EPCOS

SAW Components

Data Sheet B4848

Data Sheet

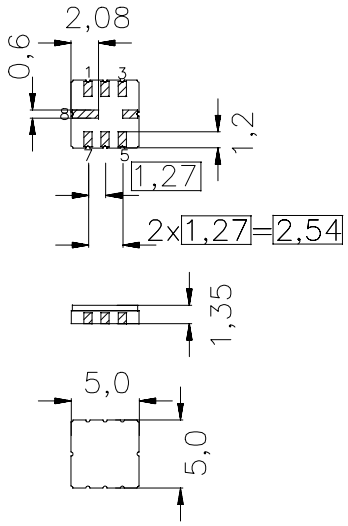
Ceramic package **QCC8C**

Features

- Low-loss IF filter for mobile telephone
- Channel selection in GSM systems
- Ceramic SMD package
- High stopband attenuation

Terminals

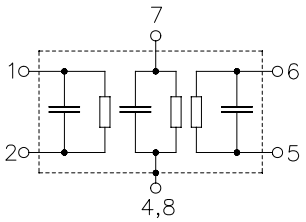
- Gold-plated Ni



Dimensions in mm, approx. weight 0,1 g

Pin configuration

2	Input
1	Input ground or balanced input
6	Output
5	Output ground or balanced output
7	External coil
4, 8	Case – ground
3	Not connected



Type	Ordering code	Marking and Package according to	Packing according to
B4848	B39401-B4848-U310	C61157-A7-A56	F61074-V8070-Z000

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

Maximum ratings

Operating temperature range	T	– 20/ +75	˚C	
Storage temperature range	T_{stg}	– 25/ +85	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	

Data Sheet SMD

Characteristics

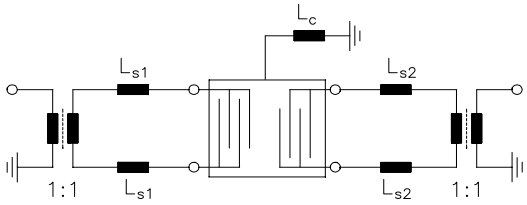
Operating temperature range: T = -10 to +55 °C
Terminating source impedance: Z_S = 900 Ω || -0,7 pF
Terminating load impedance: Z_S = 900 Ω || -0,7 pF
External coil: L_c = 82 nH

		min.	typ.	max.	
Nominal frequency	f_N	—	400,00	—	MHz
Minimum insertion attenuation (including loss in matching elements)	α_{min}	—	3,9	5,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
f_N - 70,0 kHz ... f_N + 70,0 kHz		—	0,2	1,5	dB
f_N - 90,0 kHz ... f_N + 90,0 kHz		—	0,4	3,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_N - 70,0 kHz ... f_N + 70,0 kHz		—	0,5	1,5	µs
f_N - 90,0 kHz ... f_N + 90,0 kHz		—	0,7	2,0	µs
Relative attenuation (relative to α_{min})	α_{rel}				
f_N - 95,00 MHz ... f_N - 13,00 MHz		55	78	—	dB
f_N - 13,00 MHz		65	77	—	dB
f_N - 13,00 MHz ... f_N - 3,00 MHz		55	66	—	dB
f_N - 3,00 MHz ... f_N - 1,00 MHz		45	53	—	dB
f_N - 1,00 MHz ... f_N - 0,60 MHz		40	51	—	dB
f_N - 0,60 MHz ... f_N - 0,40 MHz		22	43	—	dB
f_N - 0,40 MHz ... f_N - 0,20 MHz		—	5	—	dB
f_N + 0,20 MHz ... f_N + 0,40 MHz		—	5	—	dB
f_N + 0,40 MHz ... f_N + 0,60 MHz		22	31	—	dB
f_N + 0,60 MHz ... f_N + 1,00 MHz		40	50	—	dB
f_N + 1,00 MHz ... f_N + 3,00 MHz		45*)	50	—	dB
f_N + 3,00 MHz ... f_N + 95,00 MHz		55	63	—	dB
Impedance within the passband					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	900 || 0,7	—	Ω || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	900 || 0,7	—	Ω || pF
Temperature coefficient of frequency 1)	TC_f	—	-0,036	—	ppm/K²
Frequency inversion point	T_0	—	20	—	°C

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

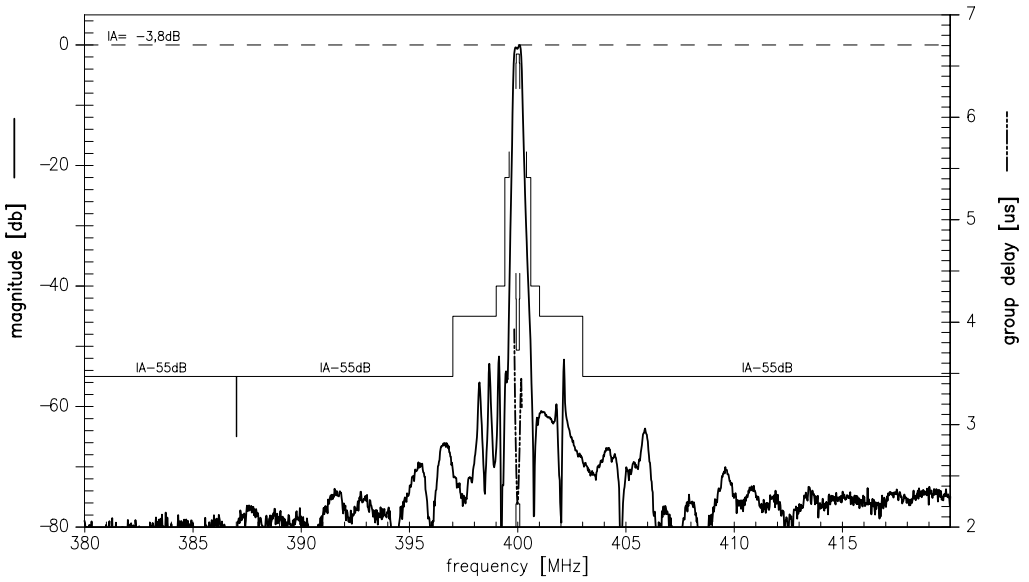
*) In the frequency range from 401,5 MHz to 402,5 MHz there exists one spurious response with a maximum 3 dB - bandwidth of 200 kHz. The minimum attenuation α_{rel} of this spurious response is more than 40 dB.

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

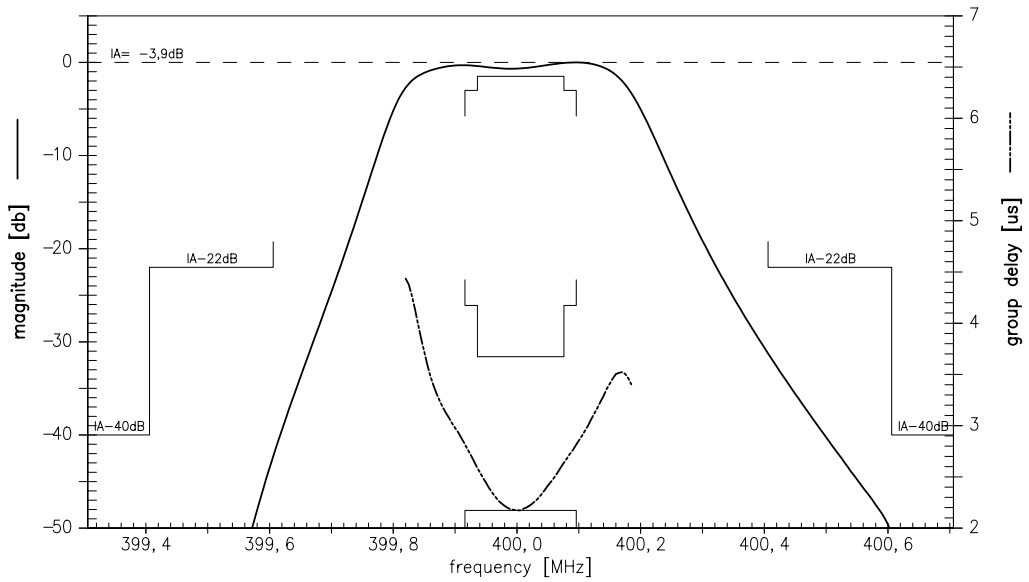


L_{s1} = 39 nH
L_{s2} = 39 nH
L_c = 82 nH

Transfer function:



Transfer function (pass band):



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