



# SAW Components

Data Sheet B5000





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B5000

Low-Loss Filter

190,0 MHz

Data Sheet

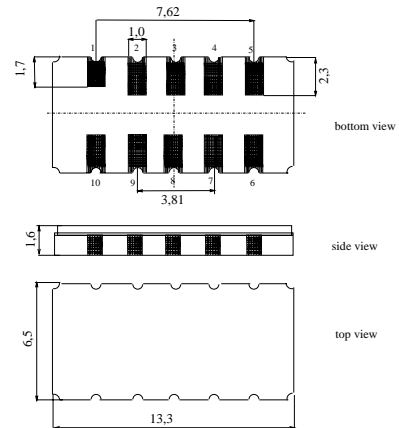
Ceramic package DCC12A

Features

- Low-loss IF filter for GSM base stations
- Ceramic SMD package
- Temperature stable

Terminals

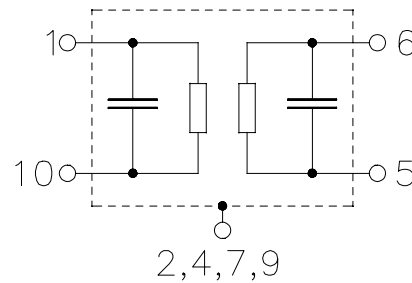
- Gold plated



Dimensions in mm, aprox. weight 0,4 g

Pin configuration

- |            |                |
|------------|----------------|
| 1          | Input          |
| 10         | Input ground   |
| 6          | Output         |
| 5          | Output ground  |
| 2, 4, 7, 9 | Case ground    |
| 3, 8       | To be grounded |



Type	Ordering code	Marking and Package according to	Packing according to
B5000	B39191-B5000-H510	C61157-A7-A94	F61074-V8163-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	$T$	-30 / +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:

$T = 0 - 70\text{ }^{\circ}\text{C}$

Terminating source impedance:

$Z_S = 50\ \Omega$  unbalanced and matching network

Terminating load impedance:

$Z_L = 50\ \Omega$  unbalanced and matching network

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Nominal frequency</b>	$f_N$	—	190,0	—	MHz
<b>Insertion attenuation at <math>f_N</math></b> (including matching network)	$\alpha_N$	—	3,5	6,0	dB
<b>Passband width</b>					
	$\alpha_{rel} \leq 3\text{ dB}$	$B_{3,0dB}$	—	0,29	— MHz
<b>Amplitude ripple</b>					
	$f_N \pm 70\text{ kHz}$	$\Delta\alpha_{rel}$	—	$\pm 0,3$	$\pm 1,0$ dB
<b>Group delay ripple (p-p)</b>					
	$f_N \pm 70\text{ kHz}$	$\Delta\tau$	—	0,8	— $\mu\text{s}$
<b>Relative attenuation (relative to <math>\alpha_N</math>)</b>					
	$f_N \pm 330\text{ kHz} \dots f_N \pm 500\text{ kHz}$	$\alpha_{rel}$	27	40	— dB
	$f_N \pm 500\text{ kHz} \dots f_N \pm 50\text{ MHz}$		40	50	— dB
<b>Temperature coefficient of frequency <sup>1)</sup></b>	$TC_f$	—	- 0,036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	—	35	—	$^{\circ}\text{C}$

<sup>1)</sup> Temperature dependance of  $f_c$ :  $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



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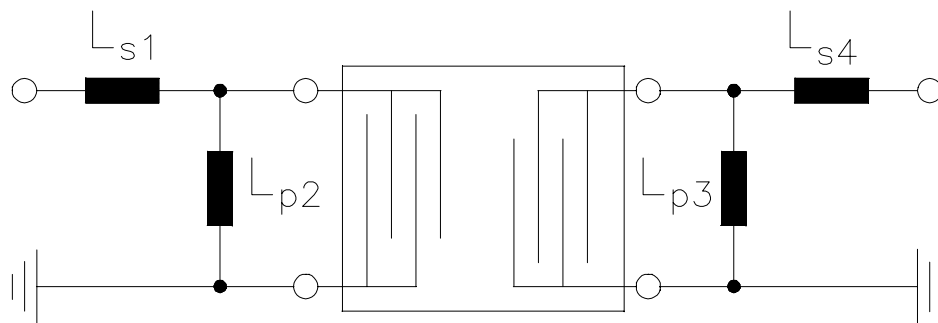
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Matching network to 50  $\Omega$ :



$$L_{s1} = 8,2 \text{ nH}$$

$$L_{p2} = 22 \text{ nH}$$

$$L_{p3} = 27 \text{ nH}$$

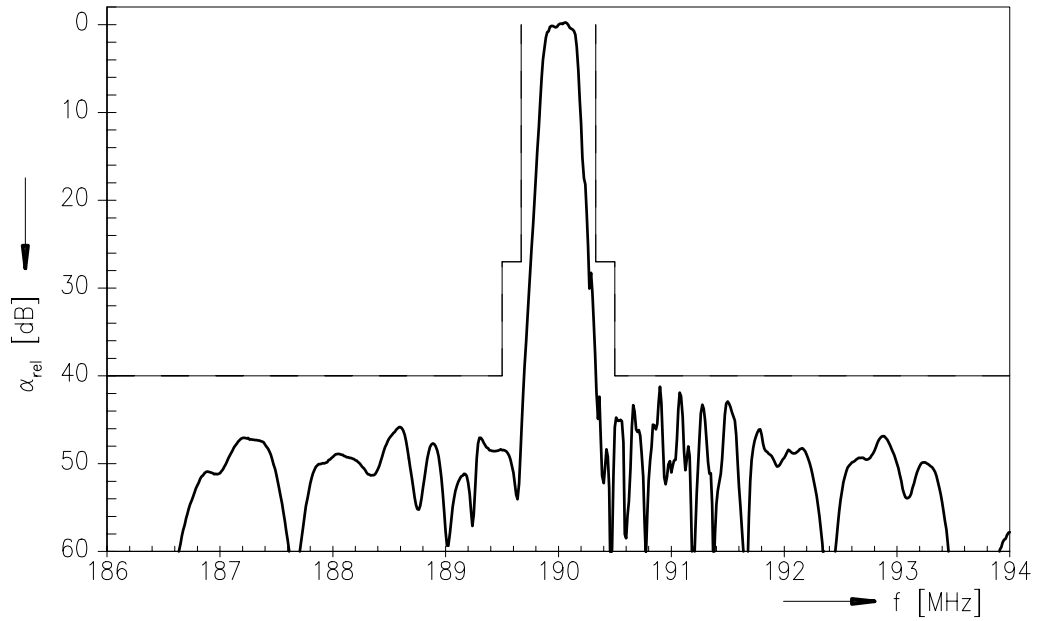
$$L_{s4} = 8,2 \text{ nH}$$

Element values depend upon PCB layout.

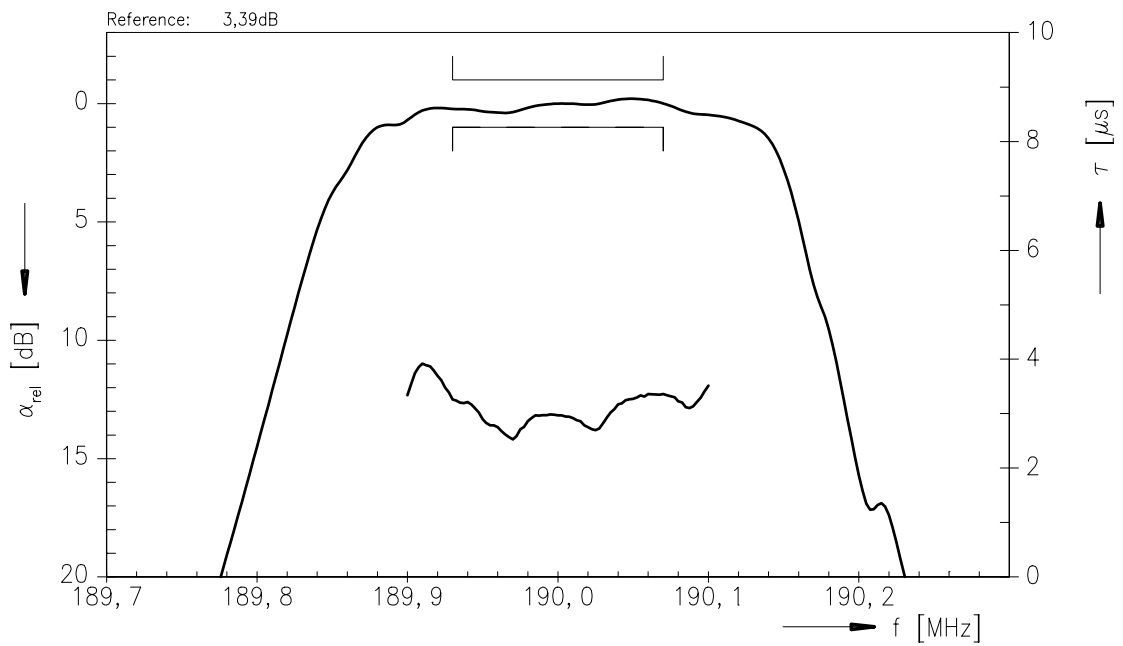


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Transfer function



Transfer function (pass band)





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