



SAW Components

Data Sheet M 3654 K





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IF Filter for Quasi/Split Sound Applications

45,75 MHz

Data Sheet

Standard

- M/N

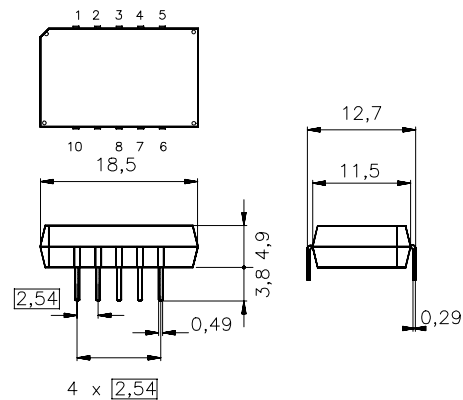
Features

- 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

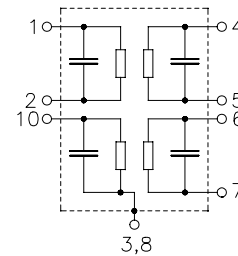
Plastic package **DIP10K**



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-Z00

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


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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


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Characteristics of sound channel

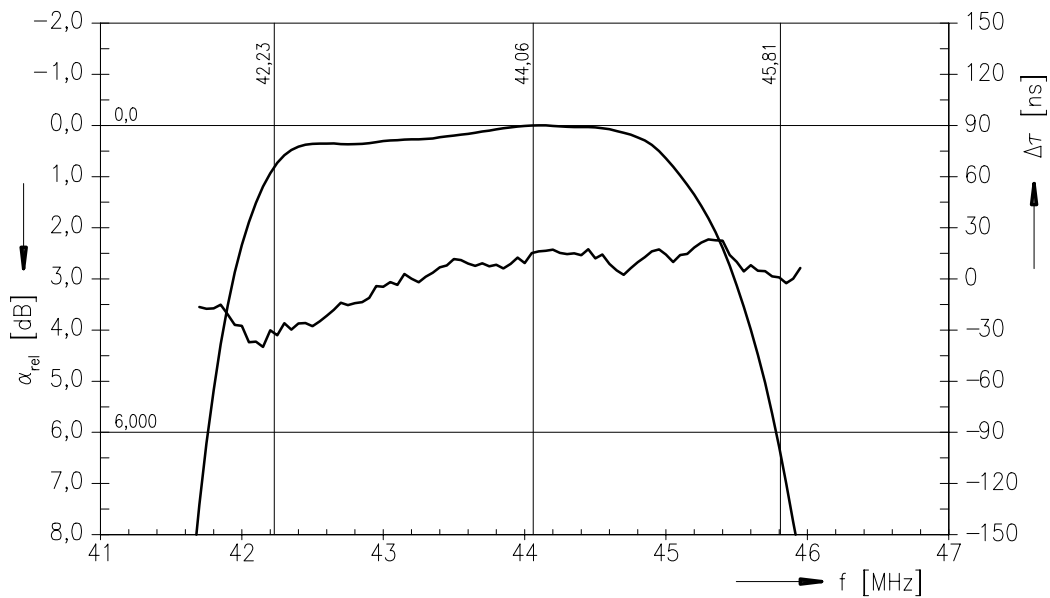
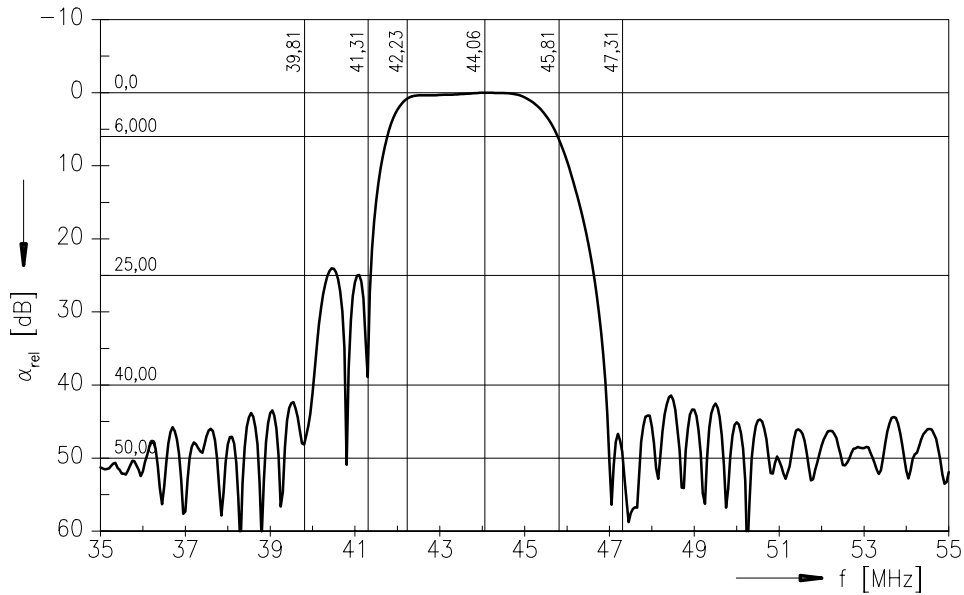
Reference temperature: $T_A = 25 (45) \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega$
 Terminating load impedance: $Z_L = 2 \text{ k}\Omega \parallel 3 \text{ pF}$

		min.	typ.	max.	
Insertion attenuation	α				
Reference level for the following data	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



Data Sheet

Frequency response of picture channel





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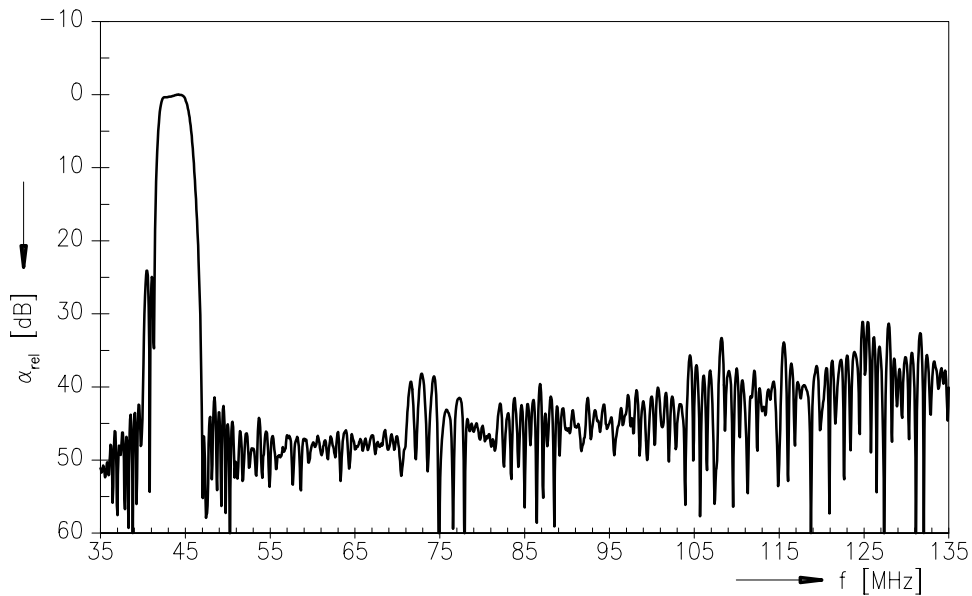
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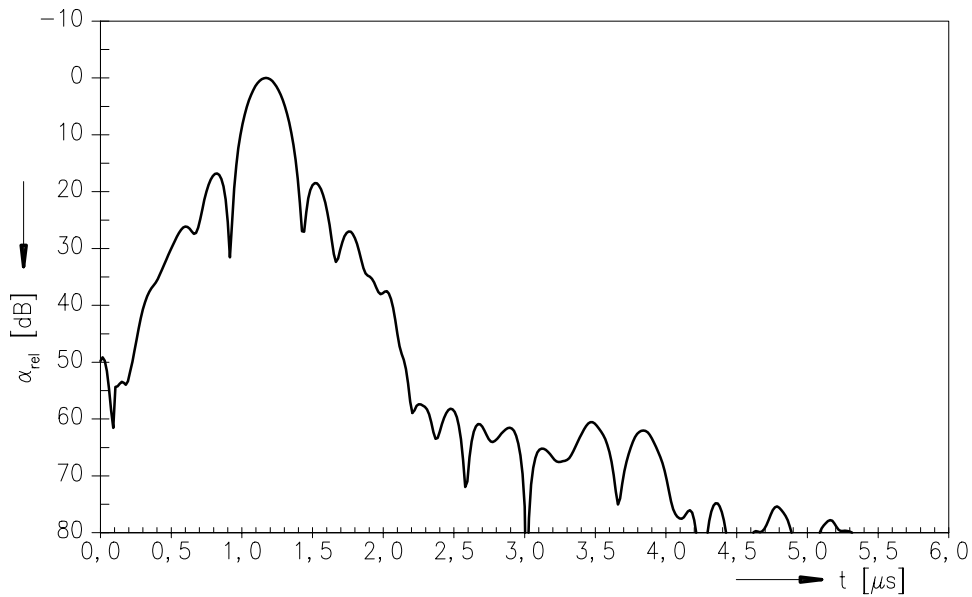
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Data Sheet

Frequency response of picture channel



Time domain response of picture channel





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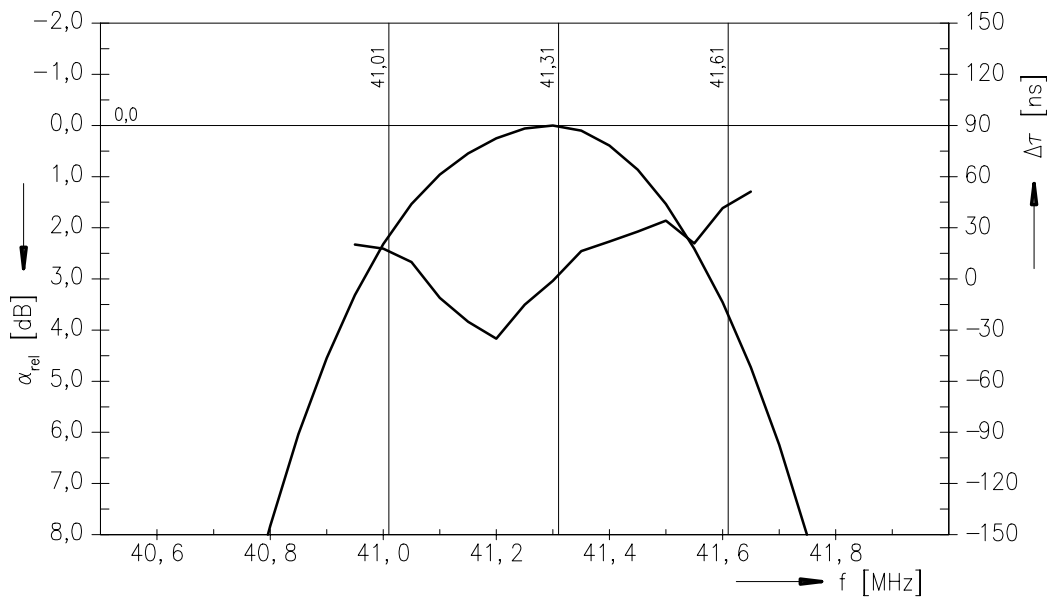
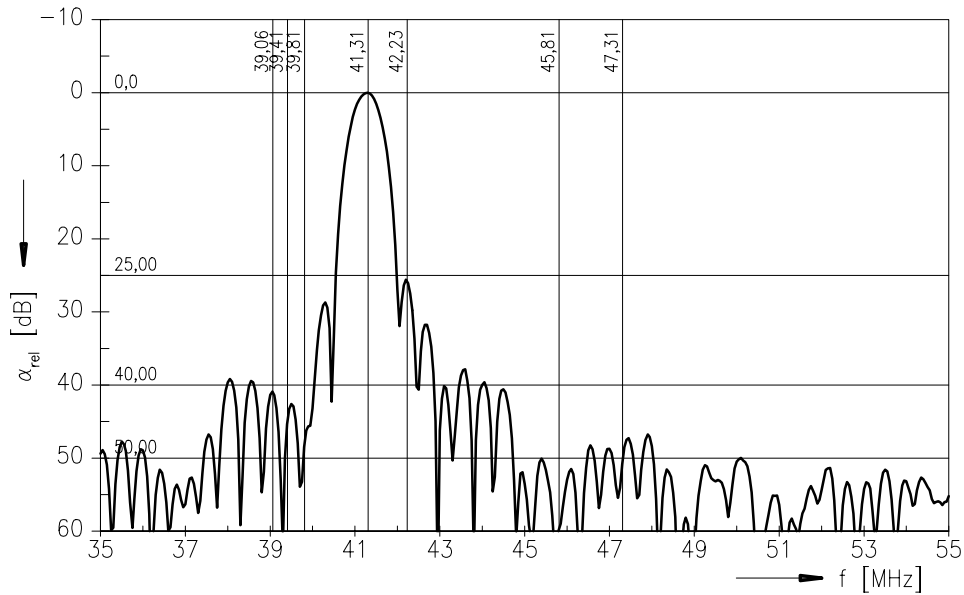
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