EPCOS

SAW Components

Data Sheet B3817

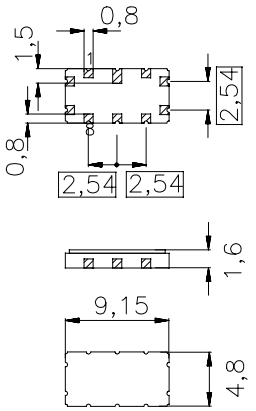
Ceramic package **QCC10B**

Features

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

Terminals

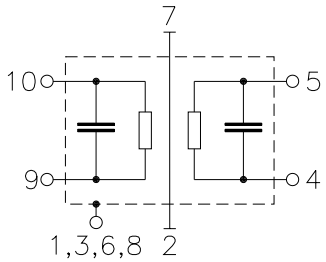
- Gold plated



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

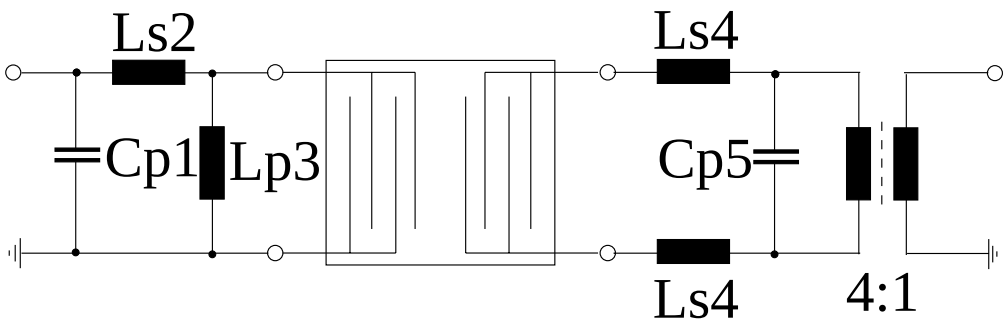
Characteristics

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

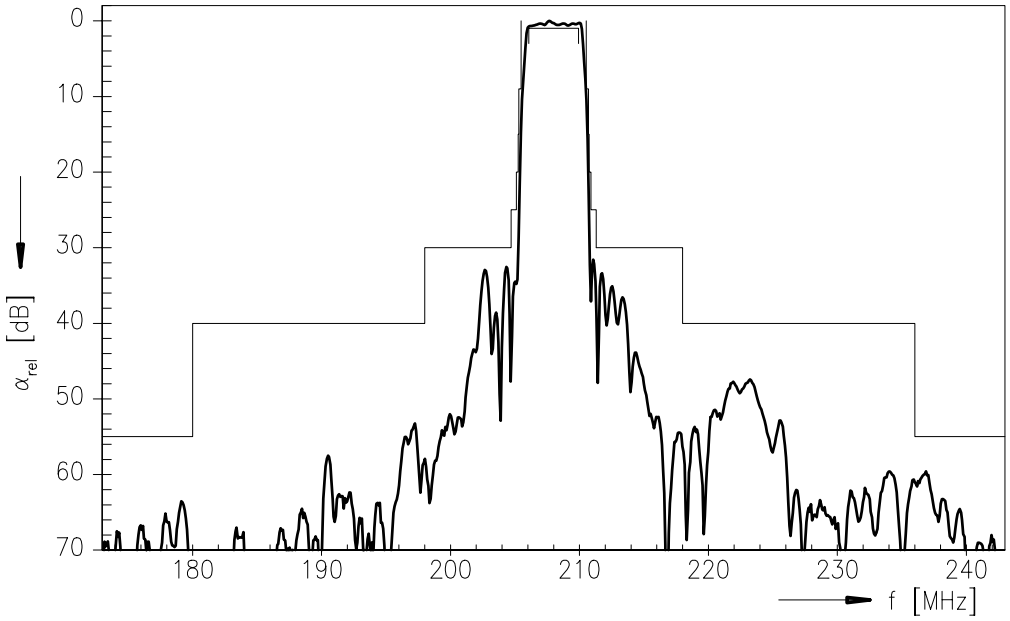
Matching network (element values depend on PCB layout):



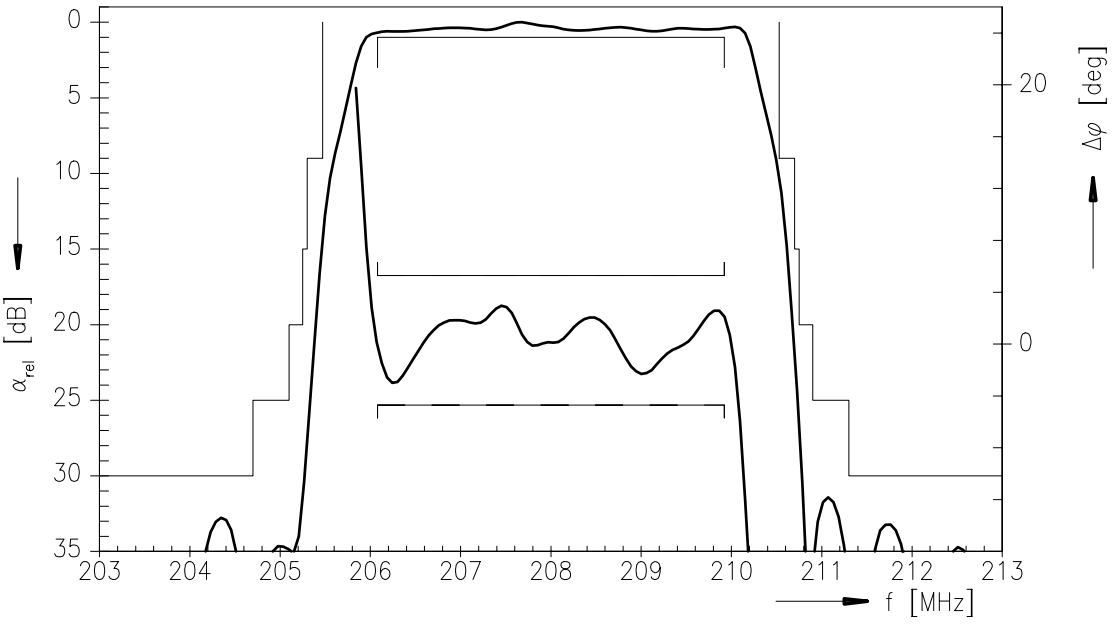
C_{p1} = 39 pF L_{p3} = 390 nH C_{p5} = 22 pF

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

Transfer function



Transfer function (pass band)



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