

RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

SAW Components

Low-Loss Filter for Mobile Communication

Data Sheet B4926

Series/type: B4926

Ordering code:

Date: Apr 02, 2003

Version:

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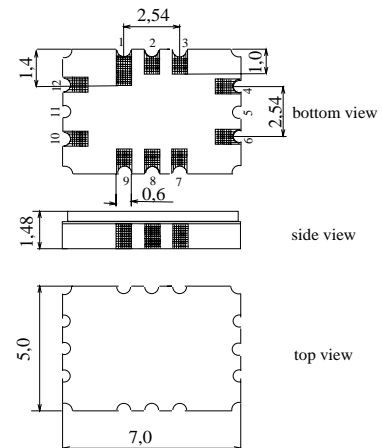
EPCOS AG is a TDK Group Company.


 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

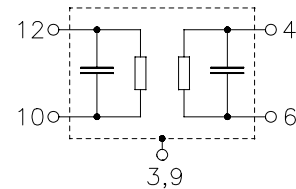
- Gold-plated Ni



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

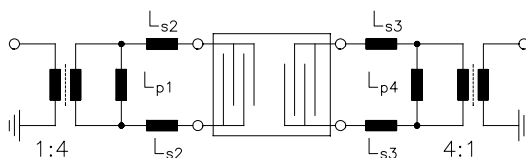
Operable temperature range	T	- 30/+ 85	°C	Human Body Model
Storage temperature range	T_{stg}	- 40/+ 85	°C	
DC voltage	V_{DC}	5	V	
Source power	P_s	10	dBm	
ESD	V_{ESD}	50	V	

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:	$Z_L = 1300\ \Omega \parallel 170\text{ nH}$

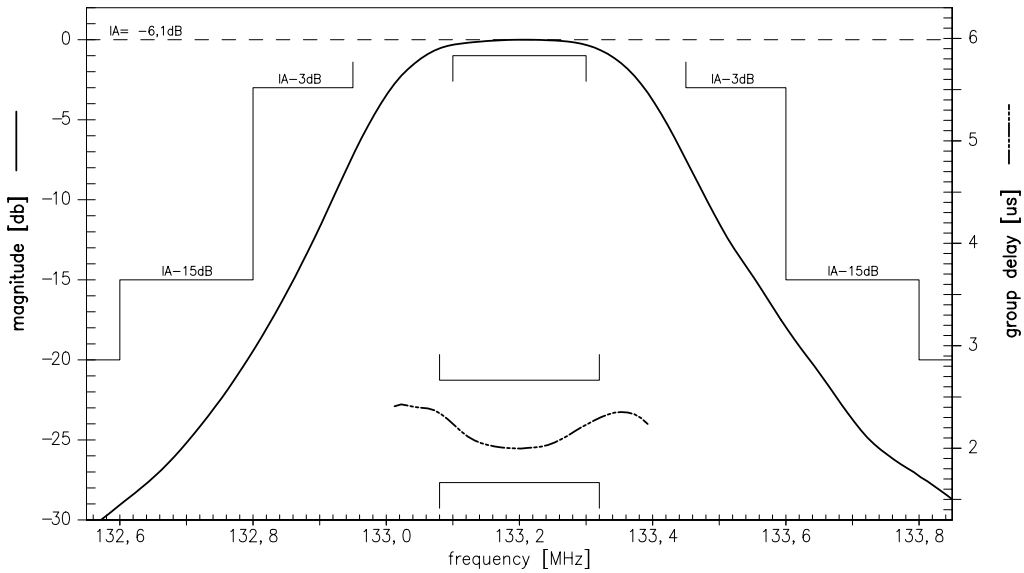
		min.	typ.	max.	
Nominal frequency	f_N	—	133,20	—	MHz
Minimum insertion attenuation (excluding losses in matching circuit)	α_{\min}		4,5	6,0	dB
Amplitude ripple (p-p) $f_N - 100,0\text{ kHz} \dots f_N + 100,0\text{ kHz}$	$\Delta\alpha$	—	0,4	1,0	dB
Group delay ripple (p-p) $f_N - 100,0\text{ kHz} \dots f_N + 100,0\text{ kHz}$	$\Delta\tau$	—	0,3	1,0	μs
Relative attenuation (relative to α_{\min})	α_{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
Impedance within pass band					
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	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency ¹⁾	TC_f	—	-0,042	—	ppm/K ²
Frequency inversion point	T_0	—	25	—	°C

¹⁾ Temperature dependence of f_c : $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$
Test matching network to 50 Ω (element values depend on PCB layout):


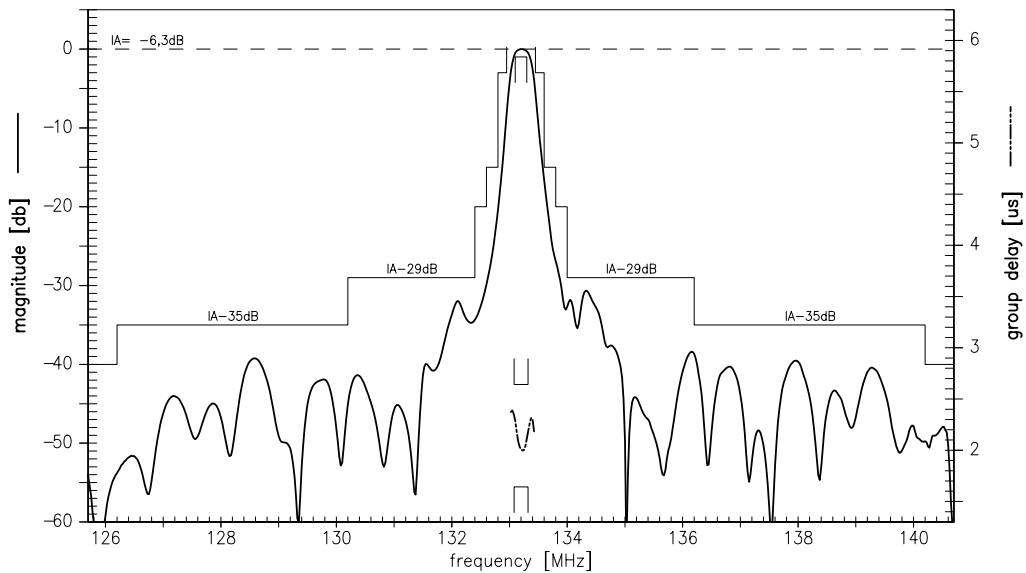
L_{p1}	= 82 nH
L_{s2}	= 27 nH
L_{s3}	= 43 nH
L_{p4}	= 82 nH



Transfer function (pass band):



Transfer function (wide band):



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