EPCOS

SAW Components

Data Sheet B4812

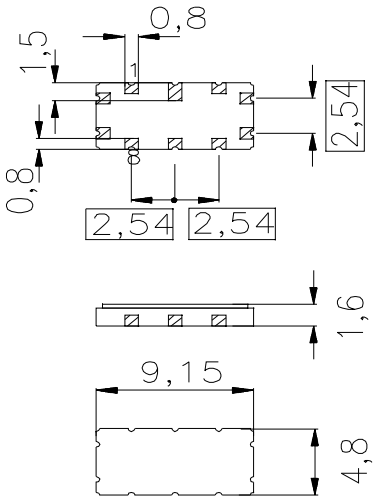
Ceramic package **QCC10B**

Features

- Low-loss IF filter for mobile telephone
- Channel selection in GSM systems
- Hermetically sealed ceramic SMD package
- Balanced and unbalanced operation possible

Terminals

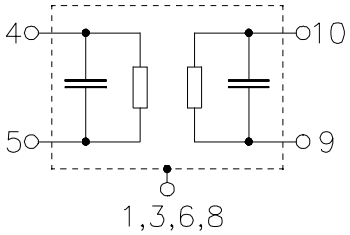
- Gold-plated Ni



Dimensions in mm, approx. weight 0,23 g

Pin configuration

4	Input
5	Input ground or balanced input
9	Output
10	Output ground or balanced output
1, 3, 6, 8	Case – ground
2, 7	Ground



Type	Ordering code	Marking and Package according to	Packing according to
B4812	B39251-B4812-Z710	C61157-A7-A49	F61074-V8127-Z000

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	– 25/+ 85	˚C
Storage temperature range	T_{stg}	– 25/+ 85	˚C
DC voltage	V_{DC}	0	V
Source power	P_s	10	dBm

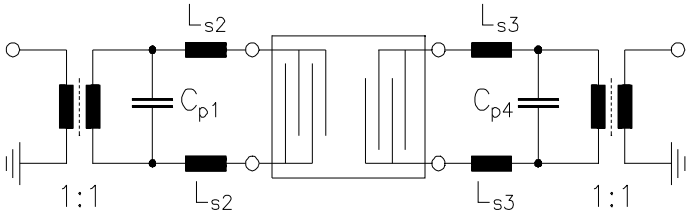
Characteristics

Reference temperature: T = 25 °C
Terminating source impedance: Z_S = 700 Ohm || -2,6 pF
Terminating load impedance: Z_L = 700 Ohm || -2,6 pF

		min.	typ.	max.	
Nominal frequency	f_N	—	246,01	—	MHz
Minimum insertion attenuation (including loss in matching coils)	α_{min}	2,0	3,2	5,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
f_N - 67,5 kHz ... f_N + 67,5 kHz		—	0,6	2,0	dB
f_N - 80,0 kHz ... f_N + 80,0 kHz		—	0,7	3,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_N - 50,0 kHz ... f_N + 50,0 kHz		—	0,5	1,5	µs
f_N - 80,0 kHz ... f_N + 80,0 kHz		—	1,2	3,0	µs
Relative attenuation (relative to α_{min})	α_{rel}				
f_N - 25,00 MHz ... f_N - 3,00 MHz		50	60	—	dB
f_N - 3,00 MHz ... f_N - 1,60 MHz		48	60	—	dB
f_N - 1,60 MHz ... f_N - 0,60 MHz		38	50	—	dB
f_N - 0,60 MHz ... f_N - 0,40 MHz		28	40	—	dB
f_N - 0,40 MHz ... f_N - 0,20 MHz		8	14	—	dB
f_N + 0,20 MHz ... f_N + 0,40 MHz		8	14	—	dB
f_N + 0,40 MHz ... f_N + 0,60 MHz		28	40	—	dB
f_N + 0,60 MHz ... f_N + 1,60 MHz		38	50	—	dB
f_N + 1,60 MHz ... f_N + 3,00 MHz		48	60	—	dB
f_N + 3,00 MHz ... f_N + 25,00 MHz		50	60	—	dB
Impedance at f_N					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	700 || 2,6	—	Ω || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	700 || 2,6	—	Ω || pF
Temperature coefficient of frequency [1]	TC_f	—	– 0,036	—	ppm/K²
Frequency inversion point	T_0	—	25	—	°C

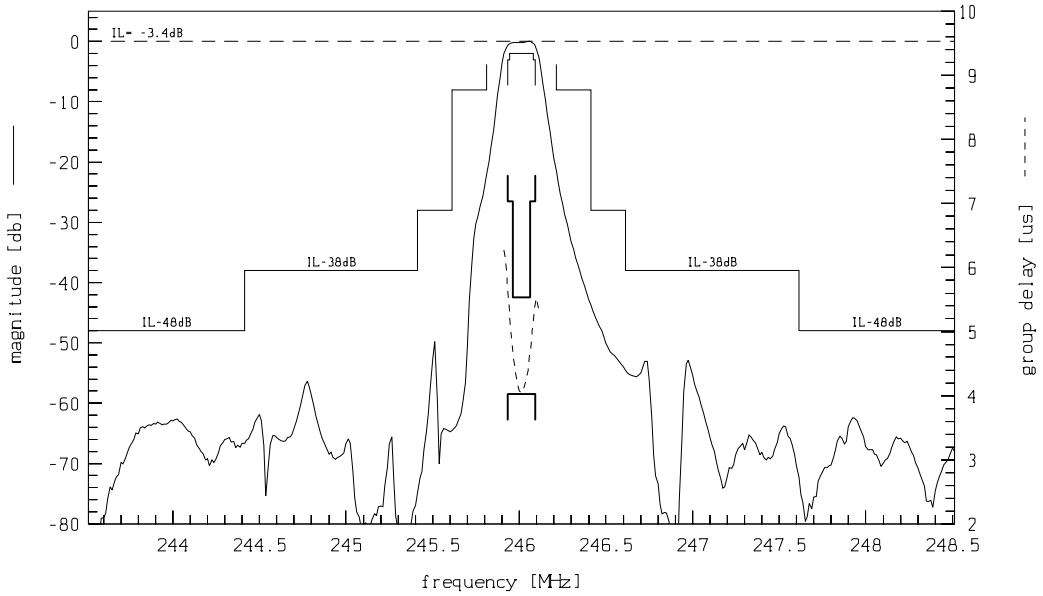
[1] Temperature dependence of f_c: $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$

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

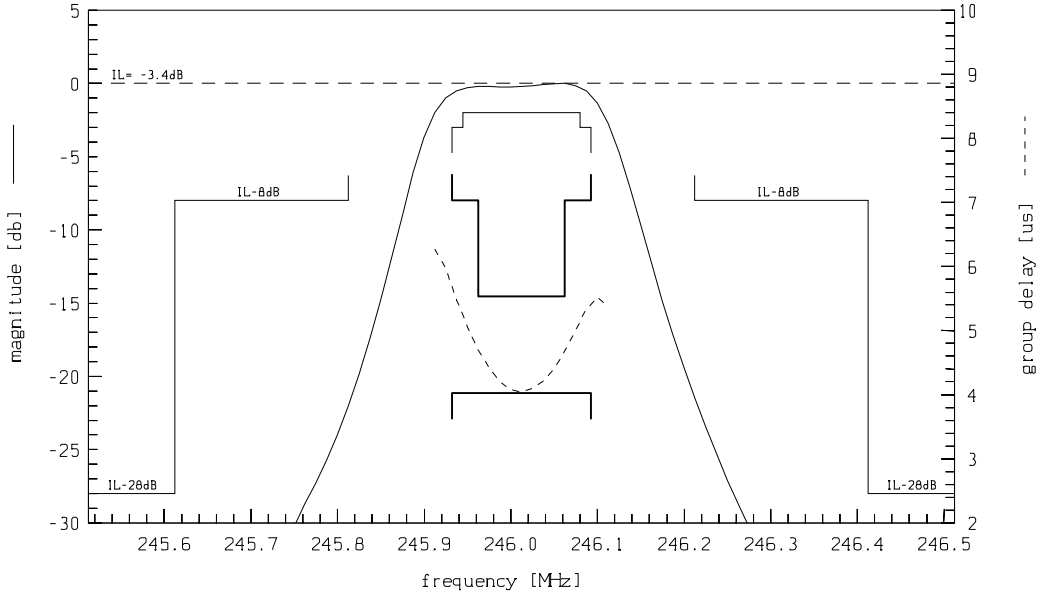


C_{p1} = 1,8 pF
L_{s2} = 56 nH
L_{s3} = 56 nH
C_{p4} = 1,8 pF

Transfer function:



Transfer function (pass band):



Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC WT
P.O. Box 80 17 09, 81617 Munich, GERMANY

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