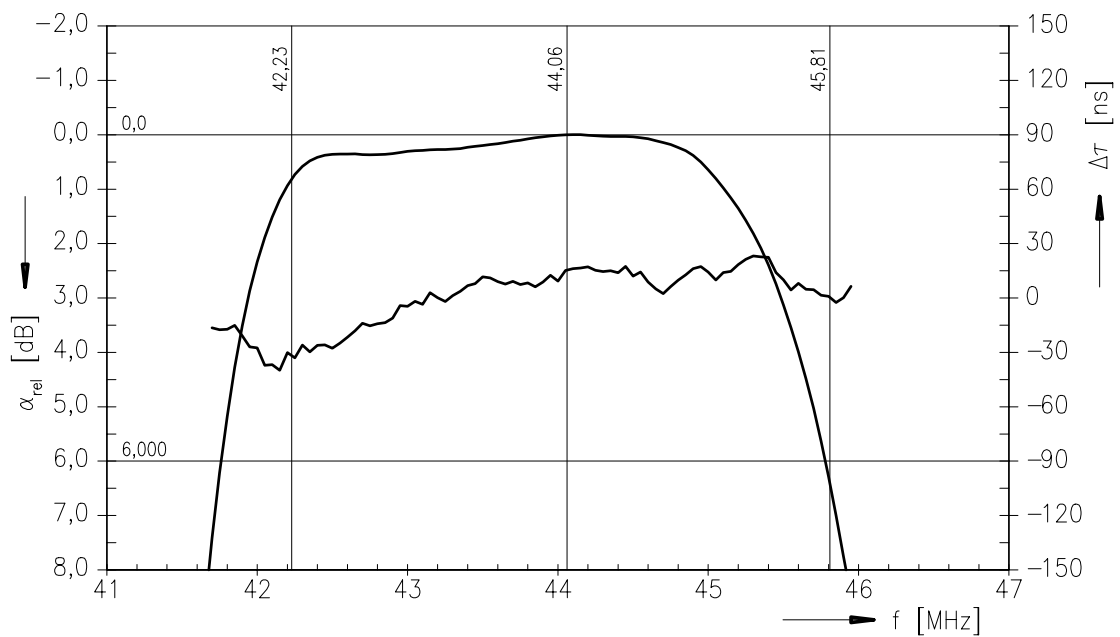
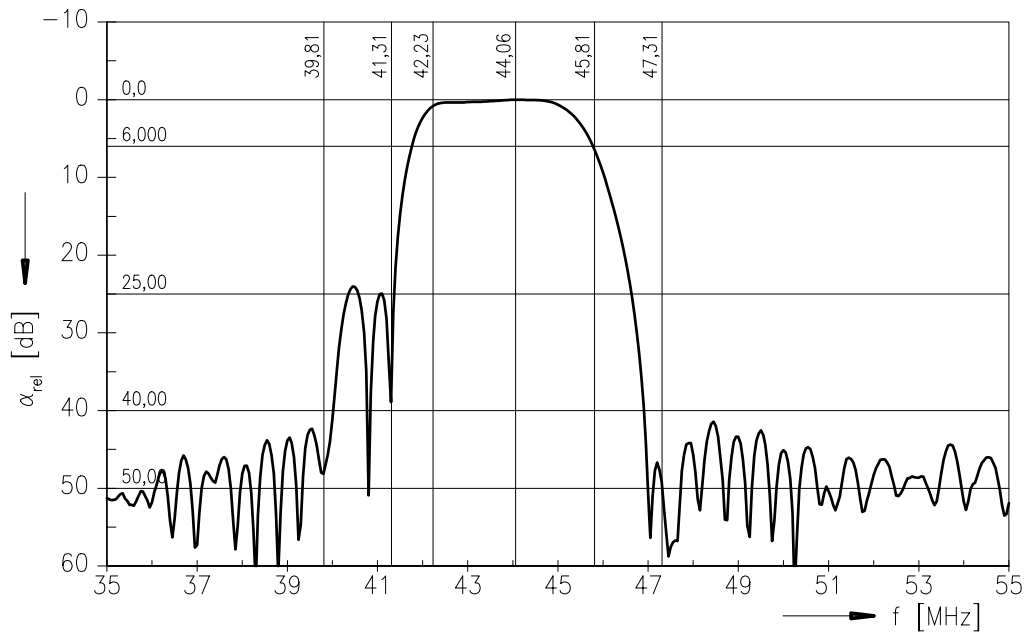
M 3654 K

IF Filter for Quasi/Split Sound Applications

45,75 MHz

Data Sheet

Frequency response of picture channel





SAW Components

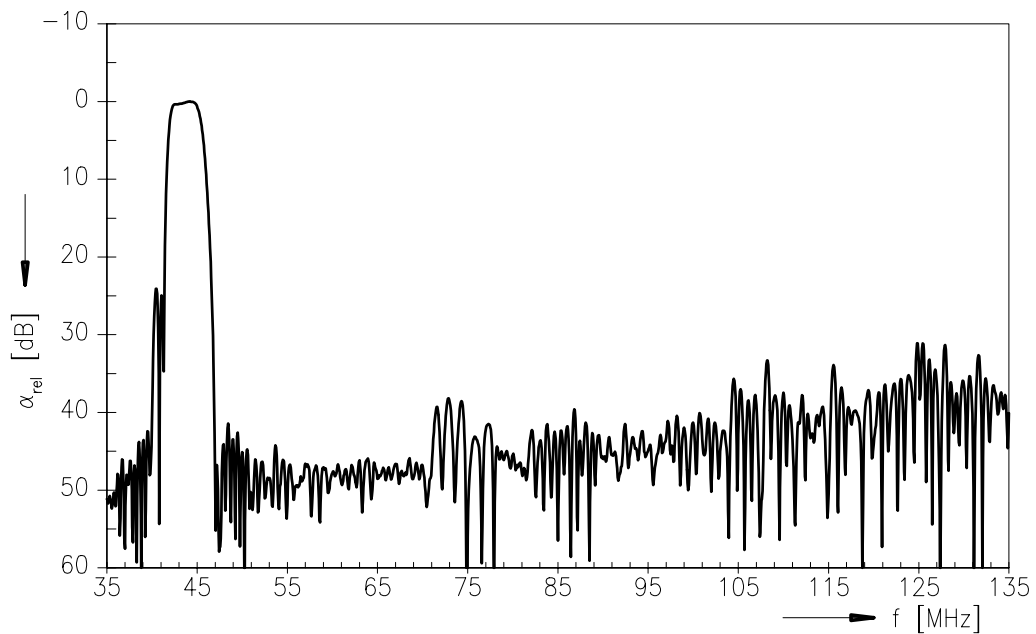
M 3654 K

IF Filter for Quasi/Split Sound Applications

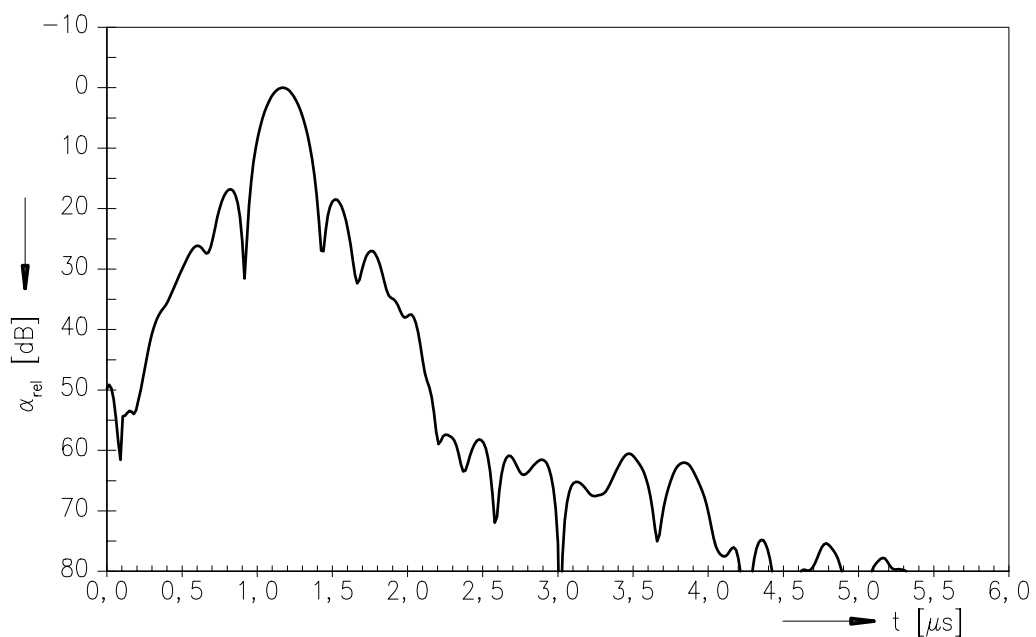
45,75 MHz

Data Sheet

Frequency response of picture channel



Time domain response of picture channel





SAW Components

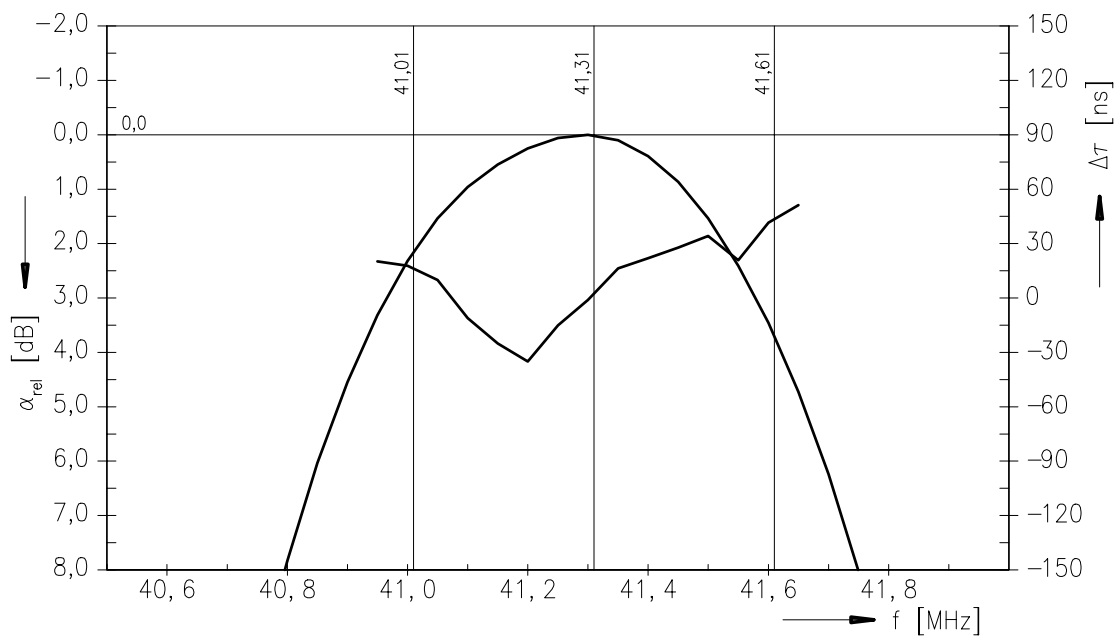
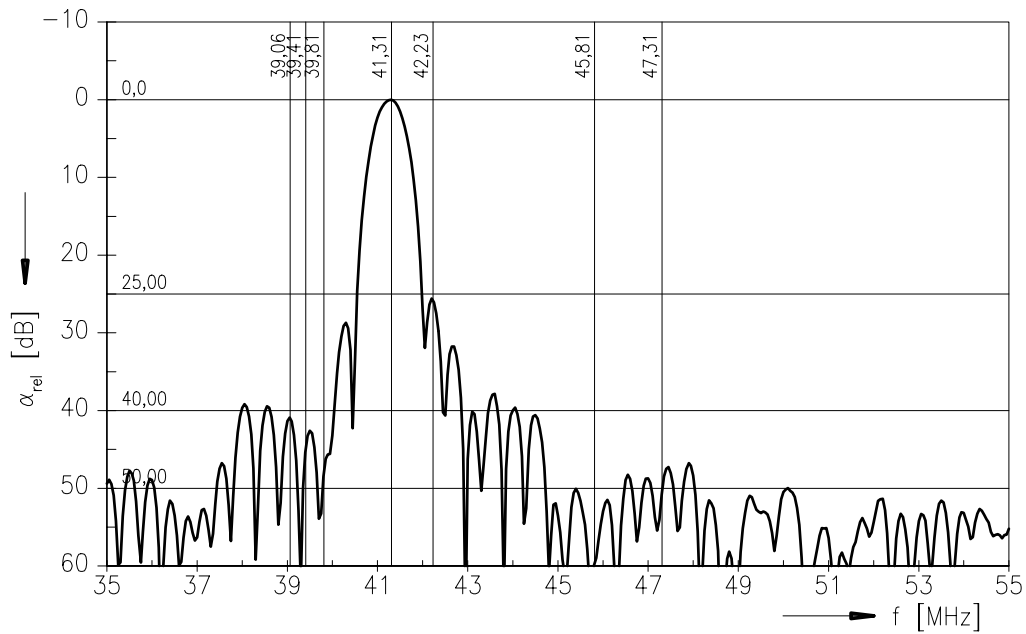
M 3654 K

IF Filter for Quasi/Split Sound Applications

45,75 MHz

Data Sheet

Frequency response of sound channel





SAW Components	M 3654 K
IF Filter for Quasi/Split Sound Applications	45,75 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.