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SAW Components

Data Sheet B3882





SAW Components	B3882
Low-Loss Filter	168,96 MHz

Data Sheet

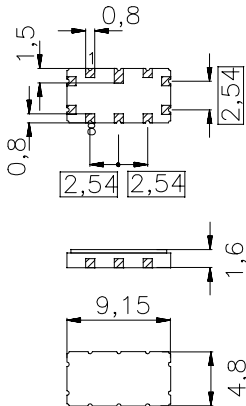
Features

- Low-loss filter
- Multichannel CDMA2000 capable
- Balanced or unbalanced operation possible
- Temperature stable
- Hermetically sealed ceramic SMD package

Terminals

- Gold plated

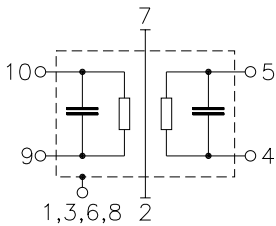
Ceramic package **QCC10B**



Dimensions in mm, approx. weight 0,23 g

Pin configuration

10	Input
9	Input ground or balanced input
5	Output
4	Output ground or balanced output
2, 7	Ground
1, 3, 6, 8	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B3882	B39171-B3882-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}	5	V
Source power	P_s	10	dBm



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Characteristics

Operating temperature:	$T = 0 \dots +85 \text{ }^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50 \text{ }\Omega$ single ended and matching network
Terminating load impedance:	$Z_L = 50 \text{ }\Omega$ single ended and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	168,96	—	MHz
Minimum insertion attenuation (including matching network)	α_{\min}	—	13,0	14,5	dB
Passband width					
$\alpha_{\text{rel}} \leq 1 \text{ dB}$	$B_{1\text{dB}}$	—	4,4	—	MHz
$\alpha_{\text{rel}} \leq 5 \text{ dB}$	$B_{5\text{dB}}$	—	4,9	—	MHz
$\alpha_{\text{rel}} \leq 30 \text{ dB}$	$B_{30\text{dB}}$	—	6,1	—	MHz
Amplitude ripple¹⁾ (p-p)	$\Delta\alpha$				
$f_N \pm 1,92 \text{ MHz}$		—	0,5	0,9	dB
$f_N \pm k \cdot 1,25 \text{ MHz} \pm 0,6144 \text{ MHz}$		—	0,4	0,7	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 1,92 \text{ MHz}$		—	70	120	ns
Phase Linearity¹⁾ (rms)	$\Delta\phi$				
$f_N \pm 1,92 \text{ MHz}$		—	1,0	1,4	$^{\circ}$
$f_N \pm k \cdot 1,25 \text{ MHz} \pm 0,6144 \text{ MHz}$		—	1,0	1,4	$^{\circ}$
Average Error Vector Magnitude¹⁾	EVM				
$f_N \pm 1,92 \text{ MHz}$		—	1,9	3,0	%
$f_N \pm k \cdot 1,25 \text{ MHz} \pm 0,6144 \text{ MHz}$		—	1,9	3,0	%
Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N \pm 2,5 \text{ MHz} \dots f_N \pm 3,0 \text{ MHz}$		4	5	—	dB
$f_N \pm 3,0 \text{ MHz} \dots f_N \pm 17,5 \text{ MHz}$		10	20	—	dB
$f_N \pm 17,5 \text{ MHz} \dots f_N \pm 66,0 \text{ MHz}$		45	50	—	dB
Temperature coefficient of frequency²⁾	TC_f	—	- 0,036	—	ppm/K ²
Turnover temperature	T_0	—	35	—	$^{\circ}\text{C}$

¹⁾Amplitude ripple/Phase Linearity/Average Error Vector Magnitude: where $k = (-1, 0, 1)$

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

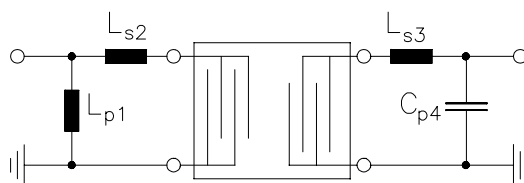


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Matching network to 50 Ω single ended input and output:

(Element values depend upon PCB layout)



$$L_{p1} = 18 \text{ nH}$$

$$L_{s2} = 68 \text{ nH}$$

$$L_{s3} = 120 \text{ nH}$$

$$C_{p4} = 56 \text{ pF}$$



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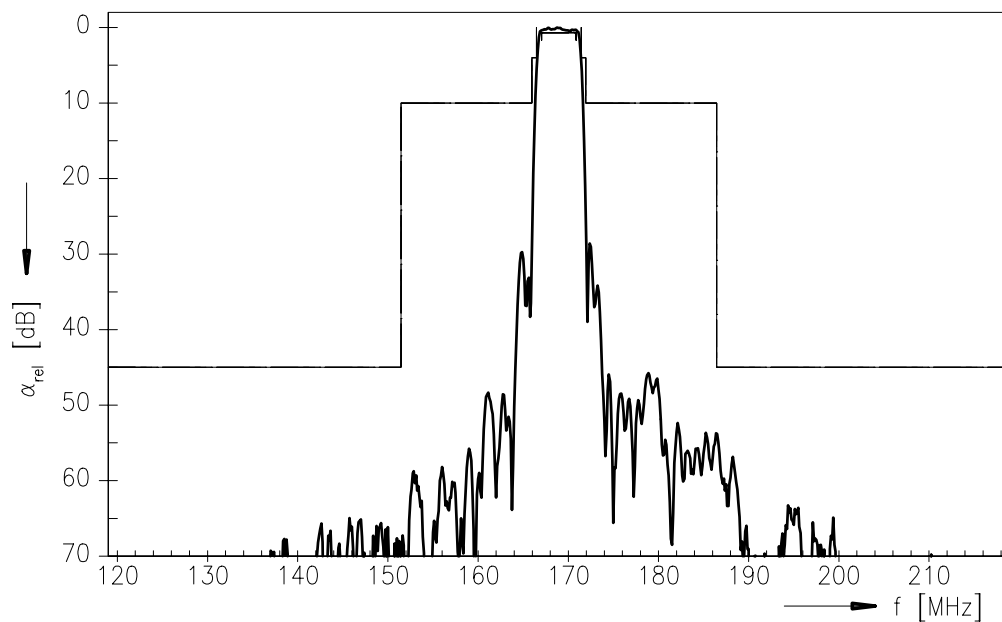
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Low-Loss Filter

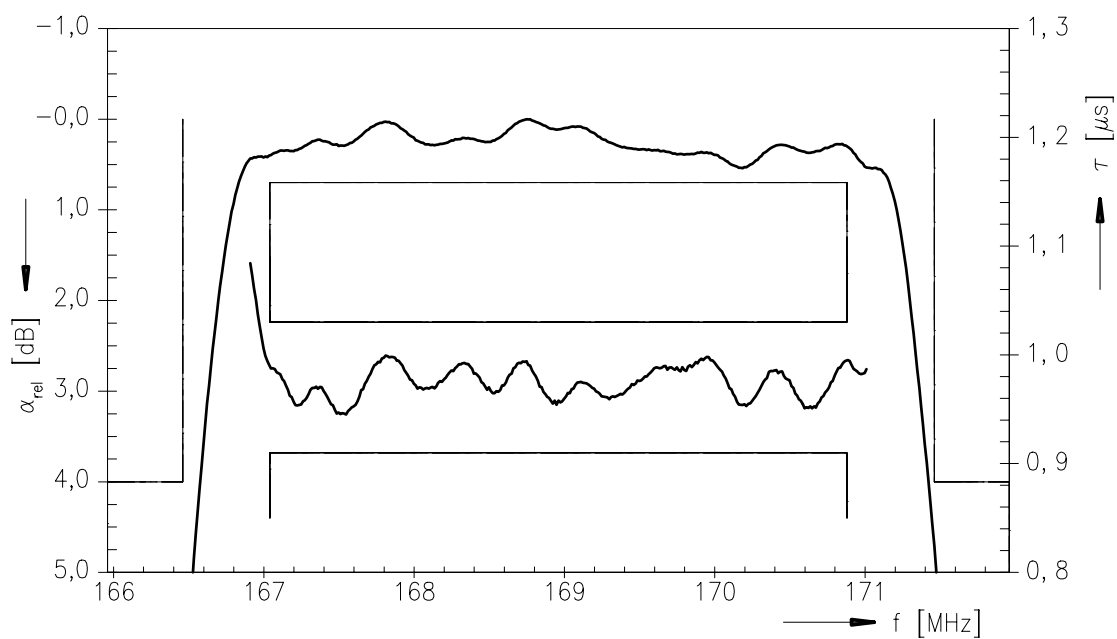
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Normalized frequency response



Normalized frequency response (pass band)





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