



## IF Filters for Narrowband Cellular Phones

**Series/Type:**        **B4869**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39161B4869H310		2003-03-07	2003-07-31	2003-09-30

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at [www.epcos.com/sales](http://www.epcos.com/sales).



# SAW Components

Data Sheet B4869

Data Sheet

An abstract, grayscale graphic featuring a stylized, three-dimensional representation of the EPCOS logo. The letters "EPCOS" are rendered in a bold, sans-serif font, appearing to be part of a larger, curved structure that resembles a globe or a stylized wave. The background is dark and textured, with light reflecting off the surfaces of the logo.



## SAW Components

B4869

## Low Loss Filter for Mobile Communication

157,32 MHz

### Data Sheet



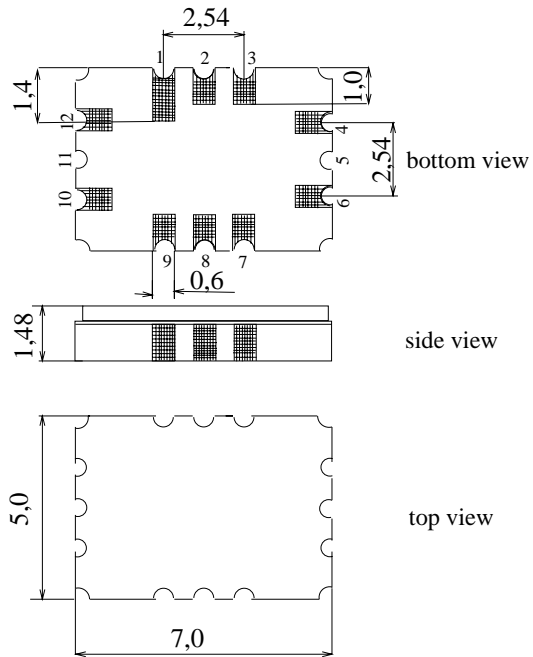
#### Features

- Low-loss IF filter for mobile telephone
- Channel selection in AMPS / TDMA systems
- Filter surface passivated
- Balanced or unbalanced operation possible
- Package for  
Surface Mounted Technology (SMT)

#### Terminals

- Ni, gold plated

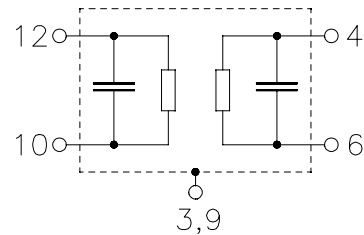
#### SMD ceramic package QCC12C



Dimensions in mm, approx. weight 0,2 g

#### Pin configuration

12	Input
6	Output
10	Balanced input or input ground
4	Balanced output or output ground
3,9	Case ground
1,2,7,8	Not connected



Type	Ordering code	Marking and Package according to	Packing according to
B4869	B39161-B4869-H310	C61157-A7-A52	F61074-V8038-Z000

#### Electrostatic Sensitive Device (ESD)

#### Maximum ratings

Operable temperature range	$T$	- 30/+ 85	°C
Storage temperature range	$T_{stg}$	- 40/+ 85	°C
DC voltage	$V_{DC}$	13	V
Source power	$P_s$	10	dBm



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### Characteristics

Operating temperature range:	$T = -30^{\circ}\text{C} \dots 85^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 725 \ \Omega \parallel -1,1 \text{ pF}$
Terminating load impedance:	$Z_L = 725 \ \Omega \parallel -1,1 \text{ pF}$

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	157,32	—	MHz
<b>3 dB bandwidth (from <math>f_N</math>)</b>		$\pm 20$	—	—	kHz
<b>Minimum insertion attenuation</b> (including losses in the matching network)	$\alpha_{\min}$	—	3,9	5,0	dB
<b>Group delay ripple (p-p)</b> $f_N - 15,0 \text{ kHz} \dots f_N + 15,0 \text{ kHz}$	$\Delta\tau$	—	2,0	6,0	$\mu\text{s}$
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
$f_N - 20,0 \text{ kHz} \dots f_N + 20,0 \text{ kHz}$		—	0,5	3,0	dB
$f_N \pm 90,0 \text{ kHz} \dots f_N \pm 120,0 \text{ kHz}$		15	23	—	dB
$f_N \pm 120,0 \text{ kHz} \dots f_N \pm 3,5 \text{ MHz}$		30	35	—	dB
$f_N \pm 3,5 \text{ MHz} \dots f_N \pm 15 \text{ MHz}$		50	66	—	dB
$0,1 \text{ MHz} \dots f_N - 15 \text{ MHz}$		65	90	—	dB
$f_N + 15 \text{ MHz} \dots 300 \text{ MHz}$		65	85	—	dB
$300 \text{ MHz} \dots 500 \text{ MHz}$		55	85	—	dB
$500 \text{ MHz} \dots 1400 \text{ MHz}$		45	48	—	dB
$1400 \text{ MHz} \dots 2500 \text{ MHz}$		15	20	—	dB
<b>Impedance within the passband</b>					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	$725 \parallel 1,1$	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	$725 \parallel 1,1$	—	$\Omega \parallel \text{pF}$
<b>Temperature coefficient of frequency <sup>1)</sup></b>	$TC_f$	—	- 0,036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	—	26	—	$^{\circ}\text{C}$

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



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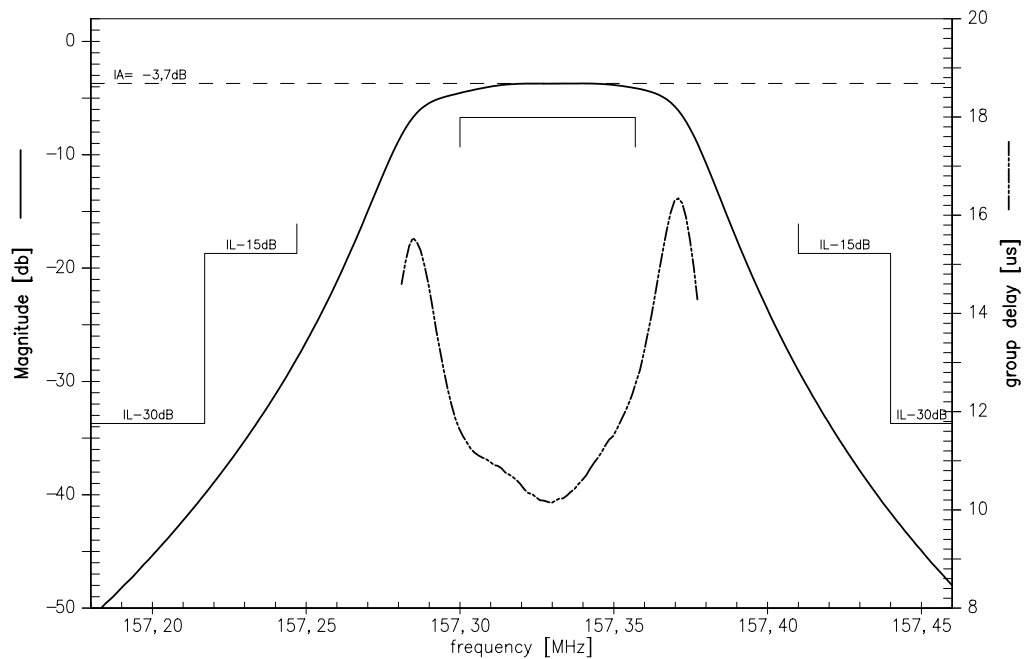
Low Loss Filter for Mobile Communication

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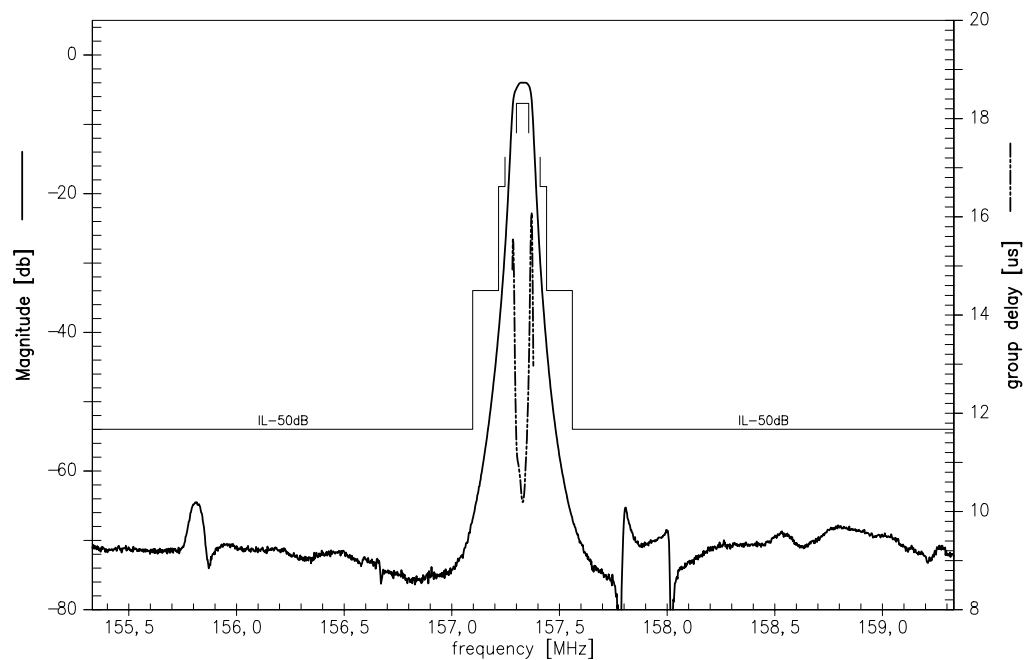
Data Sheet



Transfer function passband (measured unbalanced / unbalanced)



Transfer function wide band (measured unbalanced / unbalanced)





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Data Sheet



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**P.O. Box 80 17 09, 81617 Munich, GERMANY**

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