



# SAW Components

Data Sheet B5005





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B5005

Low-Loss Filter

380,0 MHz

Data Sheet

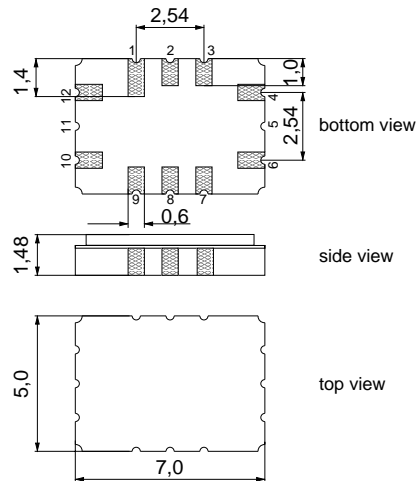
Ceramic package QCC12C

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

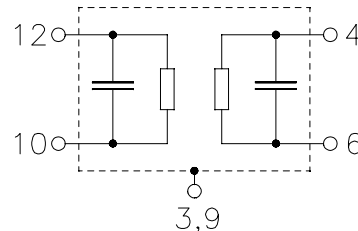
- Gold plated



Dimensions in mm, approx. weight 0,2 g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B5005	B39381-B5005-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:  $Z_S = 50 \text{ } \Omega$  and matching network  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$  and matching network

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	380,0	—	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	10,0	12,0	dB
<b>Passband width</b>					
	$\alpha_{\text{rel}} \leq 1 \text{ dB}$	$B_{1,0\text{dB}}$	3,84	4,2	— MHz
	$\alpha_{\text{rel}} \leq 30 \text{ dB}$	$B_{30\text{dB}}$	—	6,6	— MHz
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	$f_N \pm 1,92 \text{ MHz}$	—	0,5	1,0	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
	$f_N \pm 1,92 \text{ MHz}$	—	80	120	ns
<b>VSWR</b>					
	$f_N \pm 1,92 \text{ MHz}$	—	1,6:1	2,0:1	
<b>Phase ripple (rms)</b>	$\Delta\phi$				
	$f_N \pm 1,92 \text{ MHz}$	—	0,6	—	$^\circ$ rms
<b>Error vector magnitude</b>	<i>EVM</i>				
	$f_N \pm 1,92 \text{ MHz}$	—	1,5	—	%
<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>	$\alpha_{\text{rel}}$				
	$f_N \pm 2,515 \text{ MHz}$	4	6	—	dB
	$f_N \pm 5 \text{ MHz} \dots f_N \pm 35 \text{ MHz}$	35	40	—	dB
	$f_N \pm 35 \text{ MHz} \dots f_N \pm 100 \text{ MHz}$	40	45	—	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	—	$^\circ\text{C}$

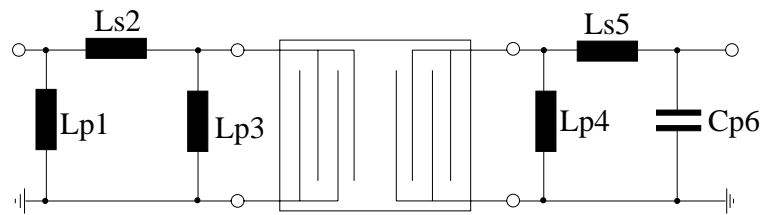
1) Temperature dependence of  $f_c$ :  $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



Data Sheet

Matching network to 50Ω

(Element values depend upon PCB layout)



$$L_{p1} = 18 \text{ nH}$$

$$L_{s2} = 62 \text{ nH}$$

$$L_{p3} = 56 \text{ nH}$$

$$L_{p4} = 27 \text{ nH}$$

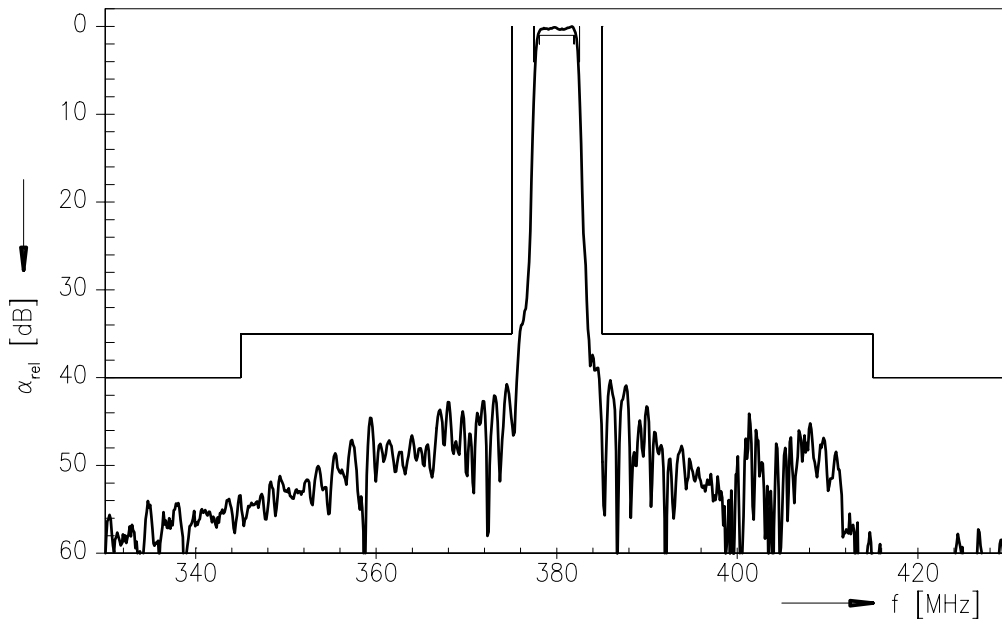
$$L_{s5} = 47 \text{ nH}$$

$$C_{p6} = 5,6 \text{ pF}$$

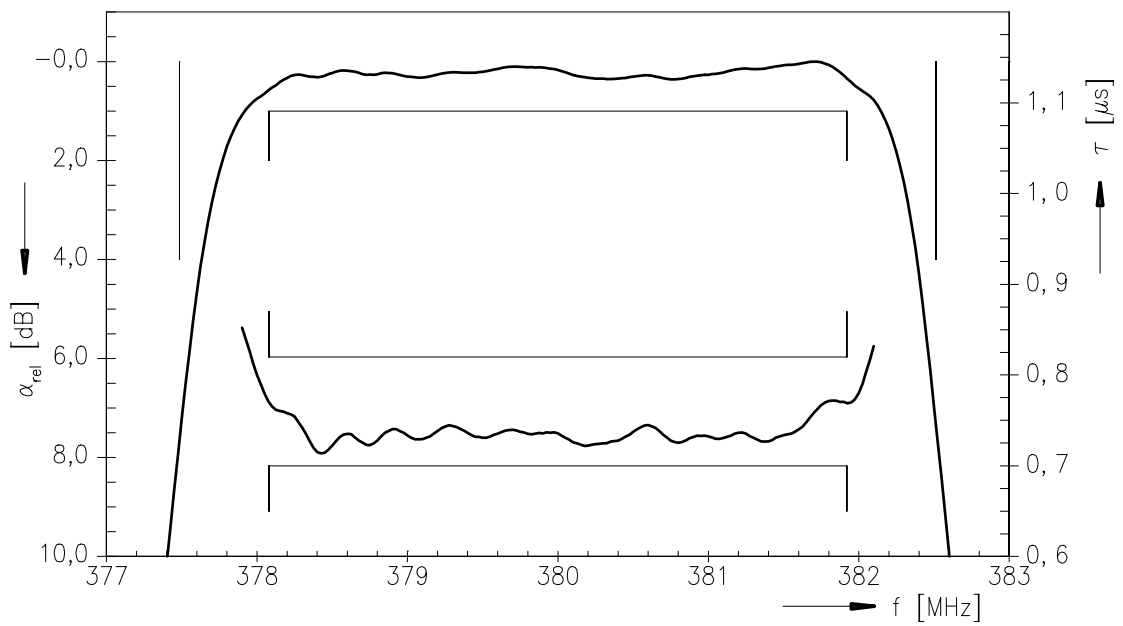


Data Sheet

Transfer function



Transfer function (pass band)





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