



SAW Components

Data Sheet B5014





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B5014

Low-Loss Filter

119,6 MHz

Data Sheet

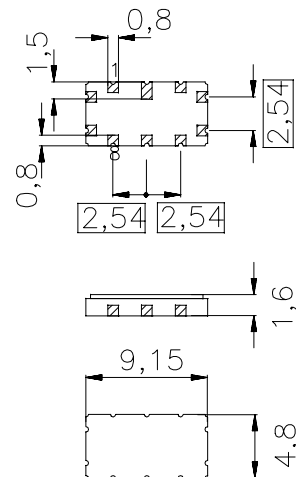
Features

- Low-loss IF filter for GSM base station
- Temperature stable
- Ceramic SMD package
- Unbalanced or balanced operation

Terminals

- Gold plated

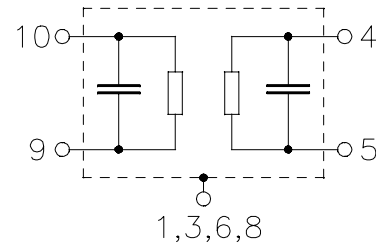
Ceramic package QCC10B



Dimensions in mm, approx. weight 0,8 g

Pin configuration

- 9 Input or balanced input
- 10 Input ground or balanced input
- 4 Output or balanced output
- 5 Output ground or balanced output
- 2, 7 Ground
- 1, 3, 6, 8 Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B5014	B39121-B5014-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	10	dBm	


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Characteristics

Operating temperature range:

 $T = -10 \text{ to } +85 \text{ }^\circ\text{C}$

Terminating source impedance:

 $Z_S = 50 \ \Omega$ and external matching network

Terminating load impedance:

 $Z_L = 50 \ \Omega$ and external matching network

			min.	typ.	max.	
Nominal frequency	f_N		—	119,6	—	MHz
Minimum insertion attenuation	α_{\min}		—	6,5	8,0	dB
1dB bandwidth						
	$\alpha_{\text{rel}} \leq 1,0 \text{ dB}$	$B_{1,0\text{dB}}$	—	400	—	kHz
Amplitude ripple (p-p)	$f_N \pm 75 \text{ kHz}$	$\Delta\alpha$	—	0,3	1,0	dB
Group delay ripple (p-p)	$f_N \pm 75 \text{ kHz}$	$\Delta\tau$	—	100	400	ns
Relative attenuation (relative to α_{\min})		α_{rel}				
	$f_N \pm 400 \text{ kHz} \dots f_N \pm 600 \text{ kHz}$		9	15	—	dB
	$f_N \pm 600 \text{ kHz} \dots f_N \pm 800 \text{ kHz}$		20	35	—	dB
	$f_N \pm 800 \text{ kHz} \dots f_N \pm 3 \text{ MHz}$		26	35	—	dB
	$f_N \pm 3 \text{ MHz} \dots f_N \pm 20 \text{ MHz}$		30	45	—	dB
	1 MHz ... $f_N - 20 \text{ MHz}$		55	65	—	dB
	$f_N + 20 \text{ MHz} \dots 500 \text{ MHz}$		55	65	—	dB
Return loss (at f_N)			9	15	—	dB
Temperature coefficient of frequency ¹⁾	TC_f		—	-0,036	—	ppm/K ²
Turnover temperature	T_0		—	40	—	°C

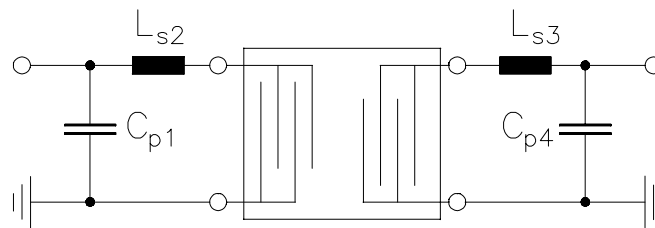
¹⁾ Temperature dependence of f_c : $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



Data Sheet

Matching network to 50 Ω

(Element values depend on PCB layout)



$$C_{p1} = 39 \text{ pF}$$

$$L_{s2} = 180 \text{ nH} \parallel 1.0 \text{ pF}$$

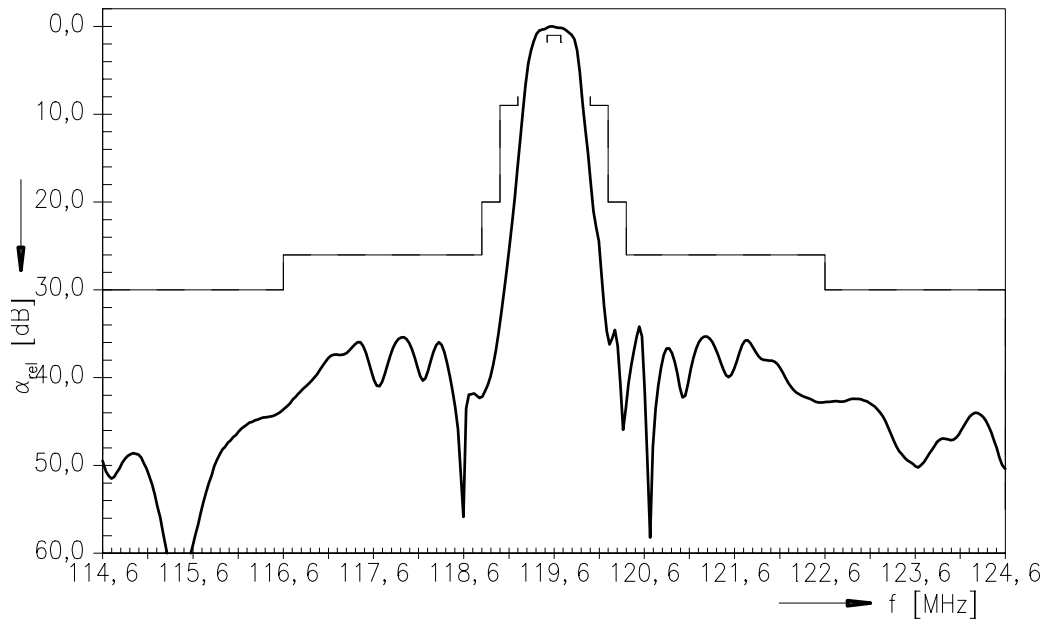
$$L_{s3} = 150 \text{ nH} \parallel 1.2 \text{ pF}$$

$$C_{p4} = 47 \text{ pF}$$

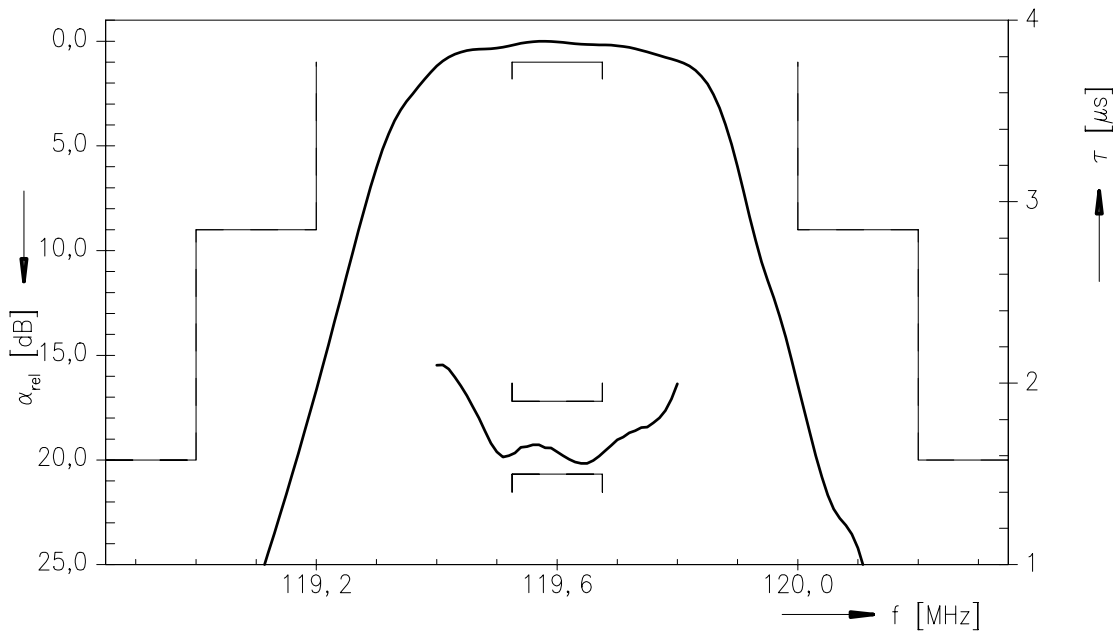


Data Sheet

Normalized frequency response



Normalized frequency response (pass band)





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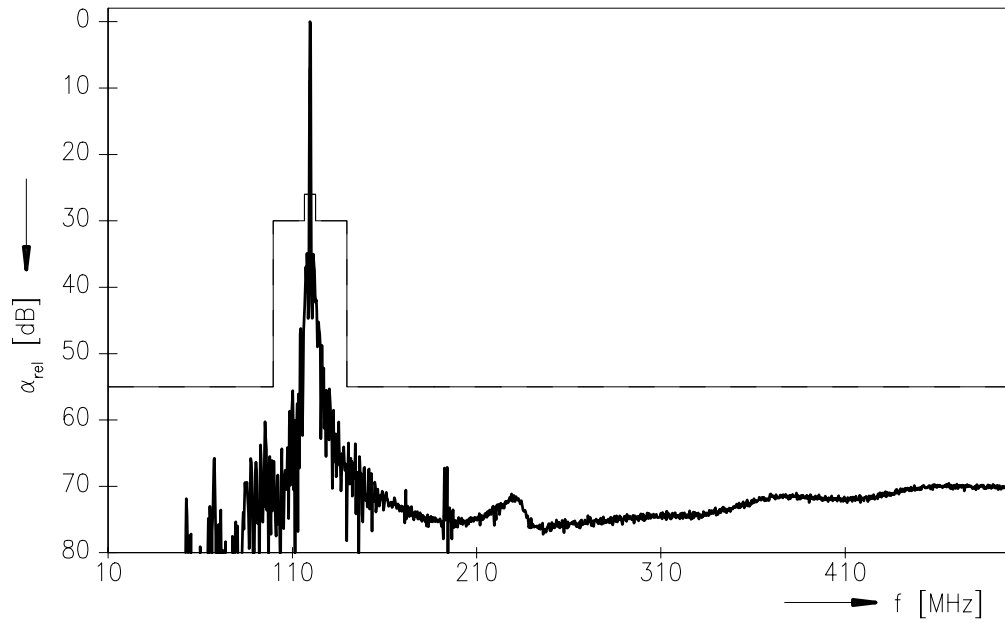
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Normalized frequency response (wideband)





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