SAW filters for infrastructure systems

Series/Type: B3825

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39381B3825H310		2012-01-13	2012-12-31	2013-03-30

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.

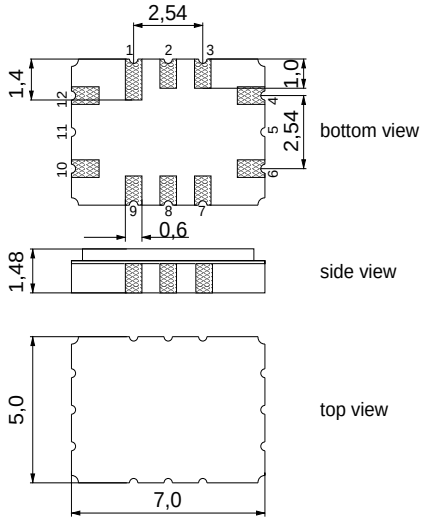
Ceramic package **QCC12C**

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

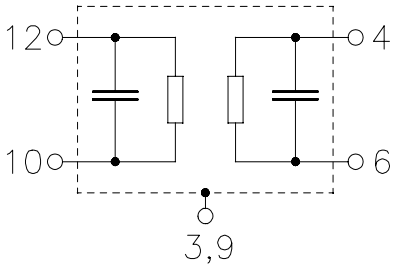
- Gold plated



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 **S**ensitive **D**evice (**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 Ω || 20 nH
Terminating load impedance: Z_L = 817 Ω || 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 $\alpha_{rel} \leq 3{,}0$ dB	$B_{3,0dB}$	4,9	5,1	5,3	MHz
Amplitude ripple (p-p) $f_N \pm 1{,}92$ MHz	$\Delta\alpha$	0,2	1,0	1,2	dB
Phase ripple (p-p) $f_N \pm 1{,}92$ MHz	$\Delta\varphi$	3,0	5,0	7,0	°
Absolute group delay @f_N	τ	360	460	560	ns
Group delay ripple (p-p) $f_N \pm 1{,}92$ MHz	$\Delta\tau$	40	80	180	ns
Mean value of absolute group delay $f_N \pm 1{,}92$ MHz	$\bar{\tau}$	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

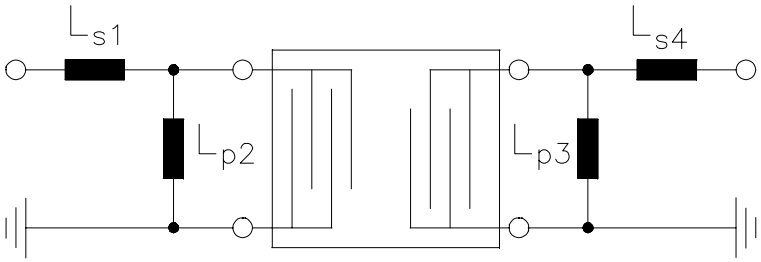
		min.	typ.	max.	
f1 = 390 MHz, input power 0 dBm f2 = 400 MHz, input power 0 dBm @f_N		-120	-95	-85	dBm
f1 = 390 MHz, input power -5 dBm f2 = 400 MHz, input power -5 dBm @f_N		-135	-110	-100	dBm
Minimum relative attenuation (relative to α_{min})	α_{rel}				
at f_N - 5,0 MHz		37	40	50	dB
at f_N + 5,0 MHz		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: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	795 || 6	—	Ω || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	652 || 6	—	Ω || pF
Temperature coefficient of frequency 2)	TC_f	—	–0,036	—	ppm/K²
Turnover temperature	T_0	—	25	—	°C

1) Matching inductor Q=40

2) Temperature dependance of f_c: $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$

Matching network

(Element values depend upon PCB layout)



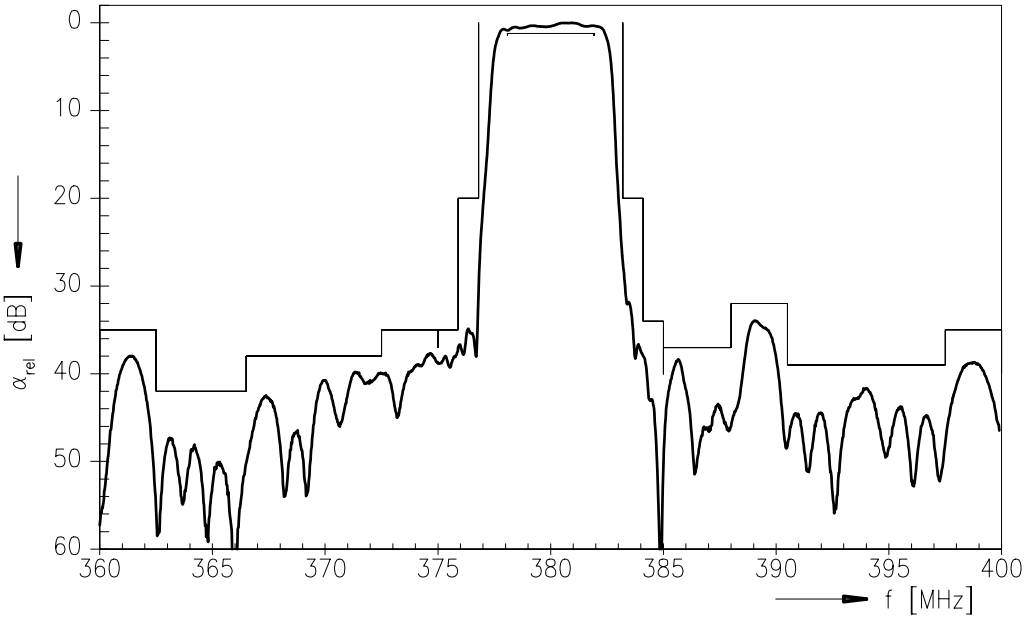
L_{s1} = 68 nH

L_{p2} = 27 nH

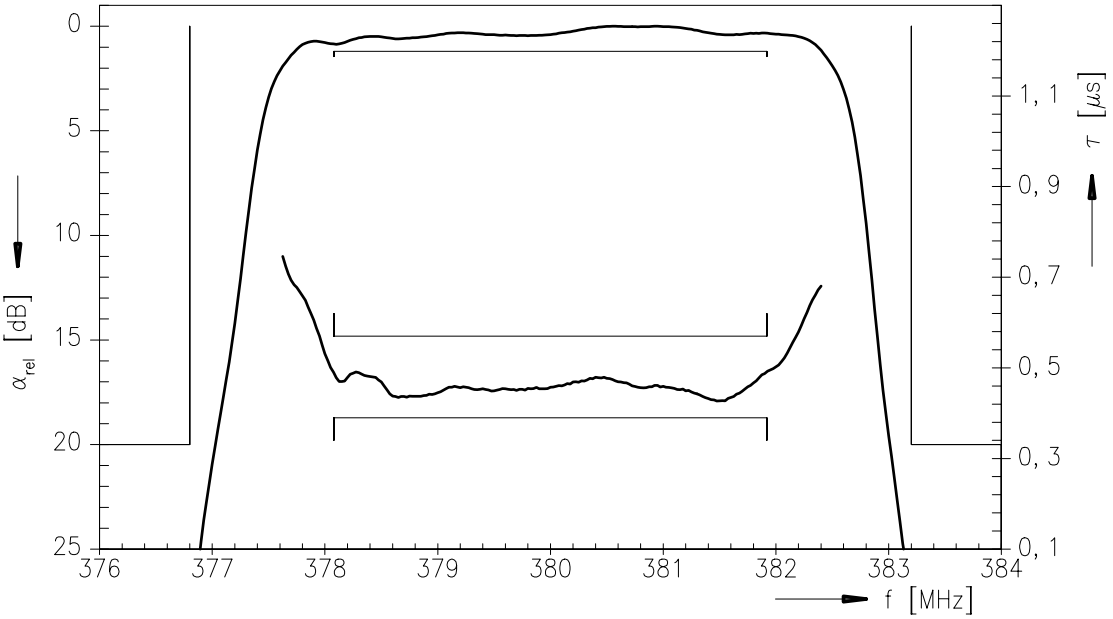
L_{p3} = 27 nH

L_{s4} = 82 nH

Normalized frequency response



Normalized frequency response (pass band)



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

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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

EPCOS:
B39381B3825H310