



# SAW Components

Data Sheet B4937





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## Low-Loss Filter for Mobile Communication

109,8 MHz

## Data Sheet



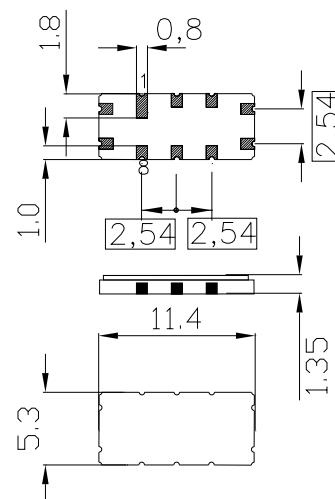
### Ceramic package QCC10C

### Features

- Low-loss IF filter for mobile telephone
- Channel selection in CDMA systems
- Very small size
- Low insertion attenuation
- Balanced and unbalanced operation possible
- Filter surface passivated
- Ceramic SMD package

### Terminals

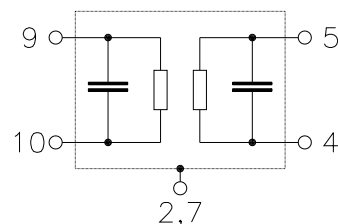
- Gold-plated Ni



Dimensions in mm, approx. weight 0,24 g

### Pin configuration

- |            |                                  |
|------------|----------------------------------|
| 10         | Input                            |
| 9          | Input ground or balanced input   |
| 5          | Output                           |
| 4          | Balanced output or output ground |
| 2, 7       | Case – ground                    |
| 1, 3, 6, 8 | To be grounded                   |



Type	Ordering code	Marking and Package according to	Packing according to
B4937	B39111-B4937-U910	C61157-A7-A73	F6104-V8104-Z000

Electrostatic Sensitive Device (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	



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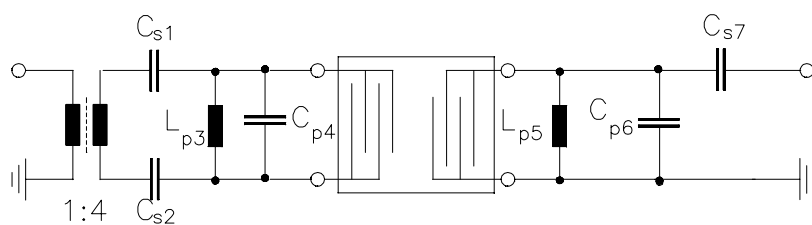


### Characteristics

Operating temperature range:  $T = -35$  to  $+85$  °C  
Terminating source impedance:  $Z_S = 1200 \Omega \parallel 120$  nH  
Terminating load impedance:  $Z_L = 1000 \Omega \parallel 110$  nH

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	109,8	—	MHz
<b>Minimum insertion attenuation</b> (including losses in matching circuit)	$\alpha_{\min}$	—	8,5	10,0	dB
<b>Amplitude ripple (p-p)</b> $f_N - 0,3$ MHz ... $f_N + 0,3$ MHz	$\Delta\alpha$	—	0,4	1,0	dB
<b>Phase Linearity (rms)</b> $f_N - 0,614$ MHz ... $f_N + 0,614$ MHz	$\Delta\tau$	—	1,5	3,0	°
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b> $f_N \pm 0,614$ MHz	$\alpha_{\text{rel}}$	—	4,0	5,0	dB
$f_N - 2,05$ MHz		38	42	—	dB
$f_N - 1,7$ MHz		40	45	—	dB
$f_N - 1,25$ MHz		35	39	—	dB
$f_N - 0,9$ MHz		35	38	—	dB
$f_N + 0,9$ MHz		35	38	—	dB
$f_N + 1,25$ MHz		33	35	—	dB
$f_N + 1,7$ MHz		40	45	—	dB
$f_N + 2,05$ MHz		38	42	—	dB
$f_N - 25$ MHz ... $f_N - 1,7$ MHz		36	40	—	dB
$f_N - 1,7$ MHz ... $f_N - 0,9$ MHz		33	38	—	dB
$f_N + 0,9$ MHz ... $f_N + 1,7$ MHz		33	35	—	dB
$f_N + 1,7$ MHz ... $f_N + 25$ MHz		36	40	—	dB

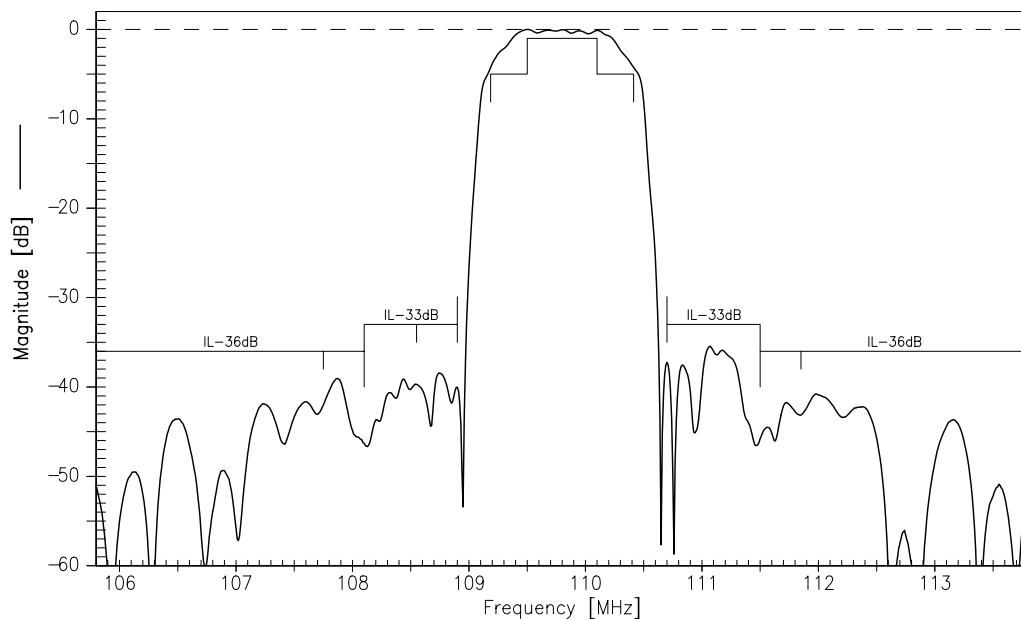
**Test Matching Network to bal. 200Ω / unbal. 50Ω** (element values depend on PCB layout)



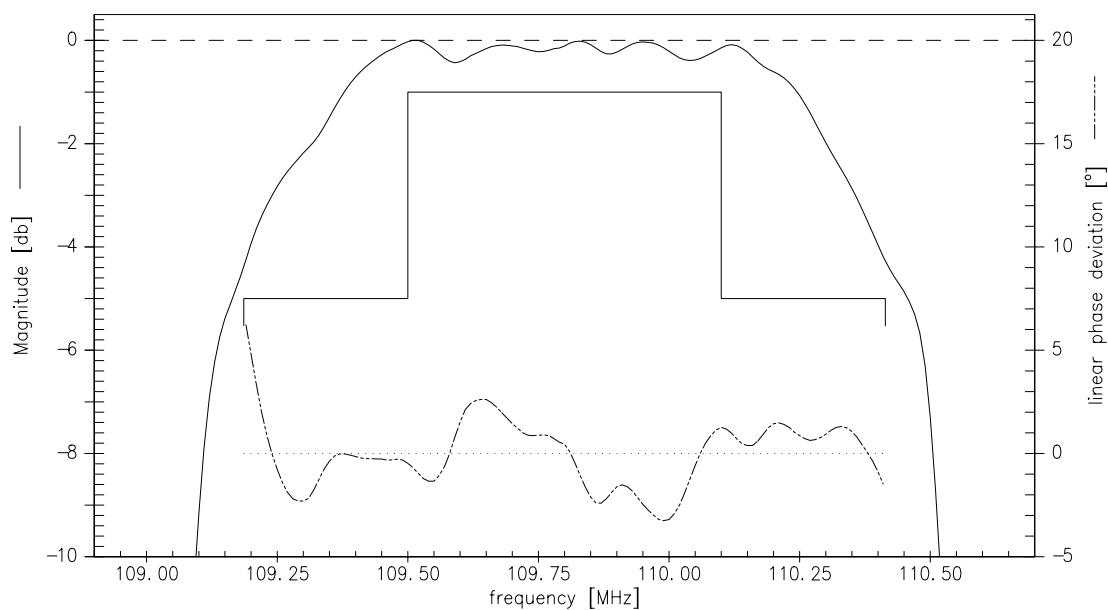
$C_{s1} = 6,8$  pF  
 $C_{s2} = 6,8$  pF  
 $L_{p3} = 82$  nH  
 $C_{p4} = 2,7$  pF  
 $L_{p5} = 68$  nH  
 $C_{p6} = 1,2$  pF  
 $C_{s7} = 6,8$  pF



Transfer function (balanced - unbalanced):



Transfer function (passband):





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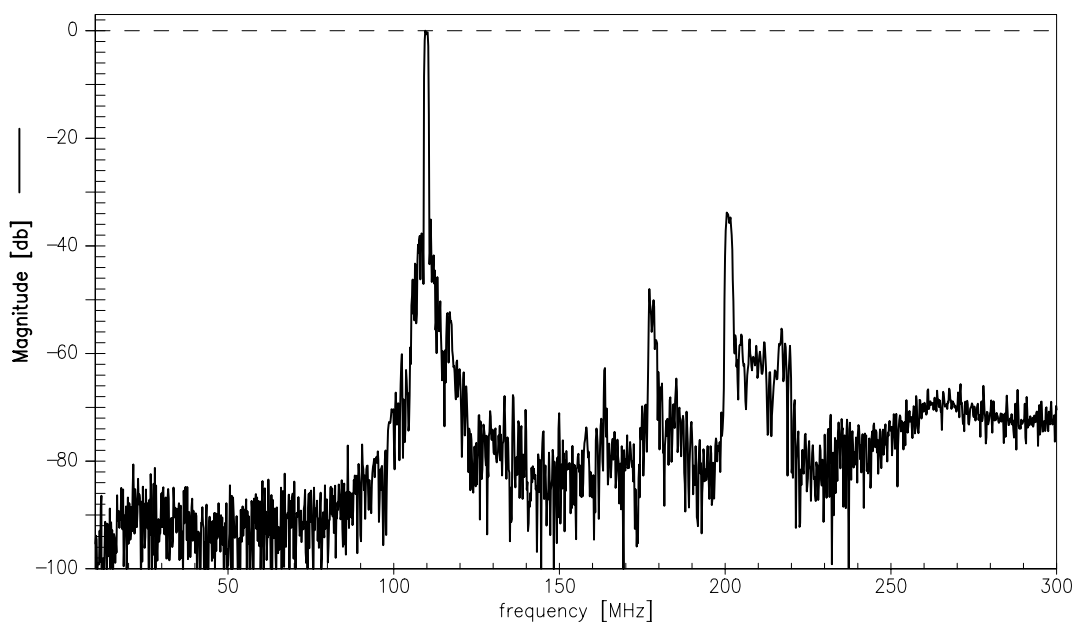
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Transfer function (wideband):





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<b>Data Sheet</b>	<b>SMD</b>

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