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EPCOS

SAW Components

Data Sheet M 3654 K

Data Sheet

Standard

- M/N

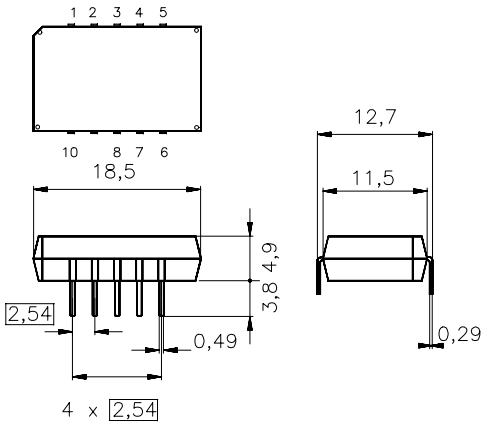
Features

- 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

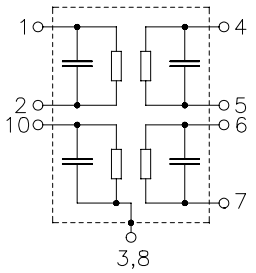
Plastic package **DIP10K**



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-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

Characteristics of picture channel

Reference temperature: T_A = 25 (45)˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 2 kΩ || 3 pF

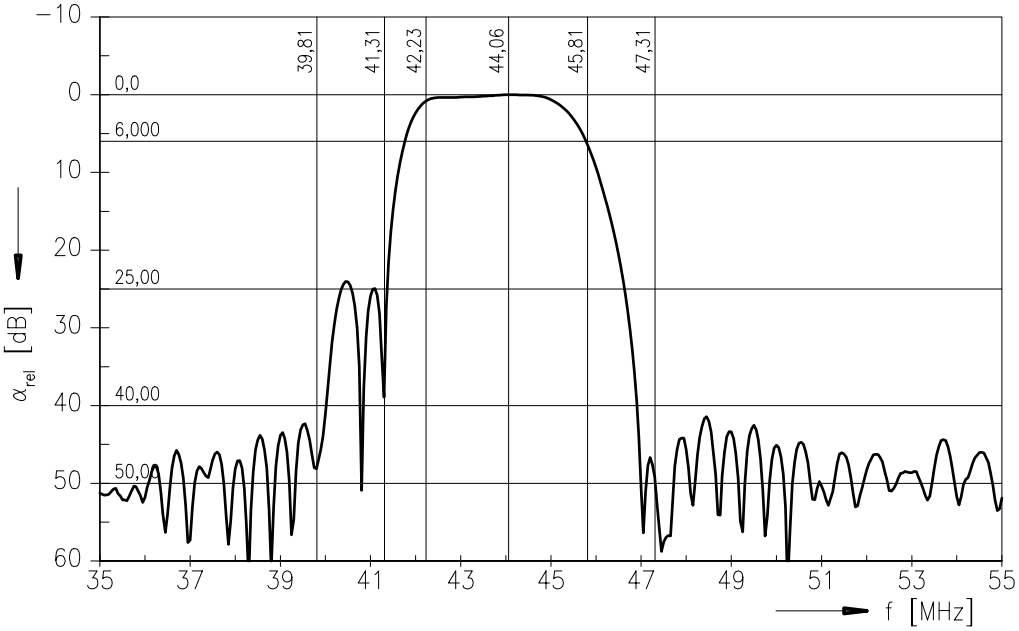
		min.	typ.	max.	
Insertion attenuation	α				
Reference level for the following data	44,06 (44,00) MHz	11,5	13,0	14,5	dB
Relative attenuation	α_{rel}				
Picture carrier	45,81 (45,75) MHz	5,3	6,0	6,7	dB
Color carrier	42,23 (42,17) MHz	–0,1	0,9	1,9	dB
Sound carrier	41,31 (41,25) MHz	25,0	39,0	—	dB
Adjacent 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: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	1,2 || 12,4	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	1,2 || 3,5	—	kΩ || pF
Temperature coefficient of frequency	TC_f	—	–72	—	ppm/K

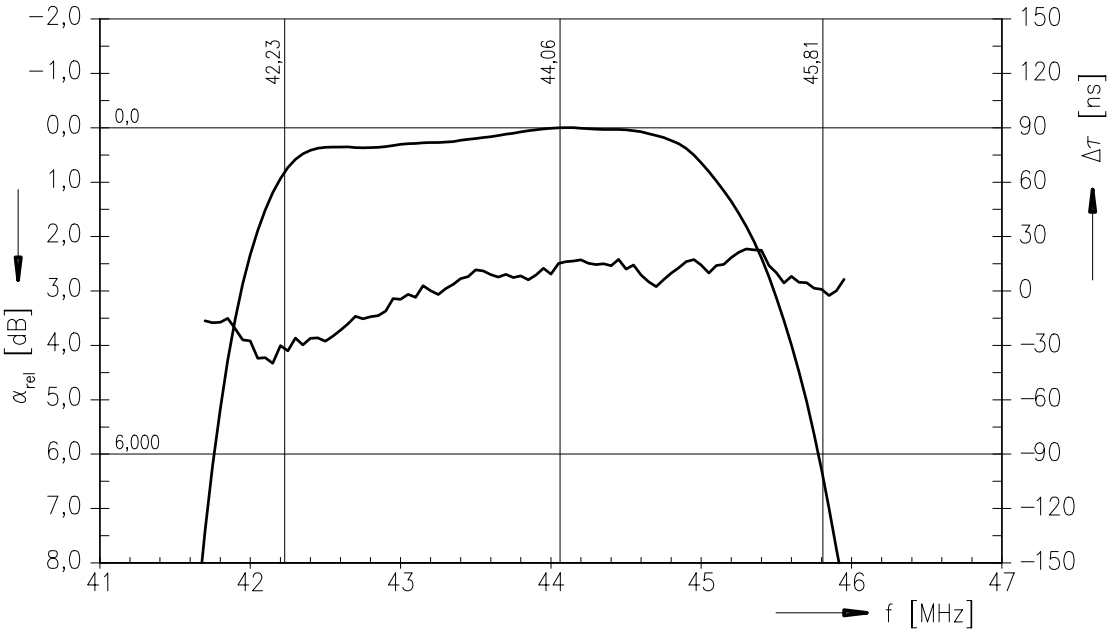
Characteristics of sound channel

Reference temperature: T_A = 25 (45) ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 2 kΩ || 3 pF

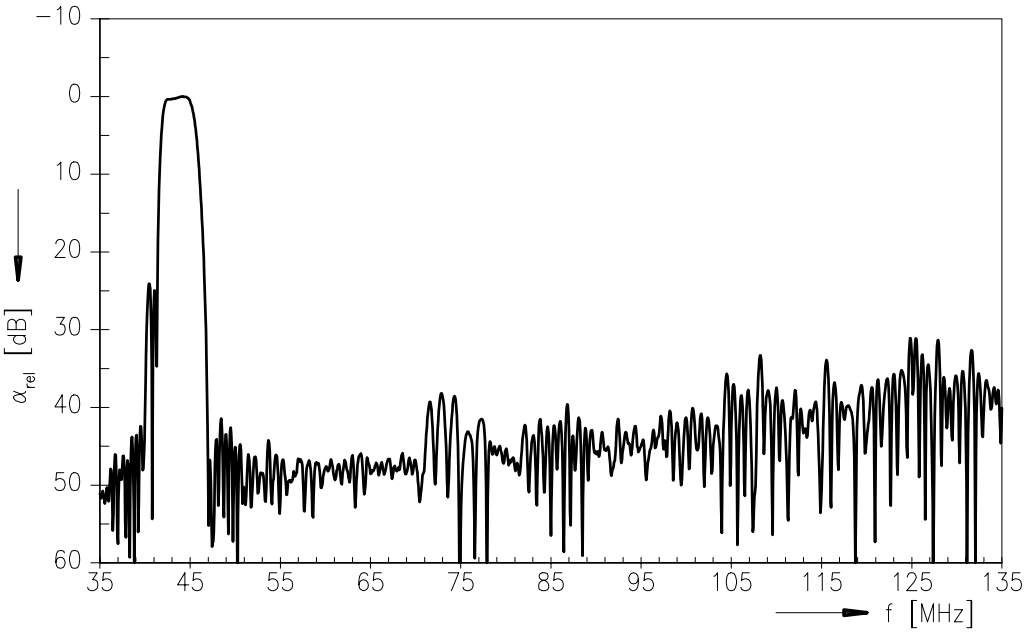
			min.	typ.	max.	
Insertion attenuation		α				
Reference level for the following data	41,31 (41,25) MHz		9,4	10,9	12,4	dB
Pass bandwith						
$\alpha_{rel} \leq$ 3 dB		B_{3dB}	—	0,6	—	MHz
$\alpha_{rel} \leq$ 20 dB		B_{20dB}	—	1,35	—	MHz
Relative attenuation		α_{rel}				
Picture carrier	45,81 (45,75) MHz		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: $Z_{IN} = R_{IN} \parallel C_{IN}$			—	0,6 ‖14,2	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$			—	2,8 ‖ 2,4	—	kΩ || pF
Temperature coefficient of frequency		TC_f	—	–72	—	ppm/K

Frequency response of picture channel

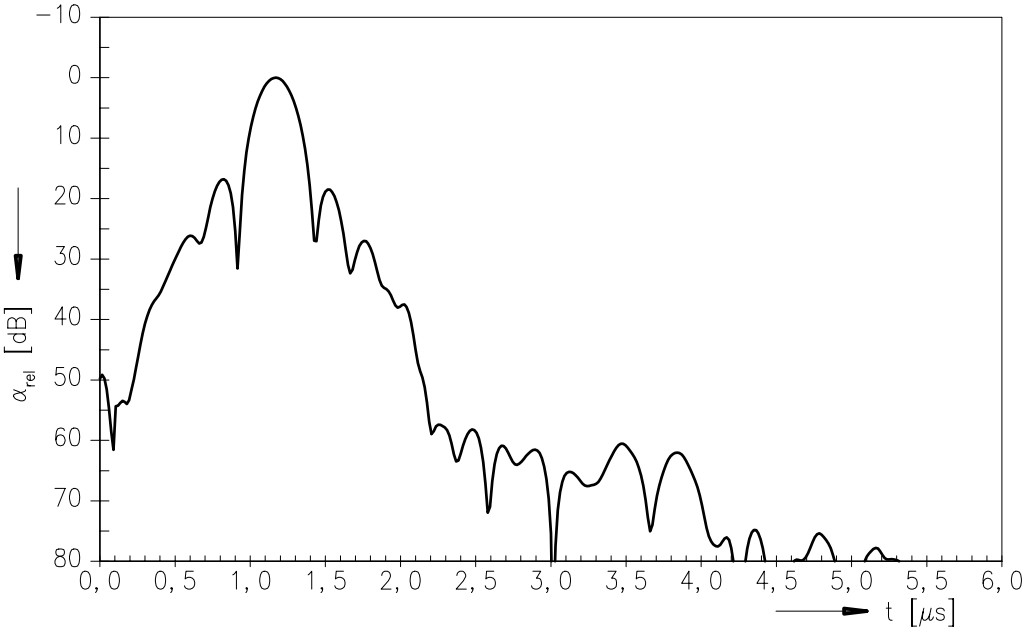




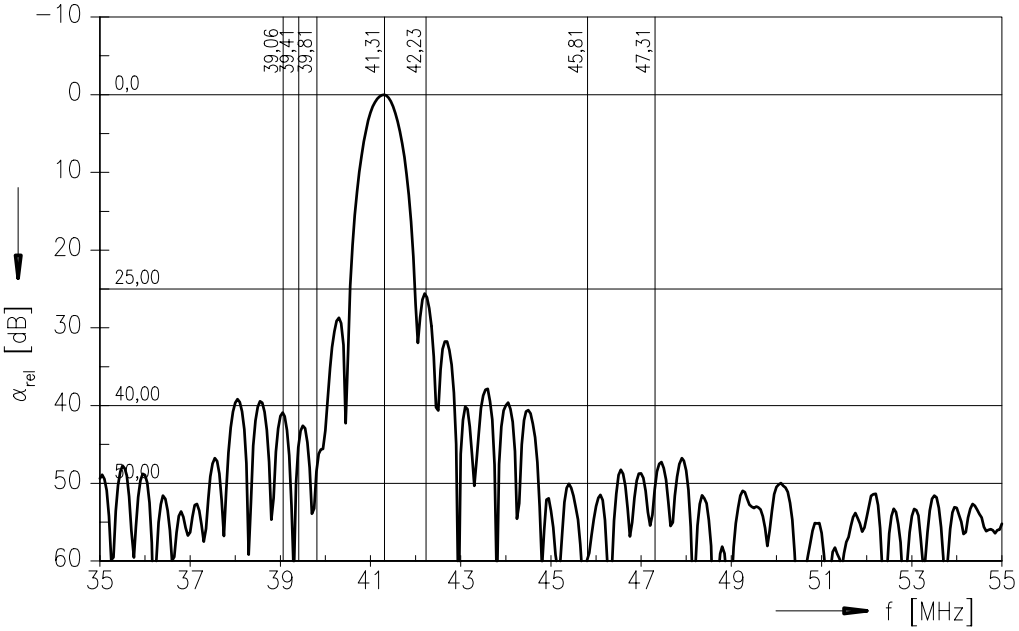
Frequency response of picture channel

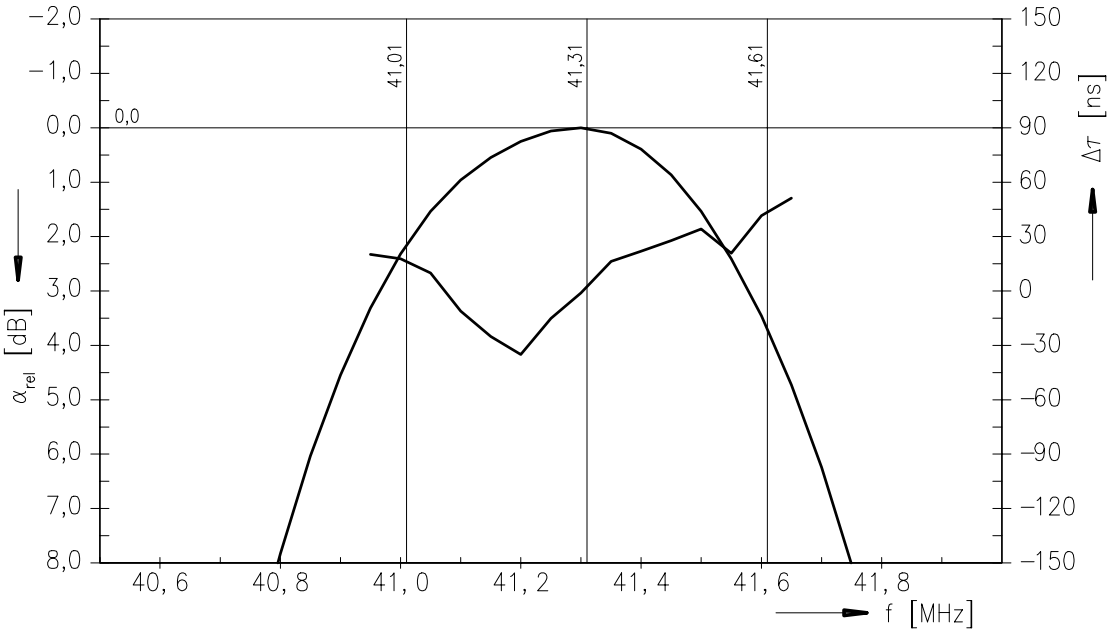


Time domain response of picture channel



Frequency response of sound channel





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