



# SAW Components

Data Sheet K 7253 M





**SAW Components**

**K 7253 M**

**IF Filter for Intercarrier / Multistandard Applications**

**38,00 MHz**

**Data Sheet**

**Standard**

- B/G
- D/K
- M/N

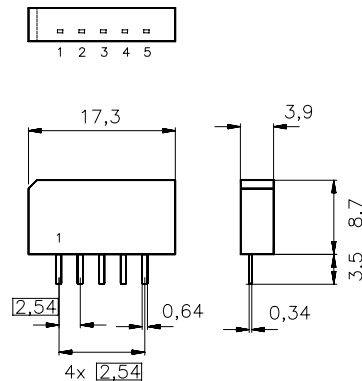
**Features**

- TV IF filter switchable from B/G, D/K mode to M/N mode
- M/N mode with Nyquist slope and sound shelf
- Customized group delay predistortion
- B/G, D/K mode with Nyquist slope and sound shelf
- Customized group delay predistortion

**Terminals**

- Tinned CuFe alloy

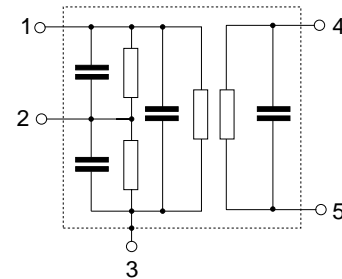
Plastic package **SIP5K**



Dimensions in mm, approx. weight 1,0 g

**Pin configuration**

- 1 Input
- 2 Switching input
- 3 Chip carrier - ground
- 4,5 Output



Type	Ordering code	Marking and package according to	Packing according to
K 7253 M	B39380-K7253-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	$V_{DC}$	5	V	between any terminals
AC voltage	$V_{pp}$	10	V	between any terminals


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**Characteristics in B/G, D/K mode (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.	
<b>Insertion attenuation</b>					
	$\alpha$				
Reference level for the following data	36,50 MHz	15,9	17,4	18,9	dB
<b>Relative attenuation</b>					
	$\alpha_{rel}$				
Picture carrier	38,00 MHz	4,7	5,7	6,7	dB
Color carrier	33,57 MHz	0,2	1,2	2,2	dB
Sound carrier	31,50 MHz	18,5	20,0	21,5	dB
	32,50 MHz	18,1	19,6	—	dB
Adjacent picture carrier	30,00 MHz	42,0	50,0	—	dB
	31,00 MHz	40,0	55,0	—	dB
Adjacent sound carrier	39,50 MHz	40,0	46,0	—	dB
	40,50 MHz	37,0	42,0	—	dB
Lower sidelobe	25,00 ..... 30,00 MHz	38,0	44,0	—	dB
Upper sidelobe	39,50 ..... 45,00 MHz	33,0	39,0	—	dB
<b>Reflected wave signal suppression</b>					
1,3 $\mu\text{s}$ ... 6,0 $\mu\text{s}$ after main pulse (test pulse 250 ns, carrier frequency 36,50 MHz)		42,0	51,0	—	dB
<b>Feedthrough signal suppression</b>					
1,2 $\mu\text{s}$ ... 1,1 $\mu\text{s}$ before main pulse (test pulse 250 ns, carrier frequency 36,50 MHz)		50,0	56,0	—	dB
<b>Group delay predistortion</b>					
(reference frequency 38,00 MHz)					
	$\Delta\tau$				
	33,57 MHz	—	-40	—	ns
<b>Impedance at 36,50 MHz</b>					
	Input: $Z_{IN} = R_{IN} \parallel C_{IN}$	—	1,2    16,5	—	k $\Omega$    pF
	Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$	—	2,5    3,9	—	k $\Omega$    pF
<b>Temperature coefficient of frequency</b>					
	$TC_f$	—	-72	—	ppm/K



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Characteristics in M/N mode (switching pin 2 connected to pin 1)

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.	
<b>Insertion attenuation</b> $\alpha$					
Reference level for the following data	36,50 MHz	15,5	17,0	18,5	dB
<b>Relative attenuation</b> $\alpha_{\text{rel}}$					
Picture carrier	38,00 MHz	5,2	6,2	7,2	dB
Color carrier	34,42 MHz	2,8	3,8	4,8	dB
Sound carrier	33,50 MHz	18,3	19,8	21,3	dB
Adjacent picture carrier	32,00 MHz	38,0	46,0	—	dB
Adjacent sound carrier	39,50 MHz	36,0	43,0	—	dB
Lower sidelobe	25,00 ..... 32,00 MHz	36,0	42,0	—	dB
Upper sidelobe	39,50 ..... 45,00 MHz	31,0	37,0	—	dB
<b>Reflected wave signal suppression</b>					
1,2 $\mu\text{s}$ ... 6,0 $\mu\text{s}$ after main pulse (test pulse 250 ns, carrier frequency 36,50 MHz)		42,0	51,0	—	dB
<b>Feedthrough signal suppression</b>					
1,2 $\mu\text{s}$ ... 1,1 $\mu\text{s}$ before main pulse (test pulse 250 ns, carrier frequency 36,50 MHz)		50,0	56,0	—	dB
<b>Group delay predistortion</b> $\Delta\tau$ (reference frequency 38,00 MHz)					
	34,42 MHz	—	-50	—	ns
<b>Impedance at 36,50 MHz</b>					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	1,2    18,9	—	k $\Omega$    pF
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	2,5    3,9	—	k $\Omega$    pF
<b>Temperature coefficient of frequency</b> $TC_f$		—	-72	—	ppm/K



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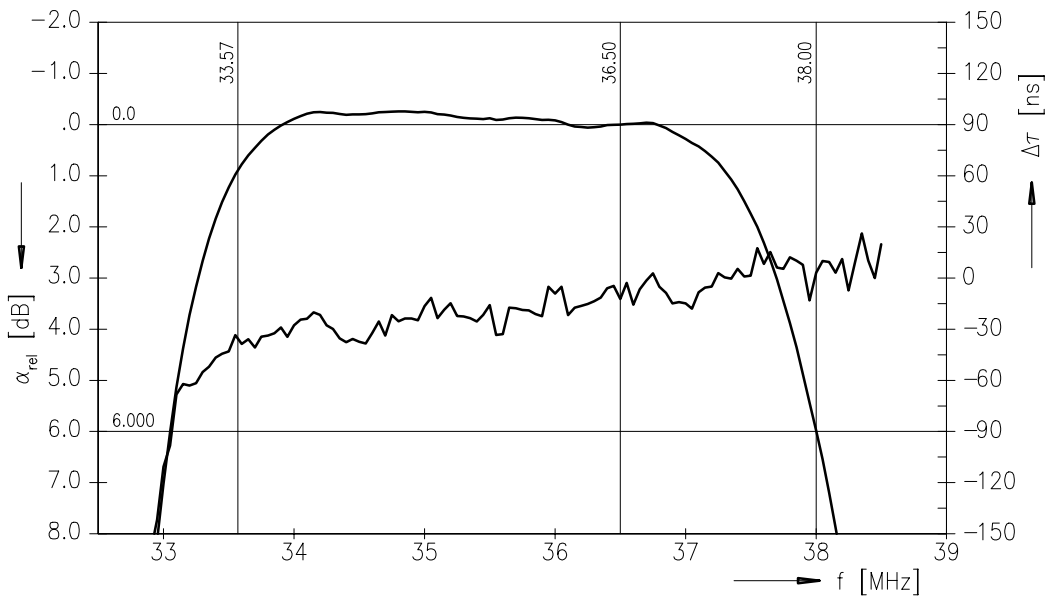
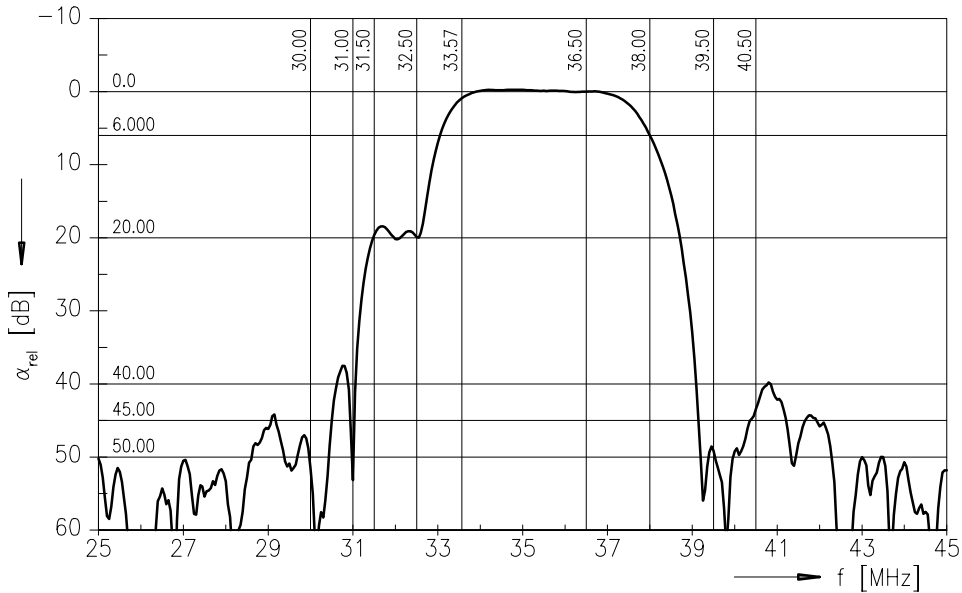
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Frequency response B/G, D/K mode





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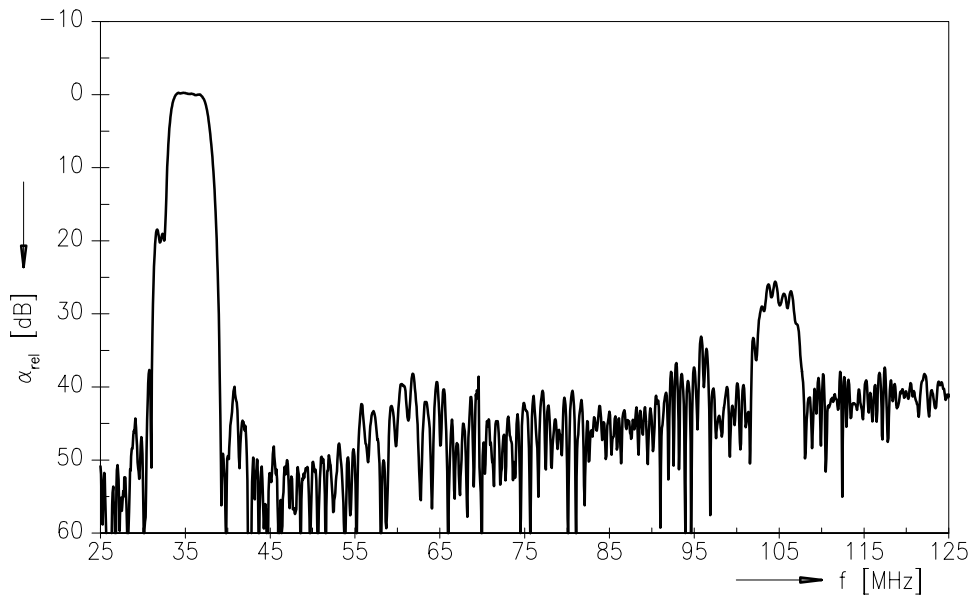
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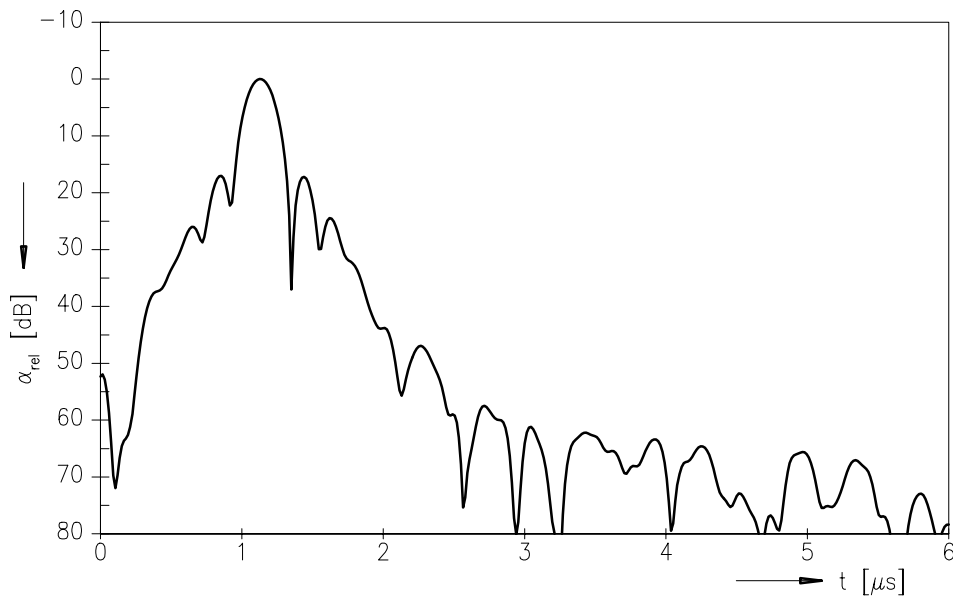
38,00 MHz

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Frequency response B/G, D/K mode



Time domain response B/G, D/K mode





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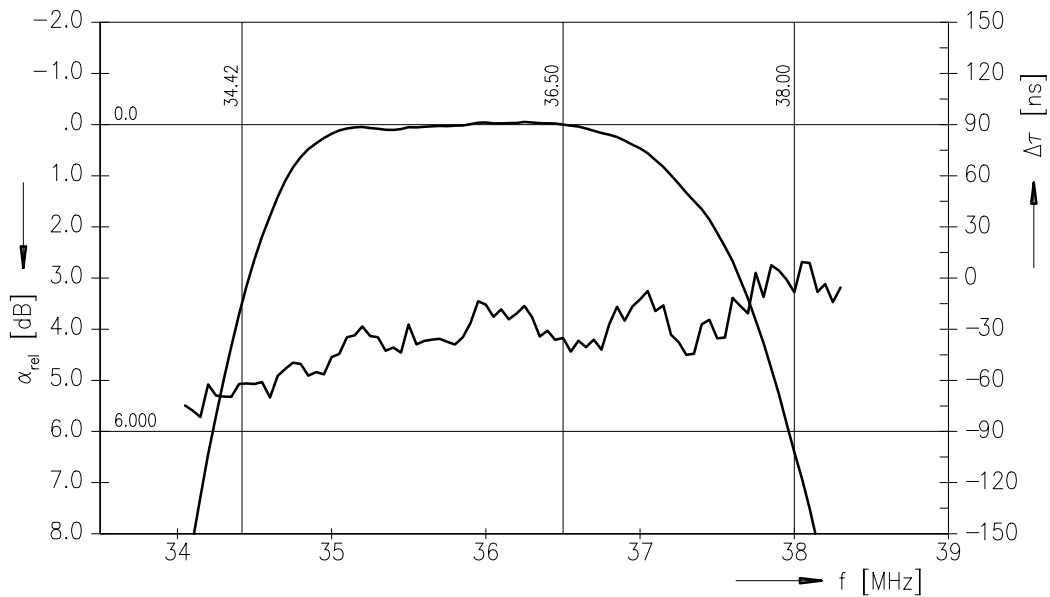
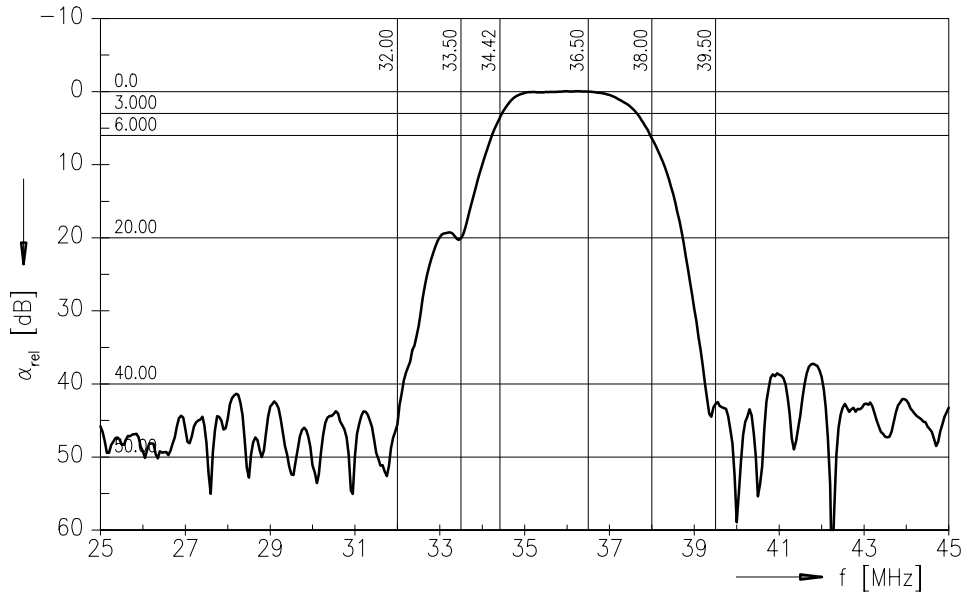
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Frequency response M/N mode





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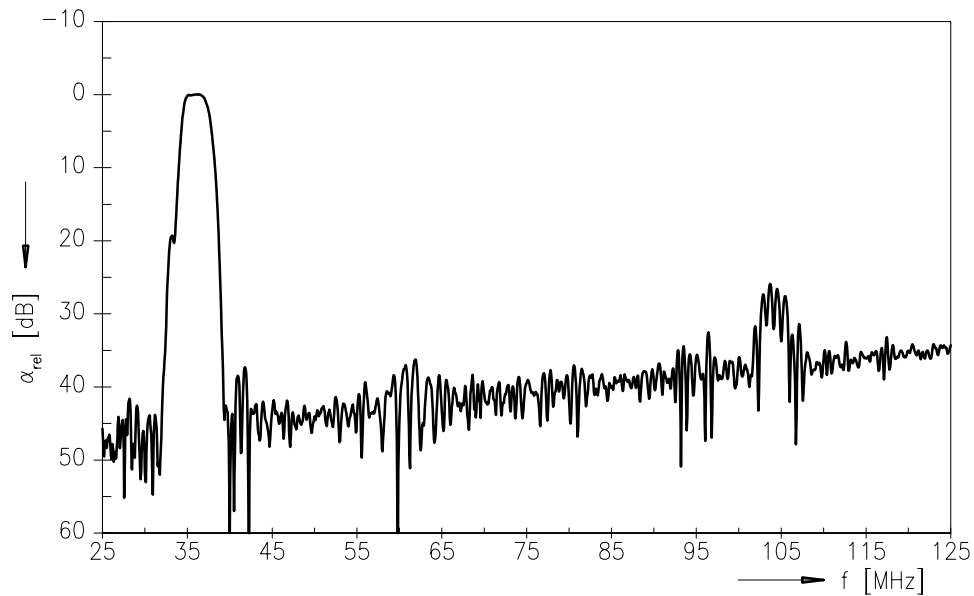
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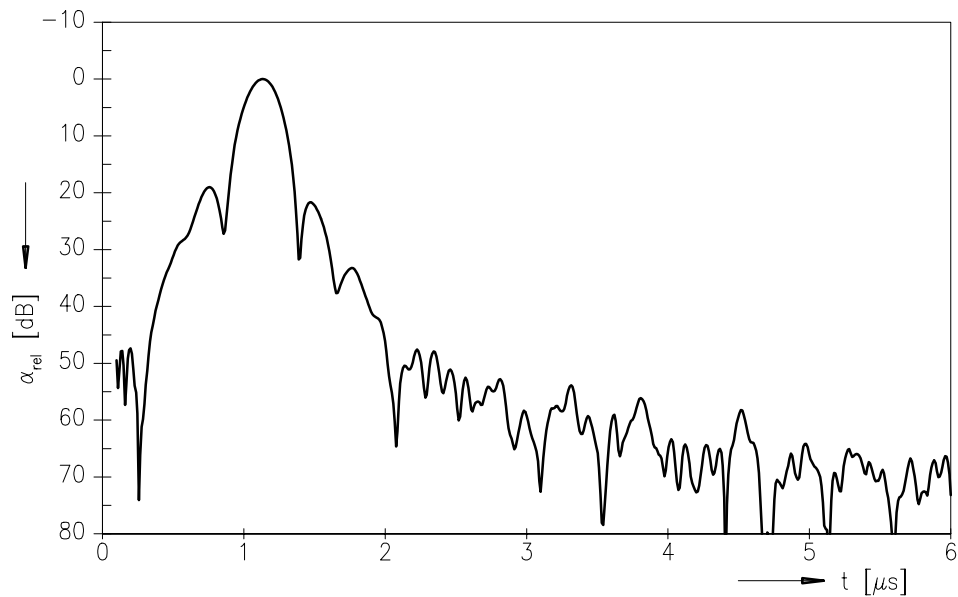
38,00 MHz

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Frequency response M/N mode



Time domain response M/N mode







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