



# SAW Components

Data Sheet B4926

Data Sheet

A large, stylized EPCOS logo is superimposed over a grayscale image of a globe. The logo is rendered in a light, glowing font. The globe shows the outlines of continents and is partially obscured by the logo.



## SAW Components

B4926

## Low-Loss Filter for Mobile Communication

133,2 MHz

### Data Sheet



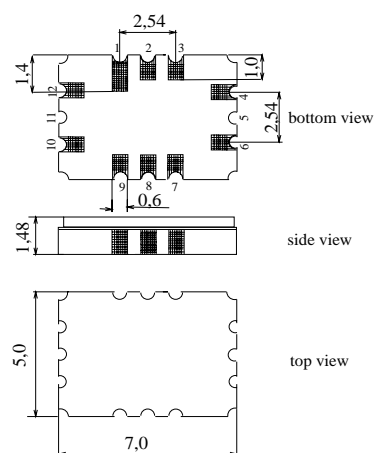
Ceramic package QCC12C

### Features

- Low-loss IF filter for mobile telephone
- Channel selection in GSM systems
- Hermetically sealed ceramic SMD package
- Balanced and unbalanced operation possible
- No coupling coil required

### Terminals

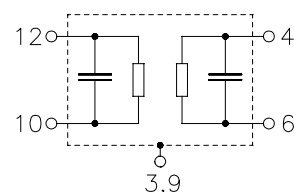
- Gold-plated Ni



Dimensions in mm, approx. weight 0,25 g

### Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B4926	B39131-B4926-H310	C61157-A7-A95	F61074-V8710-Z000

Electrostatic Sensitive Device (ESD)

### Maximum ratings

Operable temperature range	$T$	- 30/+ 85	°C	
Storage temperature range	$T_{stg}$	- 40/+ 85	°C	
DC voltage	$V_{DC}$	5	V	
Source power	$P_s$	10	dBm	
ESD	$V_{ESD}$	50	V	Human Body Model



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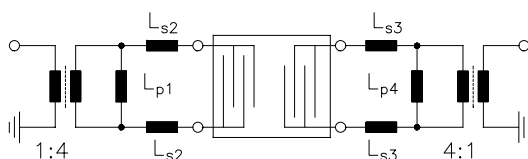
### Characteristics

Operating temperature range:	$T = -30\text{ °C} \dots +80\text{ °C}$
Terminating source impedance:	$Z_S = 1000\ \Omega \parallel 135\text{ nH}$
Terminating load impedance:	$Z_L = 1300\ \Omega \parallel 170\text{ nH}$

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	133,20	—	MHz
<b>Minimum insertion attenuation</b> (excluding losses in matching circuit)	$\alpha_{\min}$		4,5	6,0	dB
<b>Amplitude ripple (p-p)</b> $f_N - 100,0\text{ kHz} \dots f_N + 100,0\text{ kHz}$	$\Delta\alpha$	—	0,4	1,0	dB
<b>Group delay ripple (p-p)</b> $f_N - 100,0\text{ kHz} \dots f_N + 100,0\text{ kHz}$	$\Delta\tau$	—	0,3	1,0	$\mu\text{s}$
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
$f_N - 30,00\text{ MHz} \dots f_N - 7,00\text{ MHz}$		40	48	—	dB
$f_N - 7,00\text{ MHz} \dots f_N - 3,00\text{ MHz}$		35	42	—	dB
$f_N - 3,00\text{ MHz} \dots f_N - 0,80\text{ MHz}$		29	32	—	dB
$f_N - 0,80\text{ MHz} \dots f_N - 0,60\text{ MHz}$		20	29	—	dB
$f_N - 0,60\text{ MHz} \dots f_N - 0,40\text{ MHz}$		15	19	—	dB
$f_N - 0,40\text{ MHz} \dots f_N - 0,25\text{ MHz}$		3	6,5	—	dB
$f_N + 0,25\text{ MHz} \dots f_N + 0,40\text{ MHz}$		3	6,5	—	dB
$f_N + 0,40\text{ MHz} \dots f_N + 0,60\text{ MHz}$		15	17	—	dB
$f_N + 0,60\text{ MHz} \dots f_N + 0,80\text{ MHz}$		20	27	—	dB
$f_N + 0,80\text{ MHz} \dots f_N + 3,00\text{ MHz}$		29	31	—	dB
$f_N + 3,00\text{ MHz} \dots f_N + 7,00\text{ MHz}$		35	39	—	dB
$f_N + 7,00\text{ MHz} \dots f_N + 30,00\text{ MHz}$		40	46	—	dB
<b>Impedance within pass band</b>					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	1000 $\parallel$ 10,3	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	1300 $\parallel$ 8,2	—	$\Omega \parallel \text{pF}$
<b>Temperature coefficient of frequency <sup>1)</sup></b>	$TC_f$	—	- 0,042	—	ppm/K <sup>2</sup>
<b>Frequency inversion point</b>	$T_0$	—	25	—	°C

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

**Test matching network to 50  $\Omega$**  (element values depend on PCB layout):



$L_{p1}$	= 82 nH
$L_{s2}$	= 27 nH
$L_{s3}$	= 43 nH
$L_{p4}$	= 82 nH



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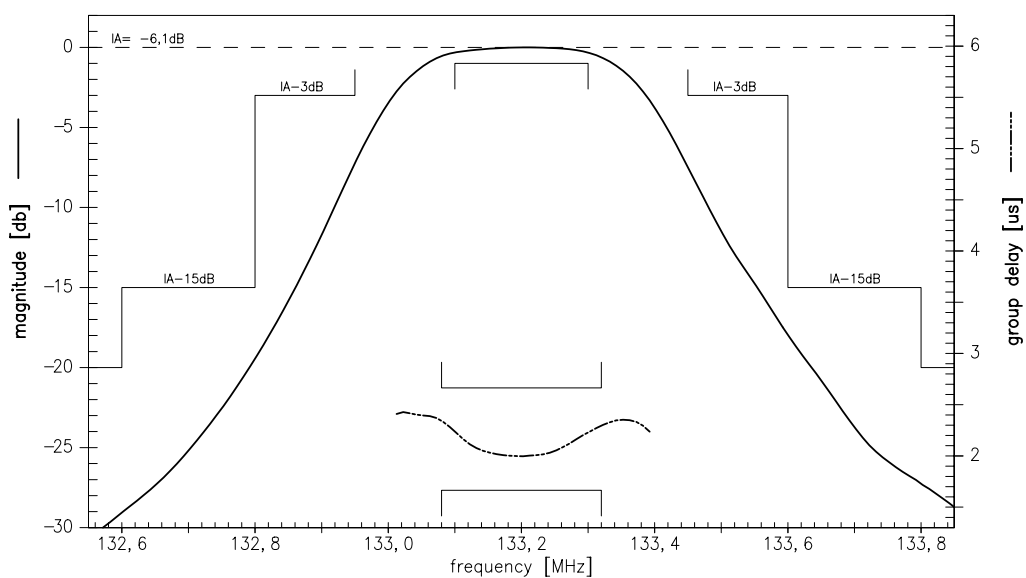
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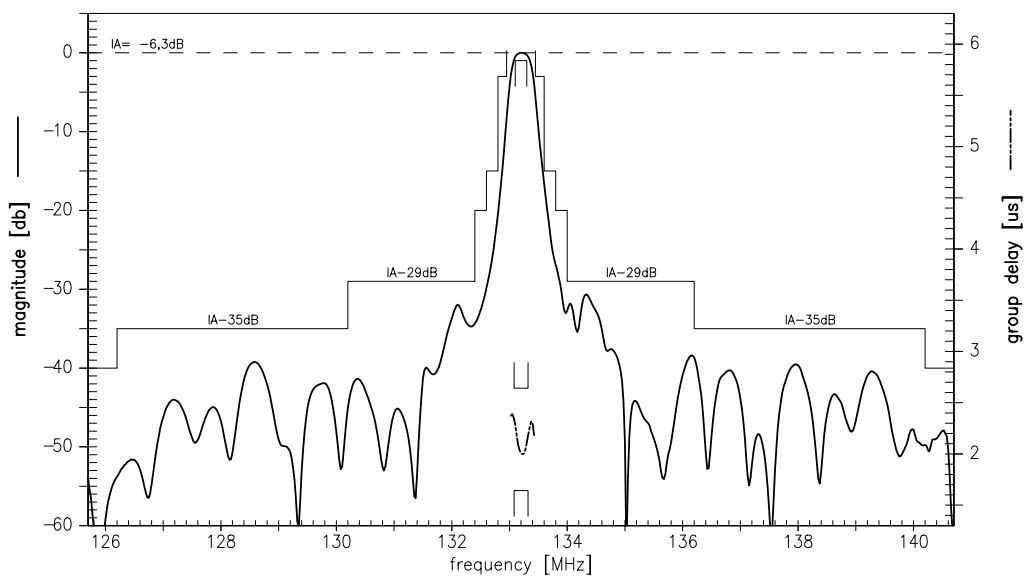
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Transfer function (pass band):



Transfer function (wide band):





<b>SAW Components</b>	<b>B4926</b>
<b>Low-Loss Filter for Mobile Communication</b>	<b>133,2 MHz</b>
<b>Data Sheet</b>	<b>SMD</b>

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