EPCOS

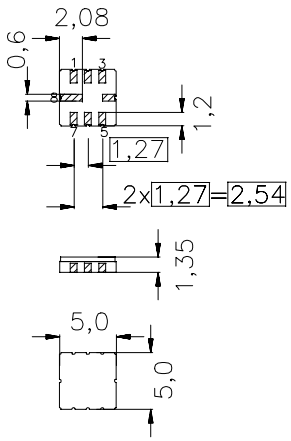
SAW Components

Data Sheet B3639

Ceramic package **QCC8C**

Features

- Low-loss IF filter for wireless LAN
- Channel selection according to IEEE 802.11
- Very small group delay ripple
- Very small ceramic SMD package



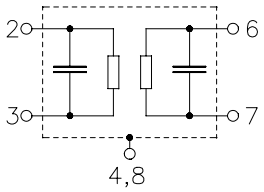
Dimensions in mm, approx. weight 0,1 g

Terminals

- Gold plated

Pin configuration

2	Input
6	Output
3	Input ground
7	Output ground
1,5	Ground
4,8	Case – ground



Type	Ordering code	Marking and Package according to	Packing according to
B3639	B39281-B3639-U310	C61157-A7-A56	F61074-V8070-Z000

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

Maximum ratings

Operable temperature range	T_A	– 30/+ 85	˚C	
Storage temperature range	T_{stg}	– 40/+ 85	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	

Characteristics

Reference temperature: T_A = 25 °C
Input impedance: Z_{in} = 278 Ω || 7,5 pF
Output impedance: Z_{out} = 178 Ω || 6,8 pF

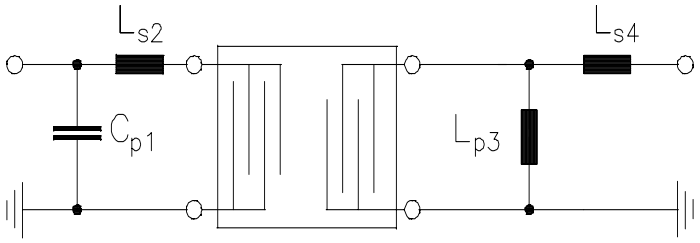
		min.	typ.	max.	
Nominal frequency	f_N	—	280,0	—	MHz
Insertion attenuation at f_N (including matching network)	α_N	—	7,0	8,5	dB
Passband width $\alpha_{rel} \leq 3{,}0$ dB	$B_{3,0dB}$	18,5	19,8	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
271,0 ... 289,0 MHz		—	—	3,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
271,0 ... 289,0 MHz		—	55	80	ns
Relative attenuation (relative to α_N)	α_{rel}				
f_N – 100 MHz ... f_N – 40 MHz		45	55	—	dB
f_N – 40 MHz ... f_N – 22 MHz		40	45	—	dB
f_N – 22 MHz ... f_N – 16 MHz		30	34	—	dB
f_N + 16 MHz ... f_N + 22 MHz		27	30	—	dB
f_N + 22 MHz ... f_N + 60 MHz		36	40	—	dB
f_N + 60 MHz ... f_N + 100 MHz		40	43	—	dB
Temperature coefficient of frequency	TC_f	—	–87	—	ppm/K

Characteristics

Reference temperature: T_A = -30 ... +70 °C
Input impedance: Z_{in} = 278 Ω || 7,5 pF
Output impedance: Z_{out} = 178 Ω || 6,8 pF

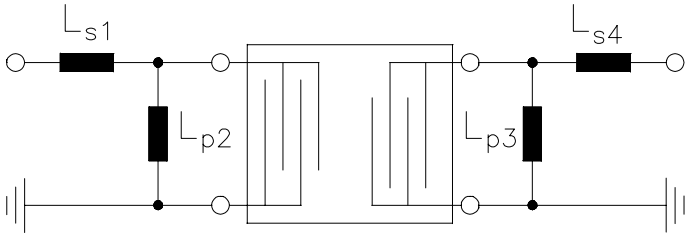
		min.	typ.	max.	
Nominal frequency	f_N	—	280,0	—	MHz
Insertion attenuation at f_N (including matching network)	α_N	—	7,0	8,5	dB
Passband width $\alpha_{rel} \leq 3{,}0$ dB	$B_{3,0dB}$	18,5	19,8	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
271,5 ... 288,5 MHz		—	—	3,5	dB
Group delay ripple (p-p)	$\Delta\tau$				
271,5 ... 288,5 MHz		—	55	80	ns
Relative attenuation (relative to α_N)	α_{rel}				
f_N – 100 MHz ... f_N – 40 MHz		45	55	—	dB
f_N – 40 MHz ... f_N – 22 MHz		40	45	—	dB
f_N – 22 MHz ... f_N – 16 MHz		27	34	—	dB
f_N + 16 MHz ... f_N + 22 MHz		27	30	—	dB
f_N + 22 MHz ... f_N + 60 MHz		36	40	—	dB
f_N + 60 MHz ... f_N + 100 MHz		40	43	—	dB
Temperature coefficient of frequency	TC_f	—	–87	—	ppm/K

Matching network 1 for improved TTS suppression and IL=7,0 dB:



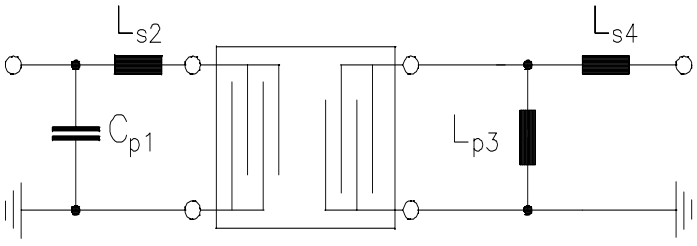
Cp1 = 4,7 pF
Ls2 = 33 nH
Lp3 = 120 nH
Ls4 = 56 nH

Matching network 2 for small IL=5,4 dB:



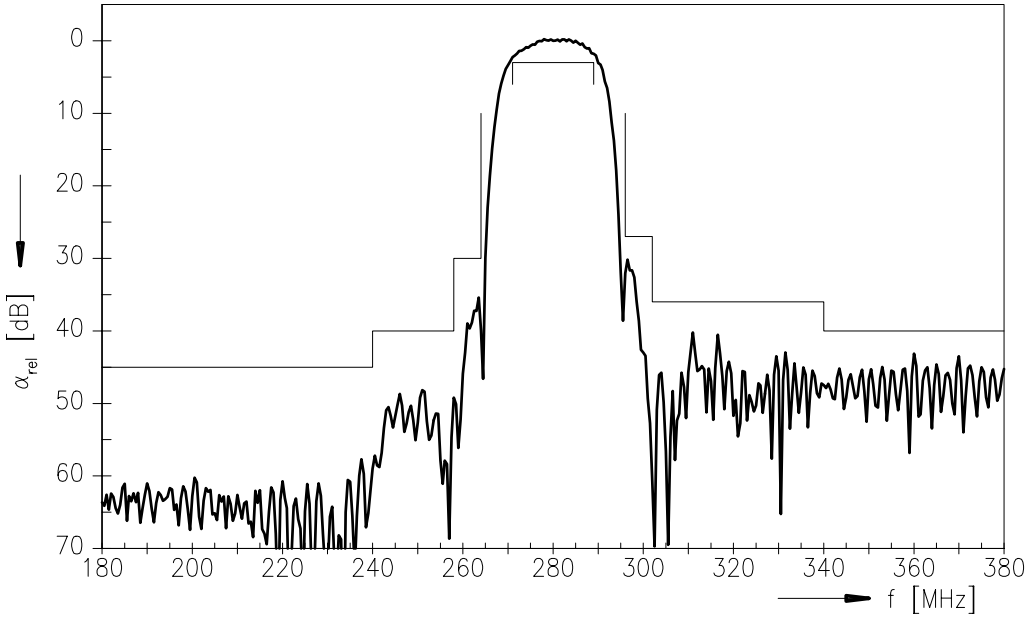
Ls1 = 47 nH
Lp2 =120 nH
Lp3 =120 nH
Ls4 = 56 nH

Matching network 3 for optimum TTS suppression and IL=9,0 dB:

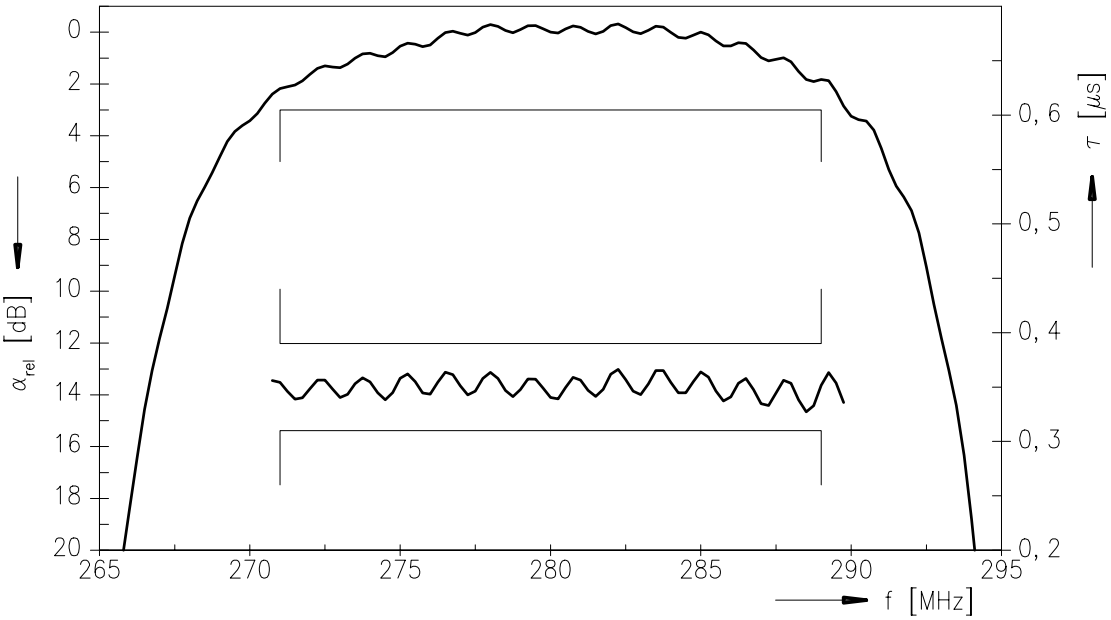


Cp1 = 3,3 pF
Ls2 = 10 nH
Lp3 =120 nH
Ls4 = 56 nH

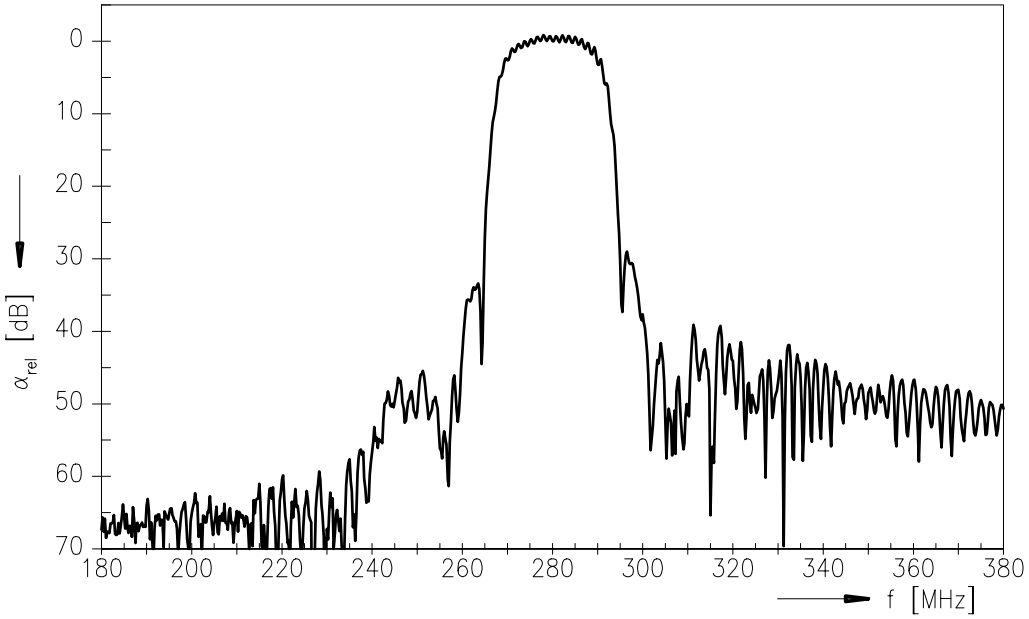
Transfer function (matching network 1):



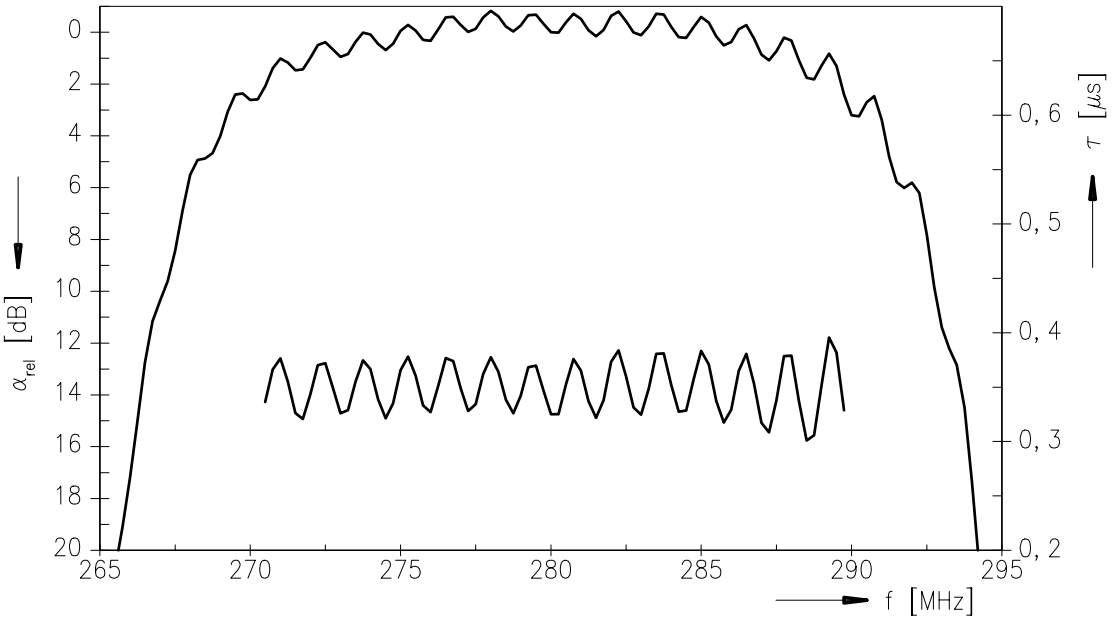
Transfer function (passband; matching network 1):



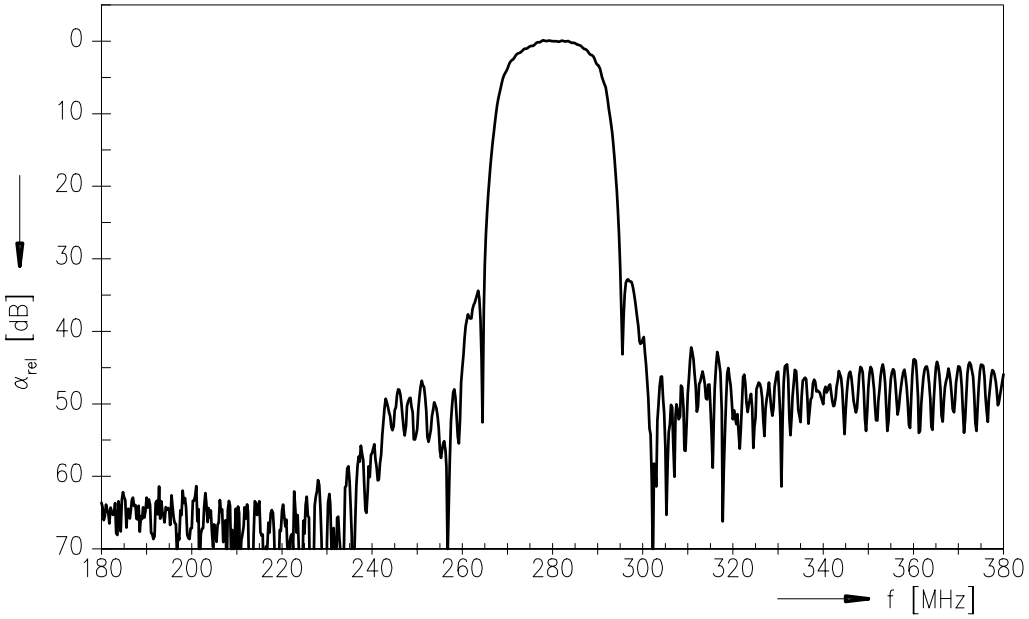
Transfer function (matching network 2):



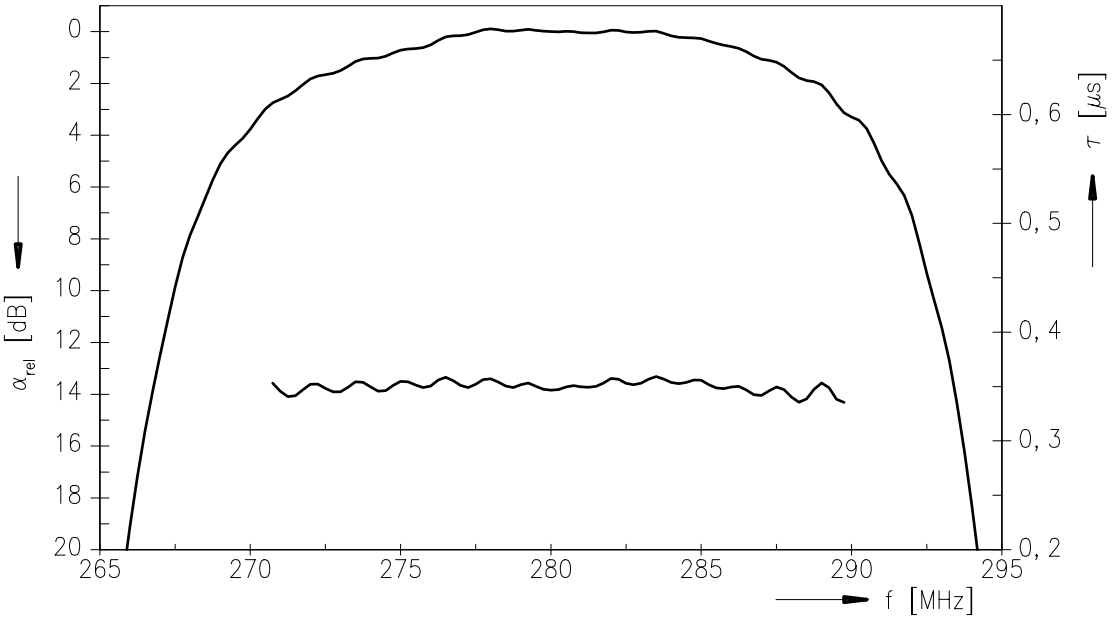
Transfer function (pass band; matching network 2):



Transfer function (matching network 3):



Transfer function (pass band; matching network 3):



Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC IS
P.O. Box 80 17 09, D-81617 München

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