



# SAW Components

Data Sheet B5006





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B5006

Low-Loss Filter

190,0 MHz

Data Sheet

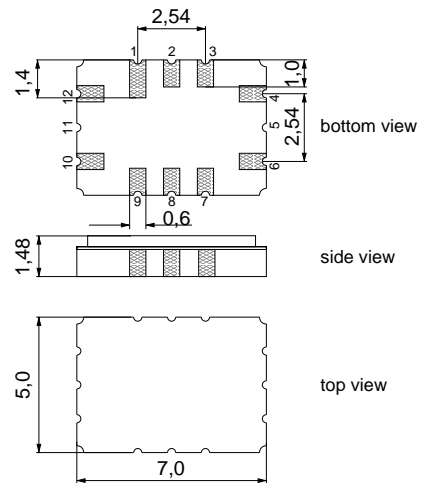
Ceramic package QCC12C

Features

- Low-loss IF filter for W-CDMA base station
- High near-by selectivity
- Temperature stable
- Balanced or unbalanced operation possible
- Ceramic SMD package

Terminals

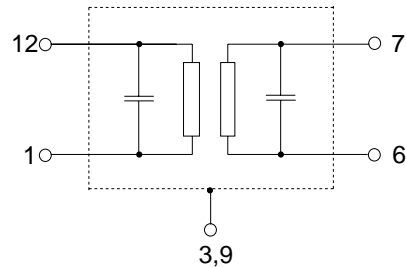
- Gold plated



Dimensions in mm, approx. weight 0,2 g

Pin configuration

- |             |                                  |
|-------------|----------------------------------|
| 12          | Input                            |
| 1           | Input ground or balanced input   |
| 6           | Output                           |
| 7           | Output ground or balanced output |
| 2, 4, 8, 10 | To be grounded                   |
| 3, 9        | Case ground                      |



Type	Ordering code	Marking and Package according to	Packing according to
B5006	B39191-B5006-H310	C61157-A7-A95	F61074-V8170-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	$T_A$	-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:

$$T_A = -10 \dots +85 \text{ }^\circ\text{C}$$

Terminating source impedance:

$$Z_S = 50 \text{ } \Omega \text{ and matching network}$$

Terminating load impedance:

$$Z_L = 50 \text{ } \Omega \text{ and matching network}$$

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	190,0	—	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	10,9	12,0	dB
<b>Passband width</b>					
	$\alpha_{\text{rel}} \leq 1 \text{ dB}$		3,84	4,1	MHz
	$\alpha_{\text{rel}} \leq 30 \text{ dB}$		—	6,4	MHz
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	$f_N \pm 1,92 \text{ MHz}$	—	0,5	1,0	dB
<b>Phase ripple (rms)</b>	$\Delta\phi$				
	$f_N \pm 1,92 \text{ MHz}$	—	0,8	—	$^\circ$ rms
<b>Error vector magnitude</b>	<i>EVM</i>				
	$f_N \pm 1,92 \text{ MHz}$	—	2,0	—	%
<b>Adjacent channel suppression</b>	<i>ACS</i>				
	$f_N \pm 3,08 \text{ MHz} \dots f_N \pm 6,92 \text{ MHz}$	—	35	—	dB
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
	$f_N \pm 5 \text{ MHz} \dots f_N \pm 100 \text{ MHz}$	40	48	—	dB
<b>Temperature coefficient of frequency<sup>1)</sup></b>	$TC_f$	—	-0,036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	—	20	—	$^\circ\text{C}$

 1) Temperature dependence of  $f_c$ :  $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



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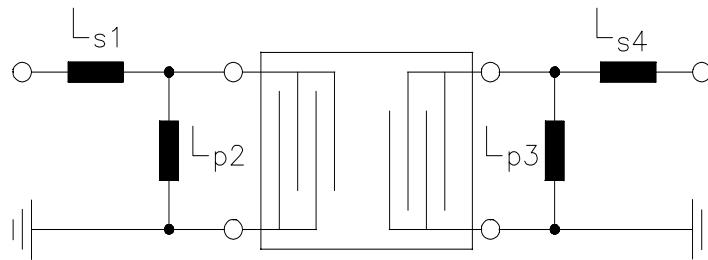
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Matching network to 50  $\Omega$

(element values depend on PCB layout)



$$L_{s1} = 47 \text{ nH} + 220 \text{ nH}$$

$$L_{p2} = 150 \text{ nH}$$

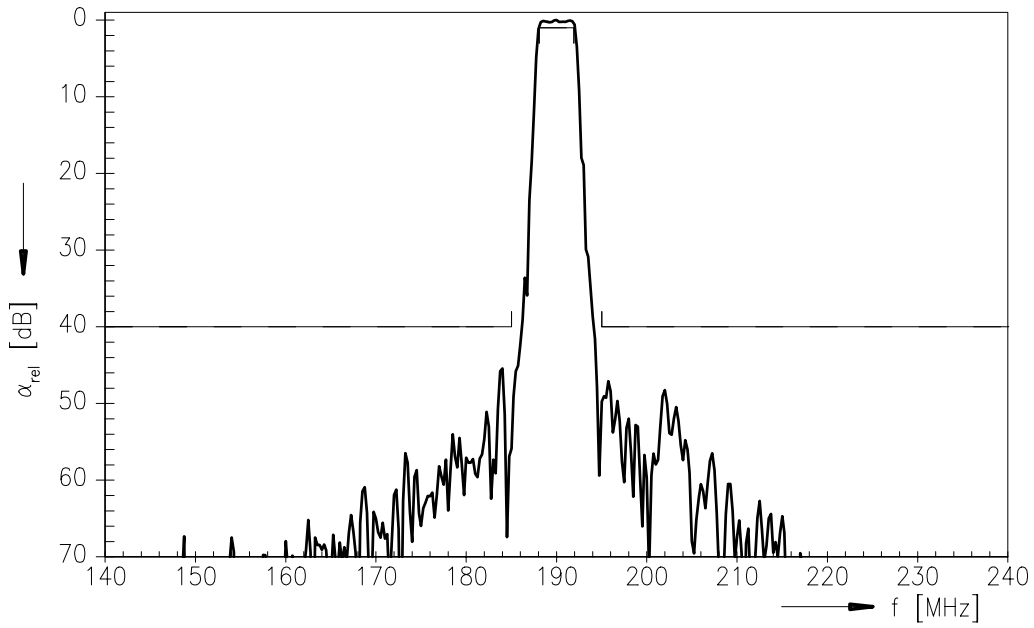
$$L_{p3} = 150 \text{ nH}$$

$$L_{s4} = 330 \text{ nH} + 68 \text{ nH}$$

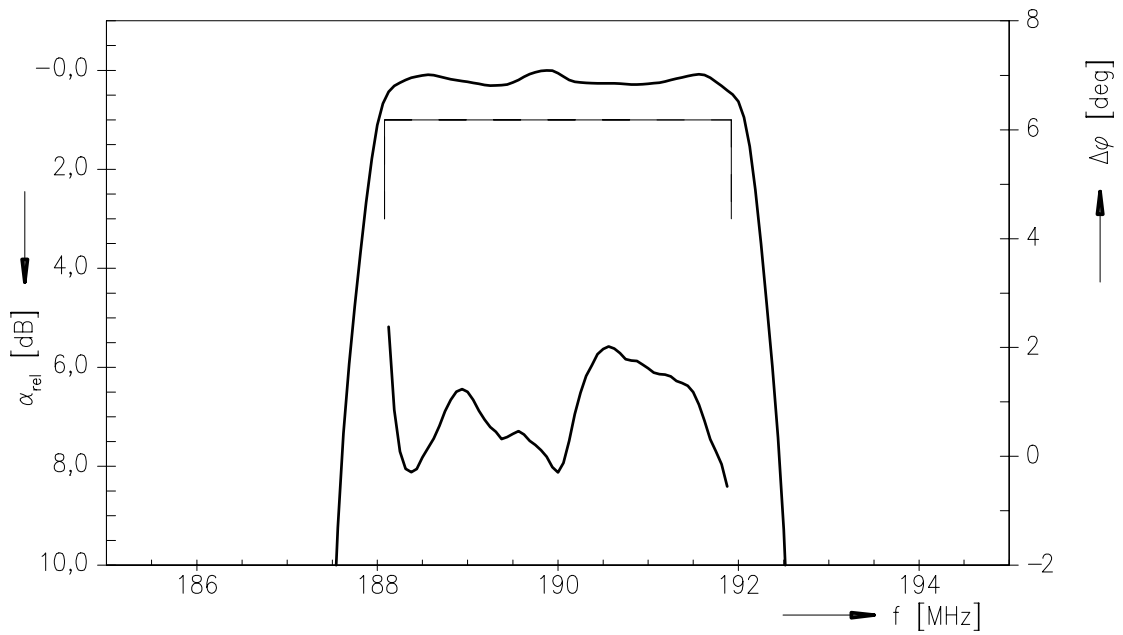


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Transfer function



Transfer function (pass band)





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