



SAW Components

Data Sheet B3817





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B3817

Low-Loss Filter

208,0 MHz

Data Sheet

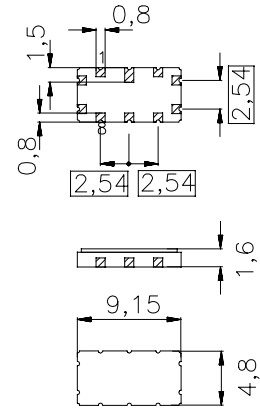
Ceramic package **QCC10B**

Features

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

Terminals

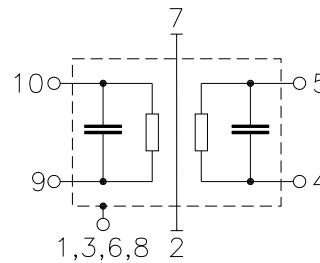
- Gold plated



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 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	0	dBm	


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Characteristics

Operating temperature range: $T = 0 \dots 70 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega$ and matching network
 Terminating load impedance: $Z_L = 200 \text{ } \Omega$ and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	208,0	—	MHz
Minimum insertion attenuation (including matching network)	α_{\min} $f_N \pm 1,92 \text{ MHz}$	—	11,7	13,0	dB
Passband width	$\alpha_{\text{rel}} \leq 1 \text{ dB}$ $B_{1\text{dB}}$	—	4,2	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$ $f_N \pm 1,92 \text{ MHz}$	—	0,7	1,0	dB
Phase ripple (p-p)	$\Delta\varphi$ $f_N \pm 1,92 \text{ MHz}$	—	7	10	$^\circ$
Phase ripple (rms)	$\Delta\varphi$ $f_N \pm 1,92 \text{ MHz}$	—	1,1	—	$^\circ \text{ rms}$
Absolute group delay mean value within $f_N \pm 1,92 \text{ MHz}$	τ_{mean}	790	795	800	ns
Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N \pm 2,53 \text{ MHz} \dots f_N \pm 2,70 \text{ MHz}$		9	10	—	dB
$f_N \pm 2,70 \text{ MHz} \dots f_N \pm 2,75 \text{ MHz}$		15	20	—	dB
$f_N \pm 2,75 \text{ MHz} \dots f_N \pm 2,90 \text{ MHz}$		20	30	—	dB
$f_N \pm 2,90 \text{ MHz} \dots f_N \pm 3,30 \text{ MHz}$		25	30	—	dB
$f_N \pm 3,30 \text{ MHz} \dots f_N \pm 10 \text{ MHz}$		30	35	—	dB
$f_N \pm 10 \text{ MHz} \dots f_N \pm 28 \text{ MHz}$		40	50	—	dB
$f_N \pm 28 \text{ MHz} \dots f_N \pm 60 \text{ MHz}$		55	60	—	dB
Input IP3		40	—	—	dBm
Temperature coefficient of frequency¹⁾	TC_f	—	-0,036	—	ppm/K ²
Turnover temperature	T_0	—	25	—	$^\circ\text{C}$

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


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 Terminating load impedance: $Z_L = 200 \text{ } \Omega$ and matching network

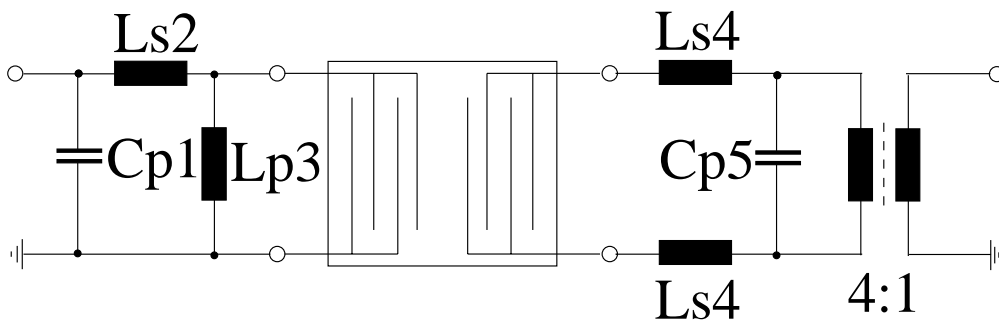
		min.	typ.	max.	
Nominal frequency	f_N	—	208,0	—	MHz
Minimum insertion attenuation (including matching network)	α_{\min} $f_N \pm 1,92 \text{ MHz}$	—	11,7	13,5	dB
Passband width	$\alpha_{\text{rel}} \leq 1 \text{ dB}$	$B_{1\text{dB}}$	4,2	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$ $f_N \pm 1,92 \text{ MHz}$	—	0,7	1,0	dB
Phase ripple (p-p)	$\Delta\varphi$ $f_N \pm 1,92 \text{ MHz}$	—	7	10	$^\circ$
Phase ripple (rms)	$\Delta\varphi$ $f_N \pm 1,92 \text{ MHz}$	—	1,1	—	$^\circ \text{ rms}$
Absolute group delay mean value within $f_N \pm 1,92 \text{ MHz}$	τ_{mean}	790	795	800	ns
Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N \pm 2,53 \text{ MHz} \dots f_N \pm 2,70 \text{ MHz}$		8	10	—	dB
$f_N \pm 2,70 \text{ MHz} \dots f_N \pm 2,75 \text{ MHz}$		15	20	—	dB
$f_N \pm 2,75 \text{ MHz} \dots f_N \pm 2,90 \text{ MHz}$		20	30	—	dB
$f_N \pm 2,90 \text{ MHz} \dots f_N \pm 3,30 \text{ MHz}$		25	30	—	dB
$f_N \pm 3,30 \text{ MHz} \dots f_N \pm 10 \text{ MHz}$		30	35	—	dB
$f_N \pm 10 \text{ MHz} \dots f_N \pm 28 \text{ MHz}$		40	50	—	dB
$f_N \pm 28 \text{ MHz} \dots f_N \pm 60 \text{ MHz}$		55	60	—	dB
Input IP3		40	—	—	dBm
Temperature coefficient of frequency¹⁾	TC_f	—	- 0,036	—	ppm/K ²
Turnover temperature	T_0	—	25	—	$^\circ\text{C}$

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



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Matching network (element values depend on PCB layout):



$$C_{p1} = 39 \text{ pF}$$
$$L_{s2} = 68 \text{ nH}$$

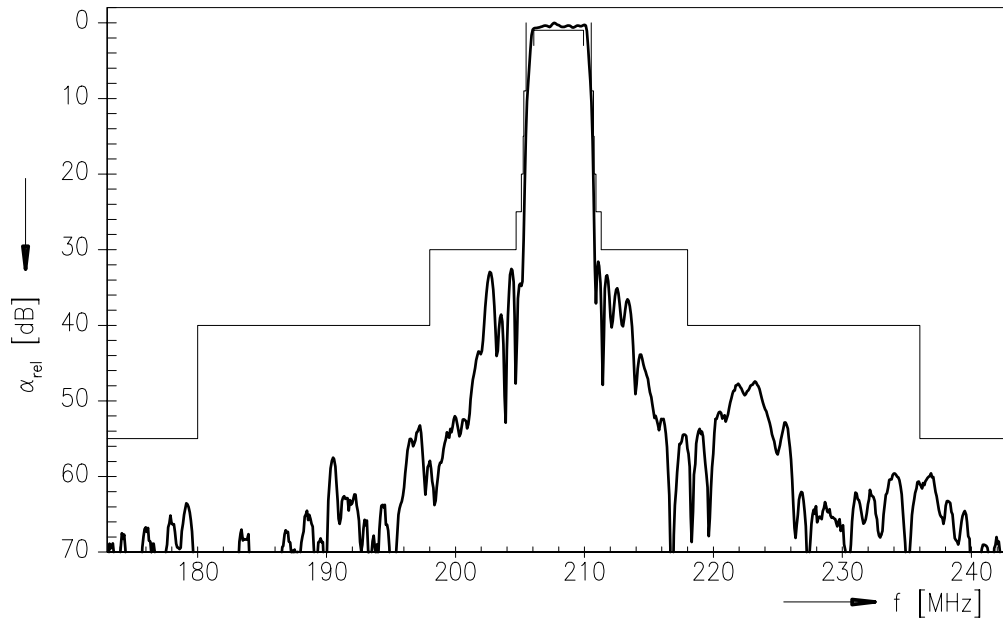
$$L_{p3} = 390 \text{ nH}$$
$$L_{s4} = 47 \text{ nH}$$

$$C_{p5} = 22 \text{ pF}$$

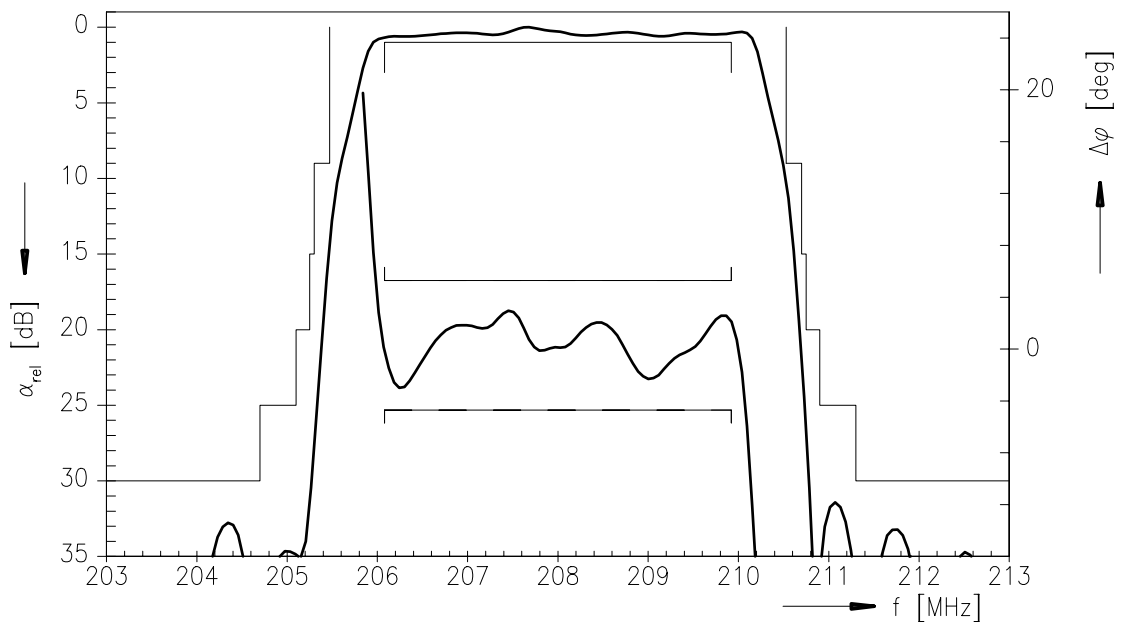


Data Sheet

Transfer function



Transfer function (pass band)





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