



SAW Components

Data Sheet B3825

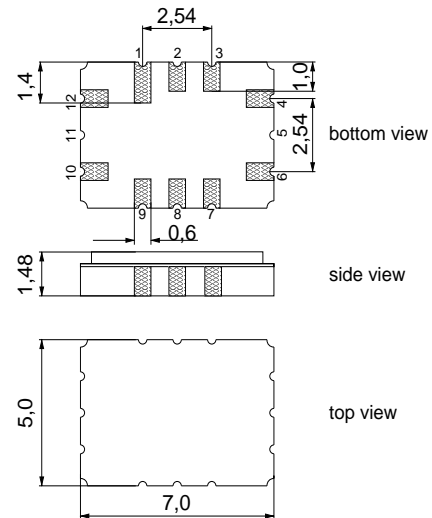


Data Sheet
Ceramic package QCC12C
Features

- IF low-loss filter for base stations
- Channel selection in W-CDMA systems
- Balanced and unbalanced operation possible
- 3,84 MHz usable bandwidth
- Ceramic SMD package

Terminals

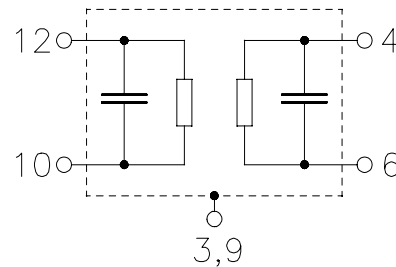
- Gold plated



Dim. in mm, aprox. weight 0,22 g

Pin configuration

12	Input
10	Input ground or balanced input
6	Output
4	Output ground or balanced output
1, 2, 7, 8	to be grounded
3, 9	Case - ground



Type	Ordering code	Marking and Package according to	Packing according to
B3825	B39381-B3825-H310	C61157-A7-A95	F61074-V8170-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 40/+ 85	°C	
Storage temperature range	T_{stg}	- 40/+ 85	°C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	



Data Sheet

Characteristics (unbalanced operation)

Operating temperature: $T = -25$ to $+85$ °C
 Terminating source impedance: $Z_S = 577 \Omega \parallel 20$ nH
 Terminating load impedance: $Z_L = 817 \Omega \parallel 21$ nH

		min.	typ.	max.	
Nominal frequency	f_N	—	380,0	—	MHz
Minimum insertion attenuation (including matching network ¹⁾)	α_{min}	8,0	8,9	10,0	dB
Passband width	$B_{3,0dB}$				
	$\alpha_{rel} \leq 3,0$ dB	4,9	5,1	5,3	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
	$f_N \pm 1,92$ MHz	0,2	1,0	1,2	dB
Phase ripple (p-p)	$\Delta\phi$				
	$f_N \pm 1,92$ MHz	3,0	5,0	7,0	°
Absolute group delay	τ				
	@ f_N	360	460	560	ns
Group delay ripple (p-p)	$\Delta\tau$				
	$f_N \pm 1,92$ MHz	40	80	180	ns
Mean value of absolute group delay	$\bar{\tau}$				
	$f_N \pm 1,92$ MHz	440	460	480	ns
Adjacent channel selectivity	ACS	24	32	39	dB
Intermodulation	IM3				
	f1 = 360 MHz, input power 0 dBm f2 = 370 MHz, input power 0 dBm @ f_N	-120	-95	-85	dBm
	f1 = 360 MHz, input power -5 dBm f2 = 370 MHz, input power -5 dBm @ f_N	-135	-110	-100	dBm



SAW Components

B3825

Low-Loss Filter

380,00 MHz

Data Sheet

		min.	typ.	max.	
f1 = 390 MHz, input power 0 dBm f2 = 400 MHz, input power 0 dBm @ f _N		-120	-95	-85	dBm
f1 = 390 MHz, input power -5 dBm f2 = 400 MHz, input power -5 dBm @ f _N		-135	-110	-100	dBm
Minimum relative attenuation (relative to α _{min}) α _{rel}					
at f _N - 5,0 MHz		37	40	50	dB
at f _N + 5,0 MHz		40	45	50	dB
DC ... f _N - 20,0 MHz		42	46	55	dB
f _N - 20,0 MHz ... f _N - 17,5 MHz		35	38	45	dB
f _N - 17,5 MHz ... f _N - 13,5 MHz		42	45	55	dB
f _N - 13,5 MHz ... f _N - 7,5 MHz		38	40	45	dB
f _N - 7,5 MHz ... f _N - 4,1 MHz		35	38	45	dB
f _N - 4,1 MHz ... f _N - 3,2 MHz		20	22	40	dB
f _N + 3,2 MHz ... f _N + 4,1 MHz		20	23	40	dB
f _N + 4,1 MHz ... f _N + 5,0 MHz		34	37	45	dB
f _N + 5,0 MHz ... f _N + 8,0 MHz		37	39	45	dB
f _N + 8,0 MHz ... f _N + 10,5 MHz		32	35	45	dB
f _N + 10,5 MHz ... f _N + 17,5 MHz		39	42	50	dB
f _N + 17,5 MHz ... f _N + 20,0 MHz		35	38	45	dB
f _N + 20,0 MHz ... f _N + 100,0 MHz		40	43	55	dB
Impedance at f _N (without matching)					
Input: Z _{IN} = R _{IN} C _{IN}		—	795 6	—	Ω pF
Output: Z _{OUT} = R _{OUT} C _{OUT}		—	652 6	—	Ω pF
Temperature coefficient of frequency ²⁾	TC _f	—	-0,036	—	ppm/K ²
Turnover temperature	T ₀	—	25	—	°C

¹⁾ Matching inductor Q=40

²⁾ Temperature dependance of f_c: f_c(T_A) = f_c(T₀)(1 + TC_f(T_A - T₀)²)



SAW Components

B3825

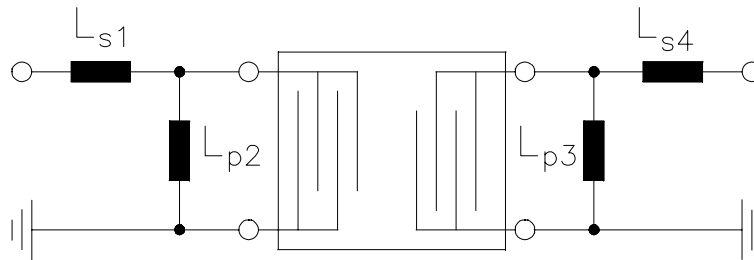
Low-Loss Filter

380,00 MHz

Data Sheet

Matching network

(Element values depend upon PCB layout)



$$L_{s1} = 68 \text{ nH}$$

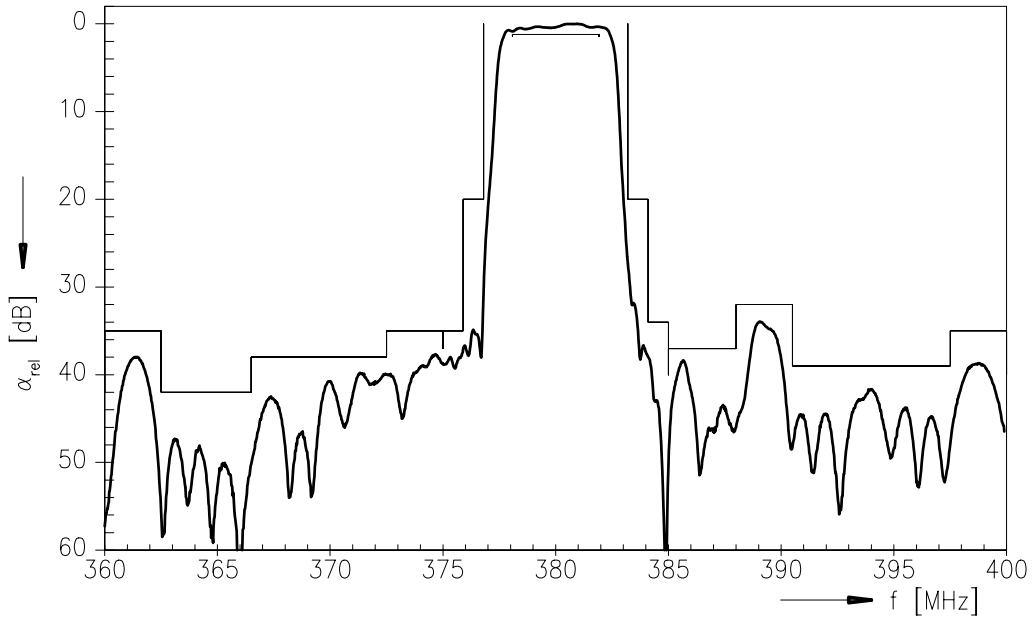
$$L_{p2} = 27 \text{ nH}$$

$$L_{p3} = 27 \text{ nH}$$

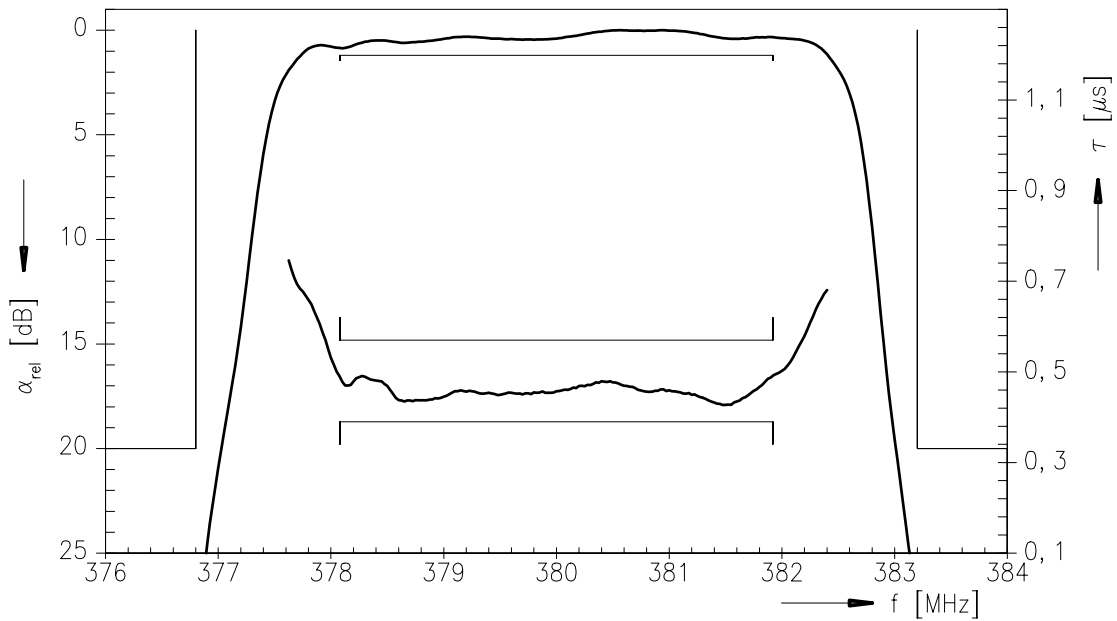
$$L_{s4} = 82 \text{ nH}$$

Data Sheet

Normalized frequency response



Normalized frequency response (pass band)





SAW Components

B3825

Low-Loss Filter

380,00 MHz

Data Sheet

Published by EPCOS AG

Surface Acoustic Wave Components Division, SAW MC PD

P.O. Box 80 17 09, D-81617 München

© EPCOS AG 2005. All Rights Reserved. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

The information contained in this brochure describes the type of component and shall not be considered as guaranteed characteristics. Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.