



# SAW Components

Data Sheet B4926

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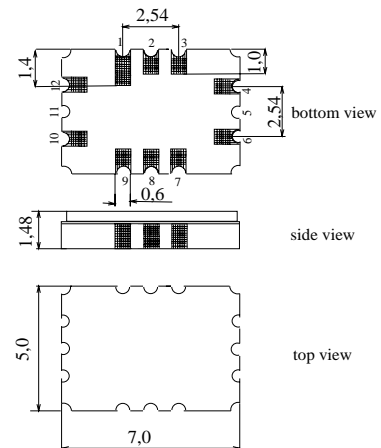
EPCOS AG is a TDK Group Company.


 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**

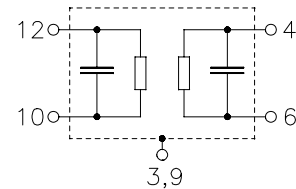
- Gold-plated Ni



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	Human Body Model
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	

**Data Sheet**

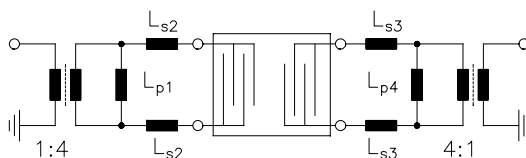
**Characteristics**

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</b> <sup>1)</sup>	$TC_f$	—	-0,042	—	ppm/K <sup>2</sup>
<b>Frequency inversion point</b>	$T_0$	—	25	—	°C

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

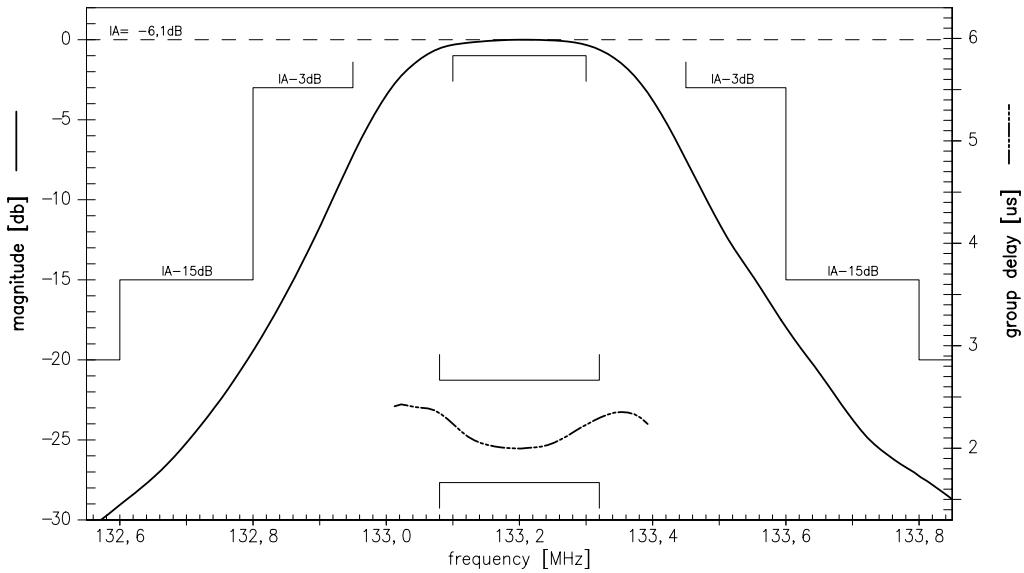
**Test matching network to 50  $\Omega$**  (element values depend on PCB layout):



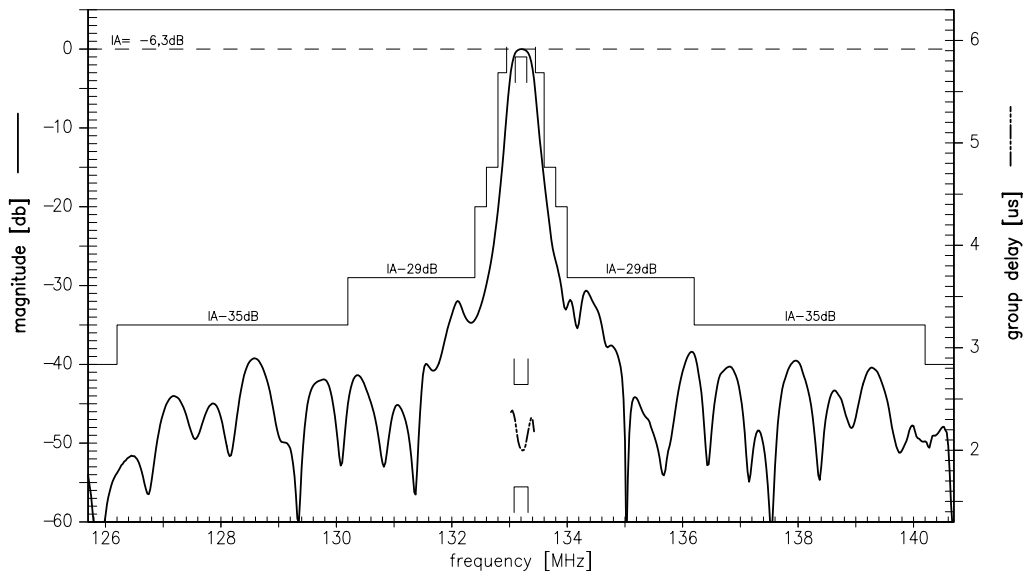
$L_{p1}$	= 82 nH
$L_{s2}$	= 27 nH
$L_{s3}$	= 43 nH
$L_{p4}$	= 82 nH



Transfer function (pass band):



Transfer function (wide band):



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