EPCOS

SAW Components

Data Sheet B4926

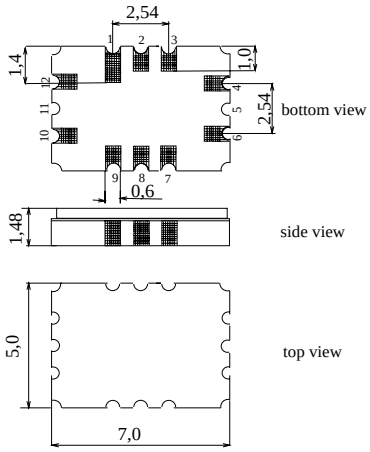
Ceramic package **QCC12C**

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

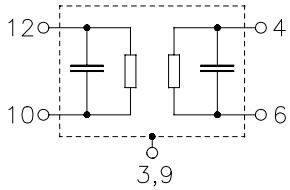
- Gold-plated Ni



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 **S**ensitive **D**evice (**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

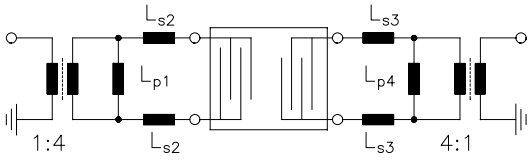
Characteristics

Operating temperature range: T = -30 ˚C ... +80 ˚C
Terminating source impedance: Z_S = 1000 Ω || 135 nH
Terminating load impedance: Z_L = 1300 Ω || 170 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)	$\Delta\alpha$				
f_N - 100,0 kHz ... f_N + 100,0 kHz		—	0,4	1,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_N - 100,0 kHz ... f_N + 100,0 kHz		—	0,3	1,0	µs
Relative attenuation (relative to α_{min})	α_{rel}				
f_N - 30,00 MHz ... f_N - 7,00 MHz		40	48	—	dB
f_N - 7,00 MHz ... f_N - 3,00 MHz		35	42	—	dB
f_N - 3,00 MHz ... f_N - 0,80 MHz		29	32	—	dB
f_N - 0,80 MHz ... f_N - 0,60 MHz		20	29	—	dB
f_N - 0,60 MHz ... f_N - 0,40 MHz		15	19	—	dB
f_N - 0,40 MHz ... f_N - 0,25 MHz		3	6,5	—	dB
f_N + 0,25 MHz ... f_N + 0,40 MHz		3	6,5	—	dB
f_N + 0,40 MHz ... f_N + 0,60 MHz		15	17	—	dB
f_N + 0,60 MHz ... f_N + 0,80 MHz		20	27	—	dB
f_N + 0,80 MHz ... f_N + 3,00 MHz		29	31	—	dB
f_N + 3,00 MHz ... f_N + 7,00 MHz		35	39	—	dB
f_N + 7,00 MHz ... f_N + 30,00 MHz		40	46	—	dB
Impedance within pass band					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	1000 ‖10,3.	—	Ω || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	1300 ‖ 8,2	—	Ω || pF
Temperature coefficient of frequency [1]	TC_f	—	– 0,042	—	ppm/K²
Frequency inversion point	T_0	—	25	—	˚C

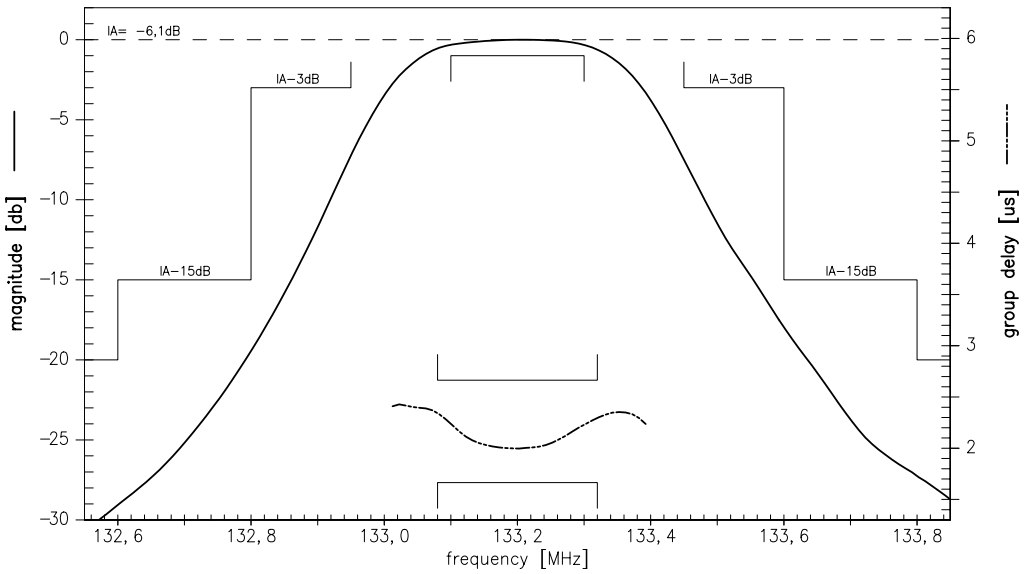
[1] Temperature dependence of f_c: $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2$

Test matching network to 50 Ω (element values depend on PCB layout):

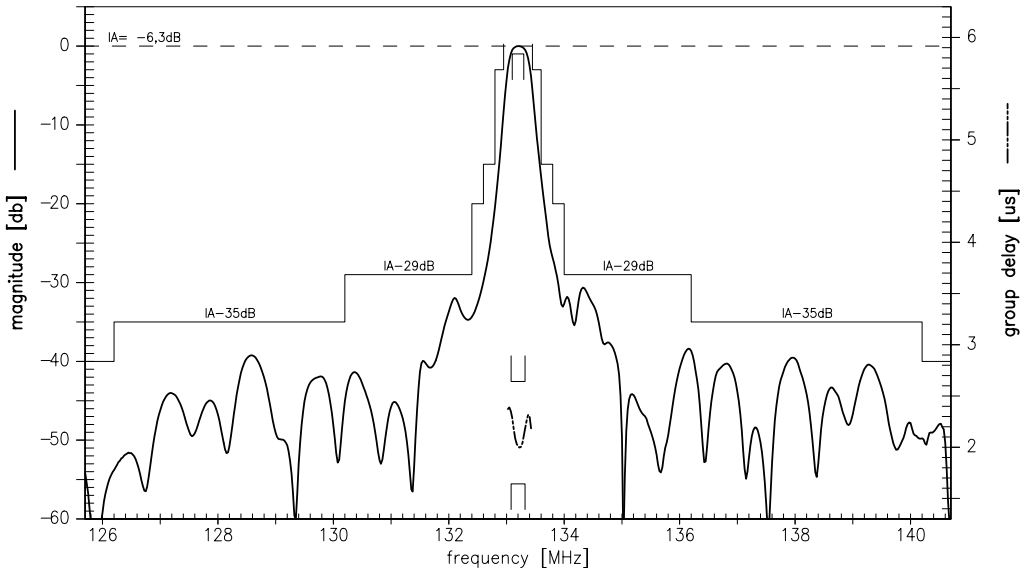


L_{p1} = 82 nH
L_{s2} = 27 nH
L_{s3} = 43 nH
L_{p4} = 82 nH

Transfer function (pass band)**:**



Transfer function (wide band)**:**



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