SAW Components

Data Sheet B3802

SAW Components	B3802
Low-Loss Filter	**110,0 MHz**

Data Sheet

Ceramic package QCC12B

Features

- Low-loss IF filter
- Package for Surface Mounted Technology (SMT)
- Hermetically sealed ceramic package
- Balanced or unbalanced operation

Terminals

- Gold-plated

Dimensions in mm, approx. weight 0,2 g

Pin configuration

12	Input
10	Input or input ground
4	Output
6	Output or output ground
1, 2, 7, 8	Ground
3, 9	Case ground

Type	Ordering code	Marking and Package according to	Packing according to
B3802	B39111-B3802-Z910	C61157-A7-A56	F61064-V8070-Z000

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	– 40/+ 85	˚C	
Storage temperature range	T_{stg}	– 40/+ 85	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	

Data Sheet

Characteristics

Operating temperature: T = 25 ˚C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 50 Ω and matching network

			min.	typ.	max.	
Center frequency		f_C	109,9	110,0	110,1	MHz
Minimum insertion attenuation		α_{min}	—	6,8	10,0	dB
Pass bandwidth	$\alpha_{rel} \leq 3,0$ dB	B_{3dB}	3,75	4,0	—	MHz
	$\alpha_{rel} \leq 1,0$ dB	B_{1dB}	—	3,1	—	MHz
Amplitude ripple (max peak to adjacent valley)		$\Delta\alpha$				
$f_C \pm 1,6$ MHz			—	0,5	—	dB
Group delay ripple		$\Delta\tau$				
$f_C \pm 1,6$ MHz			—	45	80	ns
Relative attenuation (relative to α_{min})		α_{rel}				
60,0 MHz ... 100,0 MHz			40	42	—	dB
100,0 MHz ... 105,5 MHz			36	41	—	dB
114,5 MHz ... 120,0 MHz			36	41	—	dB
120,0 MHz ... 160,0 MHz			38	43	—	dB
Temperature coefficient of frequency		TC_f	—	−18	—	ppm/K

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Characteristics

Operating temperature: $\quad$ T $\;=\;$ -10 ... 70 ˚C
Terminating source impedance: $\quad$ Z_S = 50 Ω and matching network
Terminating load impedance: $\quad$ Z_L = 50 Ω and matching network

			min.	typ.	max.	
Center frequency		f_C	109,8	110,0	110,18	MHz
Minimum insertion attenuation		α_{min}	—	6,8	10,0	dB
Pass bandwidth	$\alpha_{rel} \leq 3,0$ dB	B_{3dB}	3,75	4,0	—	MHz
	$\alpha_{rel} \leq 1,0$ dB	B_{1dB}	—	3,1	—	MHz
Amplitude ripple (max peak to adjacent valley)		$\Delta\alpha$				
$f_C \pm 1,6$ MHz			—	0,5	—	dB
Group delay ripple		$\Delta\tau$				
$f_C \pm 1,6$ MHz			—	45	80	ns
Relative attenuation (relative to α_{min})		α_{rel}				
60,0 MHz ... 100,0 MHz			40	42	—	dB
100,0 MHz ... 105,5 MHz			36	41	—	dB
114,5 MHz ... 120,0 MHz			36	41	—	dB
120,0 MHz ... 160,0 MHz			38	43	—	dB
Temperature coefficient of frequency		TC_f	—	–18	—	ppm/K

Data Sheet

Normalized frequency response
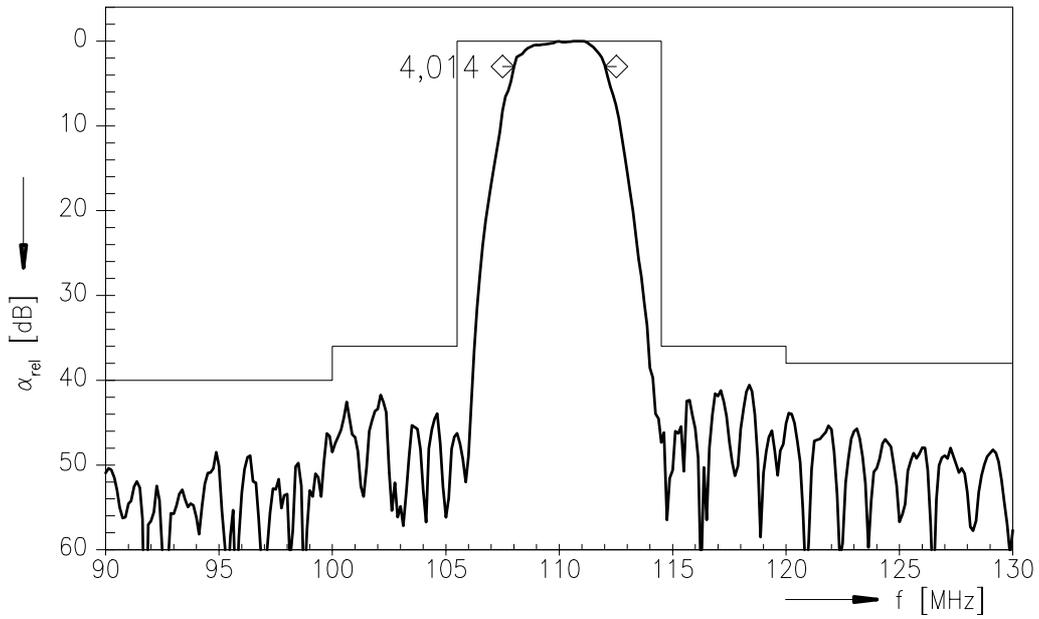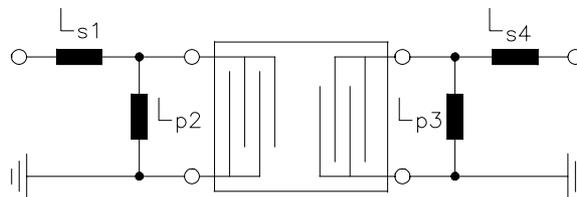

Normalized frequency response (pass band)
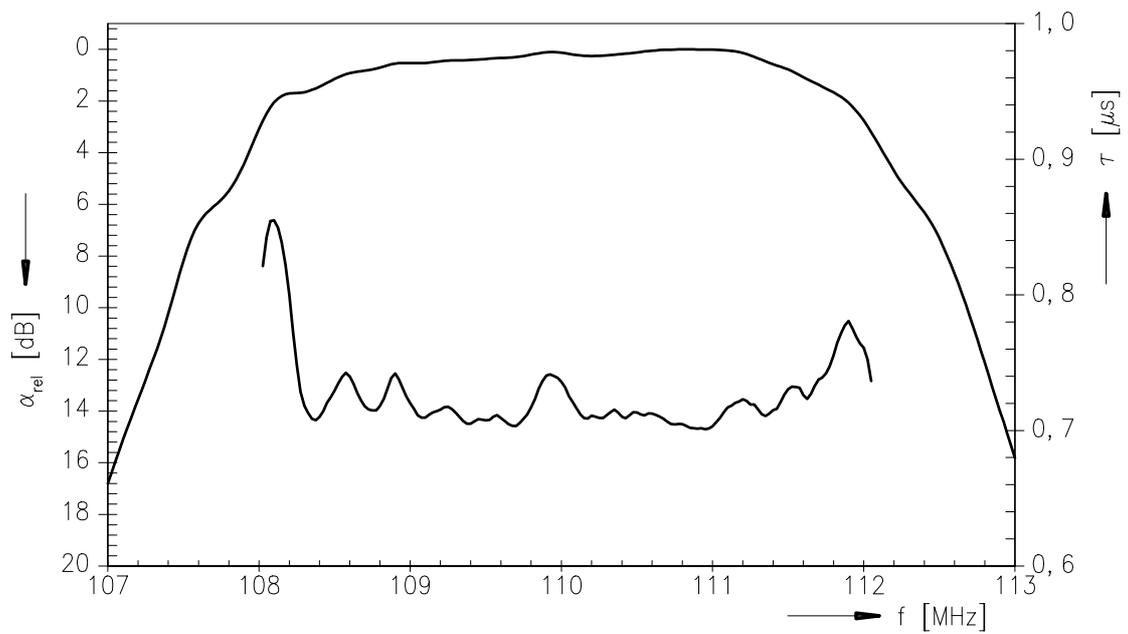
Data Sheet

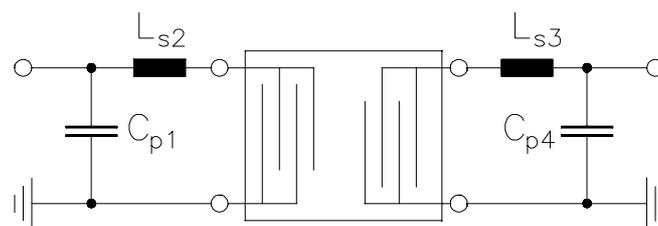**Matching network**   (element values may depend on pcb layout)

50 Ω unbalanced:

L_{s1} = 82 nH
L_{p2} = 47 nH
L_{p3} = 33 nH
L_{s4} = 12 nH

50 Ω unbalanced : (higher IL, but more attenuation in the upper stopband)

C_{p1} = 100 nF
L_{s2} = 56 nH
L_{s3} = 56 nH
C_{p4} = 68 nF