EPCOS

SAW Components

Data Sheet B4880

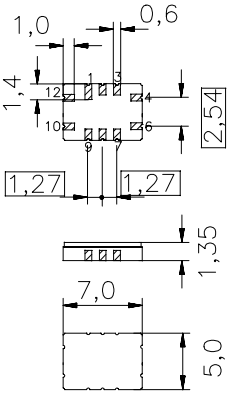
Ceramic package **QCC12B**

Features

- Low-loss IF filter for mobile telephone
- Channel selection in GSM, PCN, PCS systems
- Ceramic SMD package
- Balanced and unbalanced operation possible

Terminals

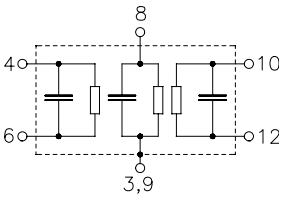
- Gold-plated Ni



Dimensions in mm, approx. weight 0,2 g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B4880	B39201-B4880-Z910	C61157-A7-A52	F61074-V8038-Z000

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

Maximum ratings

Operating temperature range	T	– 30/+ 80	˚C	
Storage temperature range	T_{stg}	– 35/+ 85	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	

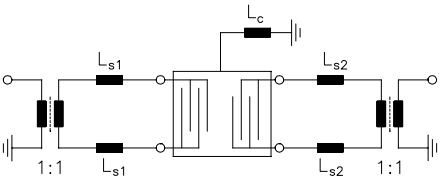
Characteristics

Operating temperature range: T = -10 to +70 °C
Terminating source impedance: Z_S = 1,1 kΩ || 270 nH
Terminating load impedance: Z_S = 1,1 kΩ || 270 nH
External coil: L_c = 120 nH

		min.	typ.	max.	
Nominal frequency	f_N	—	200,0	—	MHz
Minimum insertion attenuation					
(including losses in matching circuit)	α_{min}	—	3,7	5,0	dB
(excluding losses in matching circuit)		—	2,9	3,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
f_N - 70,0 kHz ... f_N + 70,0 kHz		—	0,3	2,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_N - 70,0 kHz ... f_N + 70,0 kHz		—	0,5	2,0	µs
Relative attenuation (relative to α_{min})	α_{rel}				
f_N - 15,00 MHz ... f_N - 3,00 MHz		52	57	—	dB
f_N - 3,00 MHz ... f_N - 1,60 MHz		44	58	—	dB
f_N - 1,60 MHz ... f_N - 0,80 MHz		34	49	—	dB
f_N - 0,80 MHz ... f_N - 0,60 MHz		34	50	—	dB
f_N - 0,60 MHz ... f_N - 0,40 MHz		25	42	—	dB
f_N - 0,40 MHz ... f_N - 0,20 MHz		2	11	—	dB
f_N + 0,20 MHz ... f_N + 0,40 MHz		2	8	—	dB
f_N + 0,40 MHz ... f_N + 0,60 MHz		25	30	—	dB
f_N + 0,60 MHz ... f_N + 0,80 MHz		34	42	—	dB
f_N + 0,80 MHz ... f_N + 1,60 MHz		34	48	—	dB
f_N + 1,60 MHz ... f_N + 3,00 MHz		44	49	—	dB
f_N + 3,00 MHz ... f_N + 15,00 MHz		52	59	—	dB
Impedance at f_N					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	1,1 || 2,3	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	1,1 || 2,3	—	kΩ || pF
Temperature coefficient of frequency [1]	TC_f	—	– 0,036	—	ppm/K²
Frequency inversion point	T_0	—	40	—	°C

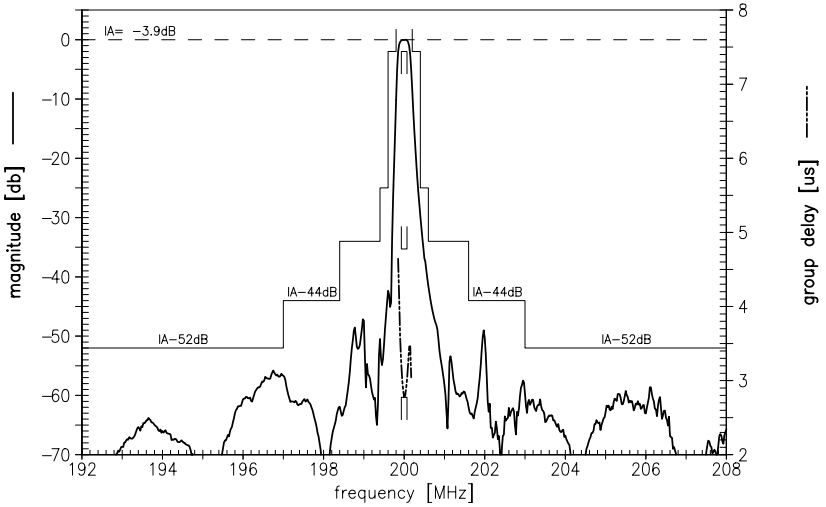
[1] Temperature dependence of f_c: $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$

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

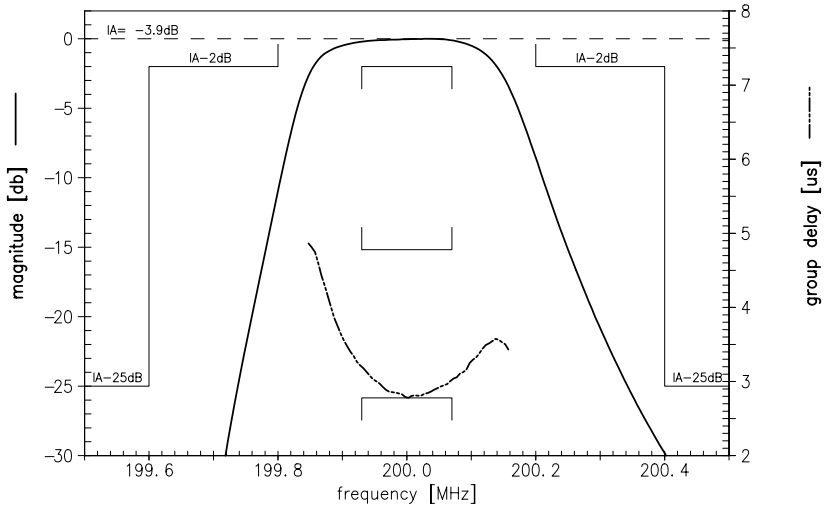


L_{s1} = 82 nH
L_{s2} = 82 nH
L_c = 120 nH

Transfer function:



Transfer function (pass band):



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