EPCOS

SAW Components

Data Sheet B3817

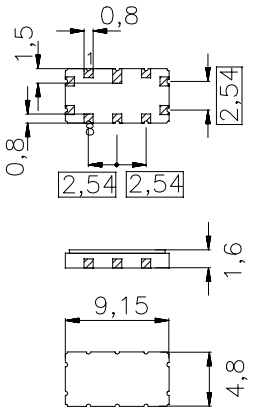
Ceramic package **QCC10B**

Features

- IF low-loss filter for W-CDMA base station
- Temperature stable
- Usable bandwidth 3,84 MHz
- Ceramic SMD package

Terminals

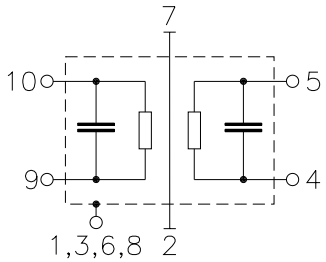
- Gold plated



Dimensions in mm, appr. weight 0,23 g

Pin configuration

10	Input
9	Input ground
5, 4	Balanced output
1, 3, 6, 8	Case ground
2, 7	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B3817	B39211-B3817-Z710	C61157-A7-A49	F61074-V8172-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	0	dBm

Characteristics

Operating temperature range: T = 0 ... 70 °C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 200 Ω and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	208,0	—	MHz
Minimum insertion attenuation	α_{min}				
(including matching network) $f_N \pm 1{,}92$ MHz		—	11,7	13,0	dB
Passband width					
$\alpha_{rel} \leq 1$ dB	B_{1dB}	—	4,2	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 1{,}92$ MHz		—	0,7	1,0	dB
Phase ripple (p-p)	$\Delta\varphi$				
$f_N \pm 1{,}92$ MHz		—	7	10	°
Phase ripple (rms)	$\Delta\varphi$				
$f_N \pm 1{,}92$ MHz		—	1,1	—	° rms
Absolute group delay	τ_{mean}				
mean value within $f_N \pm 1{,}92$ MHz		790	795	800	ns
Relative attenuation (relative to α_{min})	α_{rel}				
$f_N \pm$ 2,53 MHz ... $f_N \pm$ 2,70 MHz		9	10	—	dB
$f_N \pm$ 2,70 MHz ... $f_N \pm$ 2,75 MHz		15	20	—	dB
$f_N \pm$ 2,75 MHz ... $f_N \pm$ 2,90 MHz		20	30	—	dB
$f_N \pm$ 2,90 MHz ... $f_N \pm$ 3,30 MHz		25	30	—	dB
$f_N \pm$ 3,30 MHz ... $f_N \pm$ 10 MHz		30	35	—	dB
$f_N \pm$ 10 MHz ... $f_N \pm$ 28 MHz		40	50	—	dB
$f_N \pm$ 28 MHz ... $f_N \pm$ 60 MHz		55	60	—	dB
Input IP3		40	—	—	dBm
Temperature coefficient of frequency[1)]	TC_f	—	– 0,036	—	ppm/K²
Turnover temperature	T_0	—	25	—	°C

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

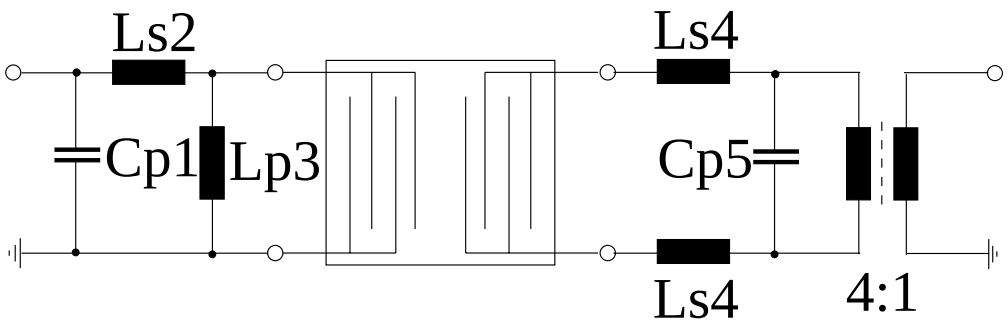
Characteristics

Operating temperature range: T = -40 ... 85 °C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 200 Ω and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	208,0	—	MHz
Minimum insertion attenuation	α_{min}				
(including matching network) $f_N \pm 1{,}92$ MHz		—	11,7	13,5	dB
Passband width					
$\alpha_{rel} \leq 1$ dB	B_{1dB}	—	4,2	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 1{,}92$ MHz		—	0,7	1,0	dB
Phase ripple (p-p)	$\Delta\varphi$				
$f_N \pm 1{,}92$ MHz		—	7	10	°
Phase ripple (rms)	$\Delta\varphi$				
$f_N \pm 1{,}92$ MHz		—	1,1	—	° rms
Absolute group delay	τ_{mean}				
mean value within $f_N \pm 1{,}92$ MHz		790	795	800	ns
Relative attenuation (relative to α_{min})	α_{rel}				
$f_N \pm$ 2,53 MHz ... $f_N \pm$ 2,70 MHz		8	10	—	dB
$f_N \pm$ 2,70 MHz ... $f_N \pm$ 2,75 MHz		15	20	—	dB
$f_N \pm$ 2,75 MHz ... $f_N \pm$ 2,90 MHz		20	30	—	dB
$f_N \pm$ 2,90 MHz ... $f_N \pm$ 3,30 MHz		25	30	—	dB
$f_N \pm$ 3,30 MHz ... $f_N \pm$ 10 MHz		30	35	—	dB
$f_N \pm$ 10 MHz ... $f_N \pm$ 28 MHz		40	50	—	dB
$f_N \pm$ 28 MHz ... $f_N \pm$ 60 MHz		55	60	—	dB
Input IP3		40	—	—	dBm
Temperature coefficient of frequency[1)]	TC_f	—	– 0,036	—	ppm/K²
Turnover temperature	T_0	—	25	—	°C

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

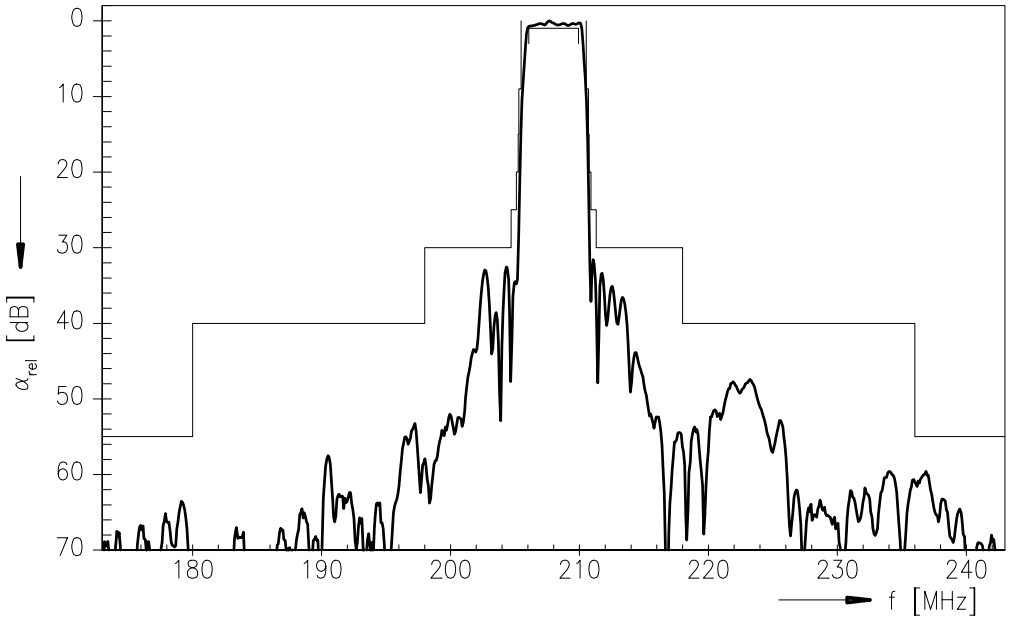
Matching network (element values depend on PCB layout):



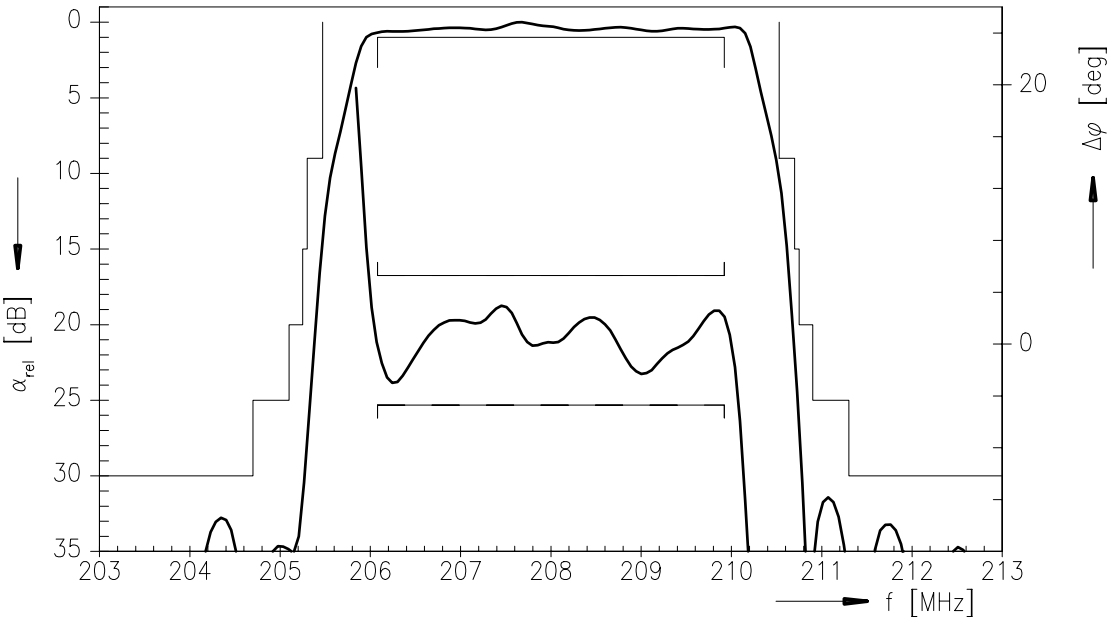
C_{p1} = 39 pF L_{p3} = 390 nH C_{p5} = 22 pF

L_{s2} = 68 nH L_{s4} = 47 nH

Transfer function



Transfer function (pass band)



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

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

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.