SAW Components

Data Sheet B5019

Data Sheet

Ceramic package **QCC12E**

bottom view

side view

top view

Dimensions in mm, approx. weight 0,2 g
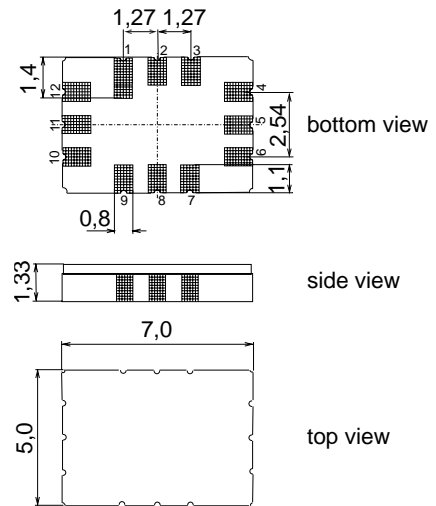
Features

● Low-loss IF filter for CDMA2000 base station, receive path
● 3,75 MHz usable bandwidth
● Balanced or unbalanced operation possible
● Temperature stable
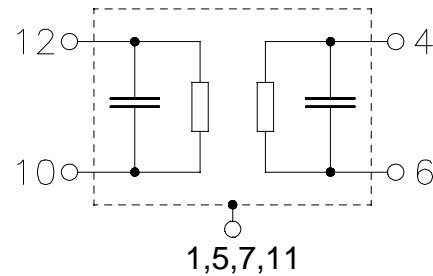● Hermetically sealed ceramic SMD package

Terminals

● Gold plated

Pin configuration

12	Input
10	Input ground
6	Output
4	Output Ground
1, 5, 7, 11	Case Ground
2, 3, 8, 9	To be grounded

Type	Ordering code	Marking and Package according to	Packing according to
B5019	B39291-B5019-H810	C61157-A7-A103	F61074-V8170-Z000

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

Maximum ratings

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

SAW Components	B5019
Low-Loss Filter	**288,25 MHz**

Data Sheet

Characteristics

Operating temperature range: T= -10 .. 80 ˚C
Terminating source impedance: Z_S= 50 Ω unbalanced and matching network
Terminating load impedance: Z_L = 50 Ω unbalanced and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	288,25	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	—	9,3	13,0	dB
Passband width					
$\alpha_{rel} \leq 1,0$ dB	$B_{1,0dB}$	3,8	4,0	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N + k*1,25$ MHz $\pm$ 0,625 MHz		—	0,4	0,8	dB
$f_N \pm 1,875$ MHz		—	0,5	1,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 1,875$ MHz		—	80	150	ns
Absolute group delay $f_N \pm 1,875$ MHz	τ	—	1,0	2,0	µs
Phase Linearity (rms)	$\Delta\varphi$				
$f_N \pm 1,875$ MHz		—	0,7	1,5	˚
Average Error Vector Magnitude[1]	EVM				
$f_N + k*1,25$ MHz $\pm$ 0,625 MHz		—	1,5	4,0	%
Relative attenuation (relative to α_{min})	α_{rel}				
$f_N \pm 2,5$ MHz ... $f_N \pm 3,3$ MHz		13	16	—	dB
$f_N \pm 3,3$ MHz ... $f_N \pm 9,825$ MHz		20	28	—	dB
$f_N \pm 9,825$ MHz ... $f_N \pm 39,3$ MHz		28	43	—	dB
$f_N \pm 39,3$ MHz ... $f_N \pm 50$ MHz		40	50	—	dB
Input and Output return loss $f_N \pm 1,875$ MHz		10	13	—	dB
Temperature coefficient of frequency[2]	TC_f	—	– 0,036	—	ppm/K^2
Turnover temperature	T_0	—	35	—	˚C

[1] k = (-1,0,1) [2] Temperature dependance of fc: $fc(T_A) = fc(T_0)(1 + TC_f(T_A – T_0)^2)$
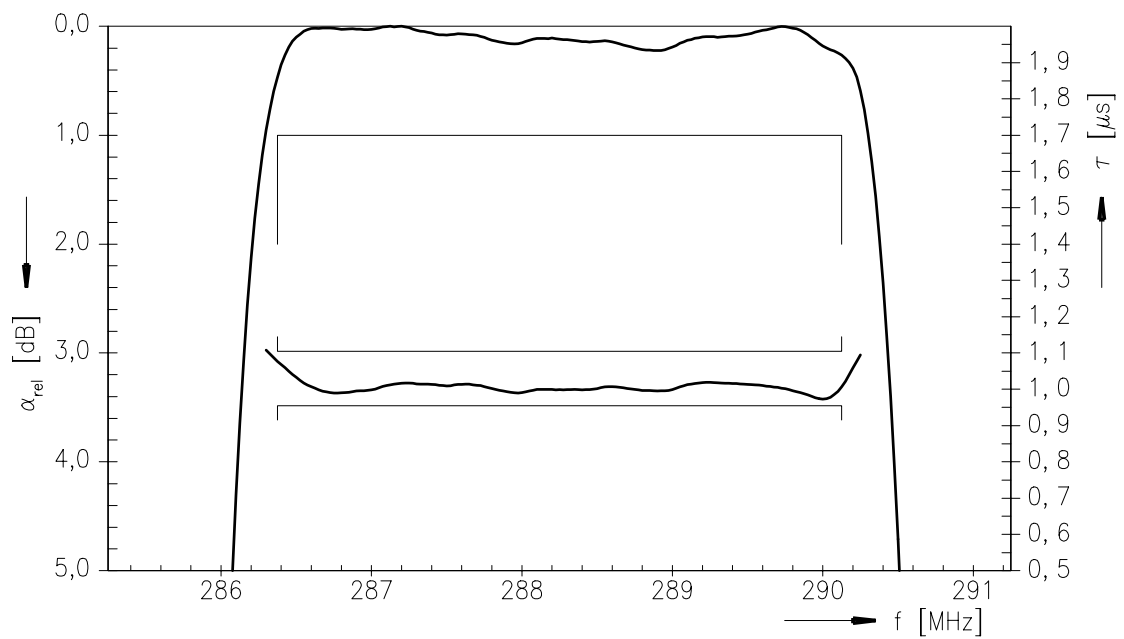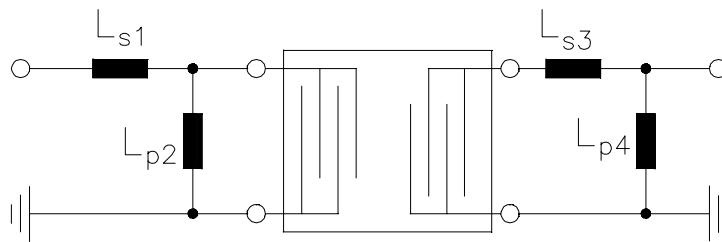
Normalized frequency response
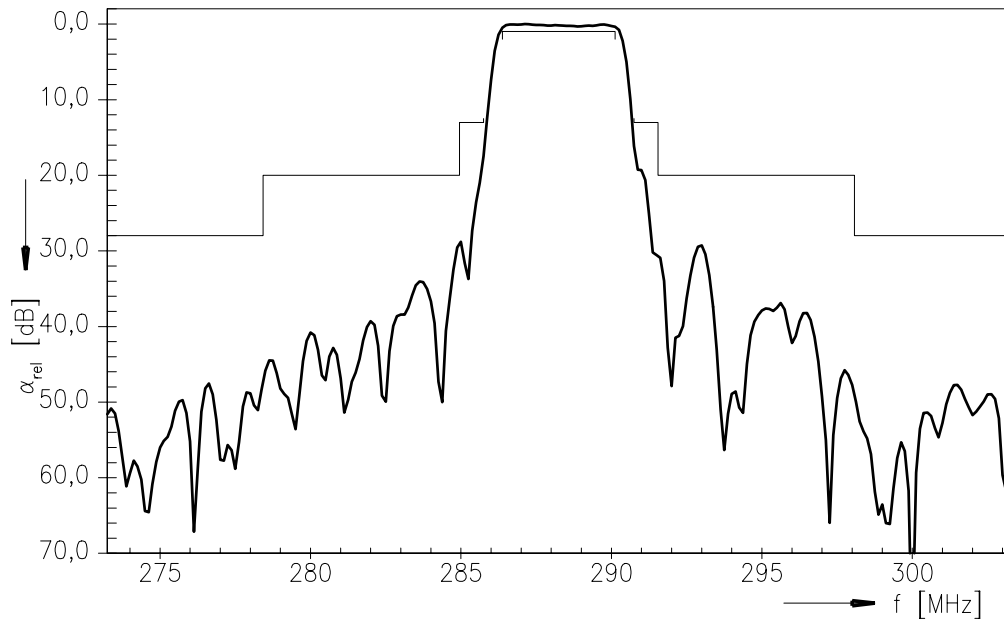
Normalized frequency response (pass band)

Data Sheet

Matching network to 50Ω

(Element values depend upon PCB layout)

L_{s1} = 62 nH $\qquad$ L_{s3} = 15 nH

L_{p2} = 22 nH $\qquad$ L_{p4} = 8,2 nH