EPCOS

SAW Components

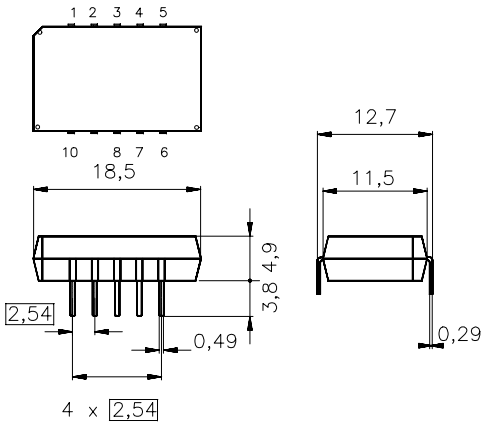
Data Sheet M 3654 K

Data Sheet

Standard

Plastic package **DIP10K**

- M/N



Dimensions in mm, approx. weight 1,8 g

Features

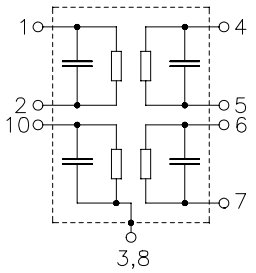
- TV IF filter for quasi/split sound applications (separate picture and sound channel)
- Picture channel with Nyquist slope and sound suppression
- High color carrier level
- Customized group delay predistortion
- Sound channel with passband for sound carrier only

Terminals

- Tinned CuFe alloy

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}	12	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

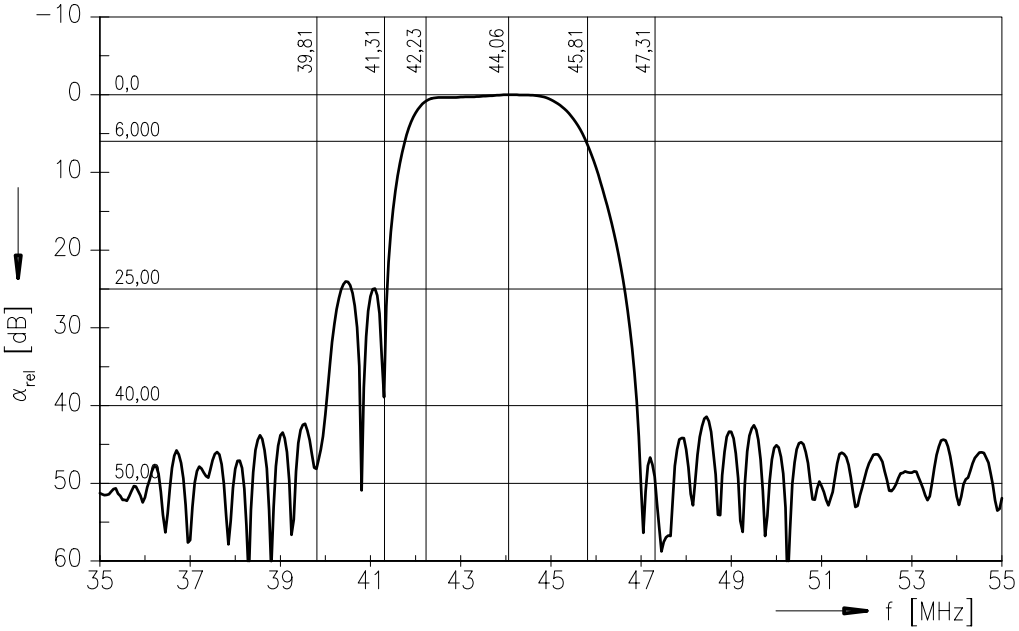
		min.	typ.	max.	
Insertion attenuation	α				
Reference level for the following data	44,06 (44,00) MHz	11,5	13,0	14,5	dB
Relative attenuation	α_{rel}				
Picture carrier	45,81 (45,75) MHz	5,3	6,0	6,7	dB
Color carrier	42,23 (42,17) MHz	–0,1	0,9	1,9	dB
Sound carrier	41,31 (41,25) MHz	25,0	39,0	—	dB
Adjacent 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

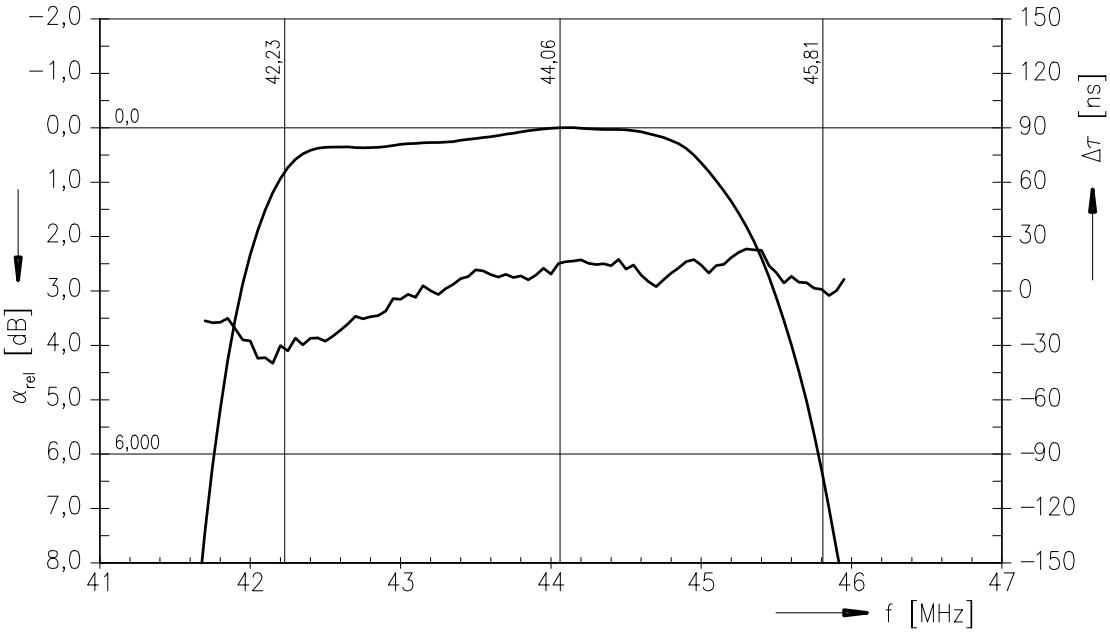
Characteristics of sound channel

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

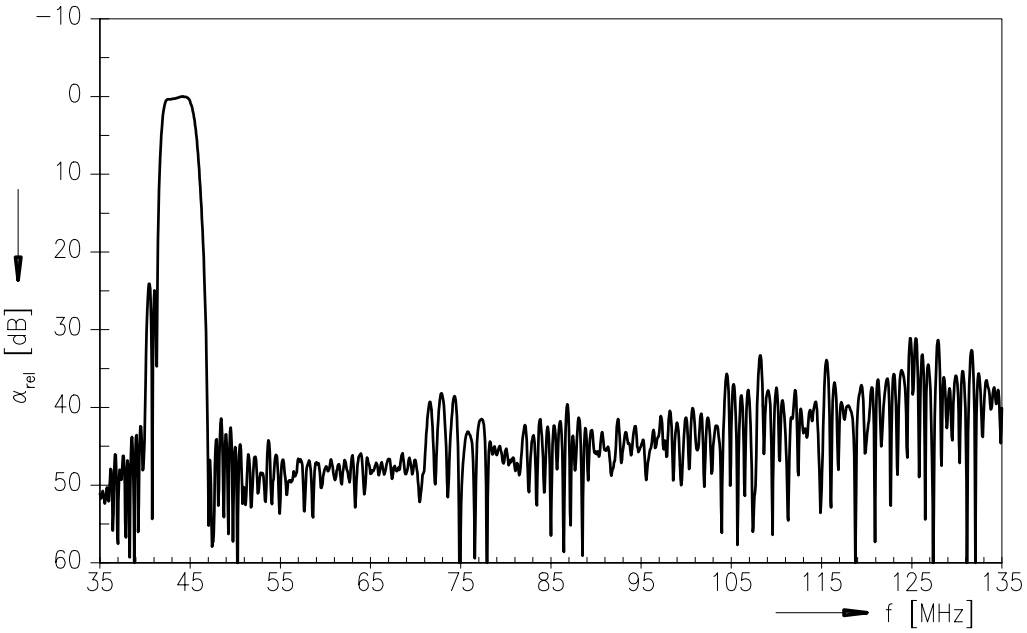
			min.	typ.	max.	
Insertion attenuation		α				
Reference level for the following data	41,31 (41,25) MHz		9,4	10,9	12,4	dB
Pass bandwith						
$\alpha_{rel} \leq$ 3 dB		B_{3dB}	—	0,6	—	MHz
$\alpha_{rel} \leq$ 20 dB		B_{20dB}	—	1,35	—	MHz
Relative attenuation		α_{rel}				
Picture carrier	45,81 (45,75) MHz		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

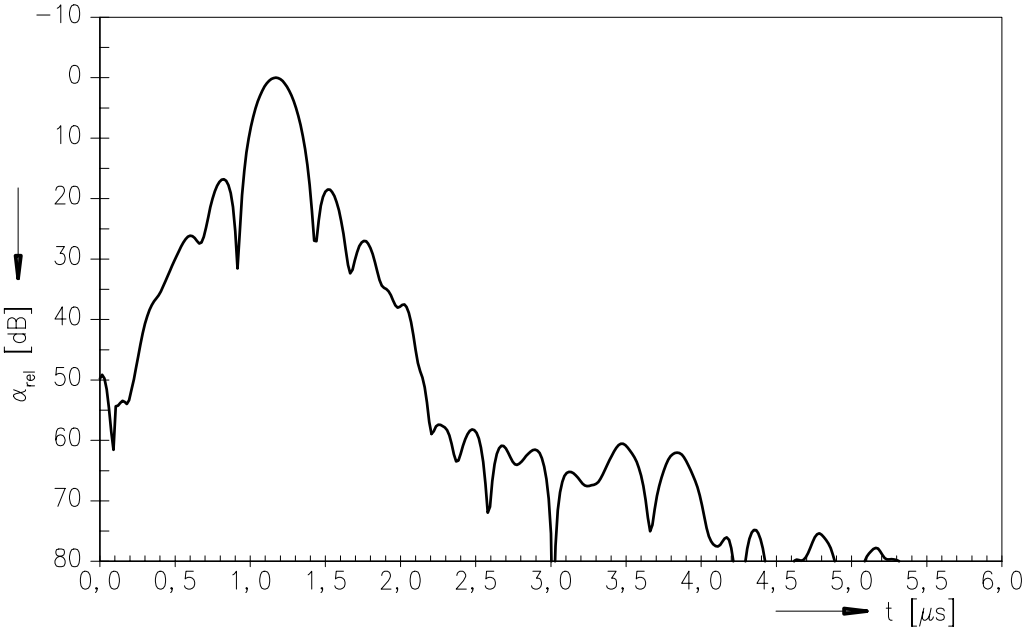




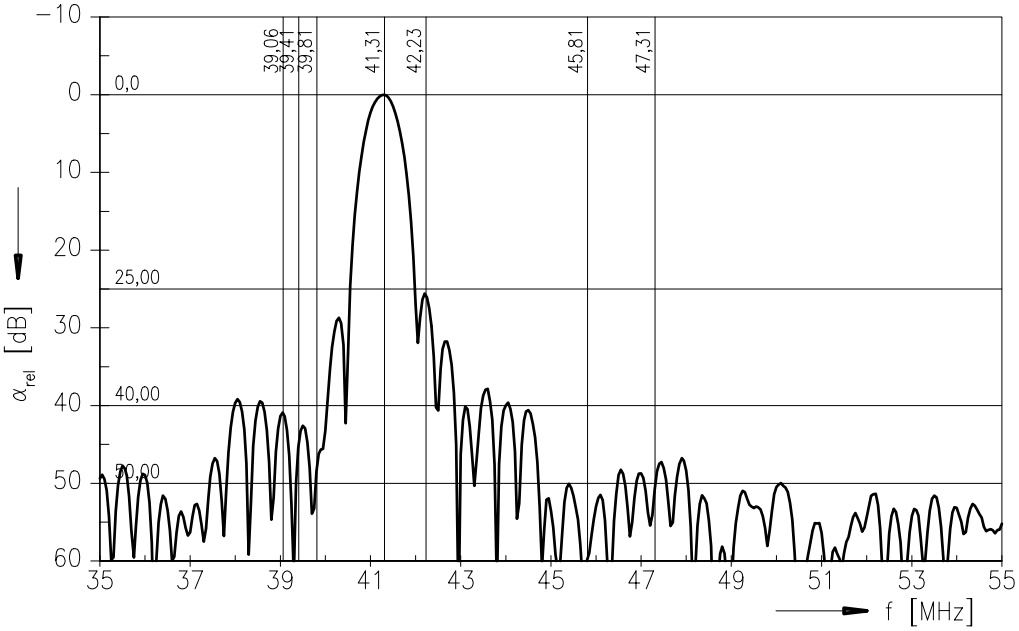
Frequency response of picture channel

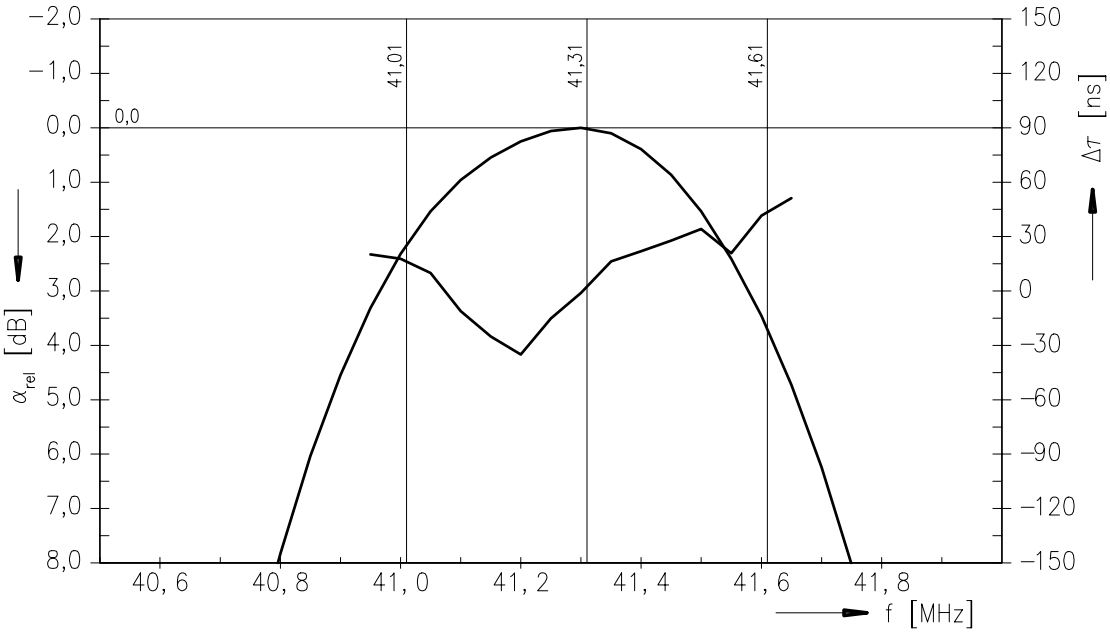


Time domain response of picture channel



Frequency response of sound channel





Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW CE MM PD
P.O. Box 80 17 09, D-81617 München

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