



SAW filters for infrastructure systems

Series/Type: **B5209**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39141B5209Z510		2012-01-13	2012-12-31	2013-03-30

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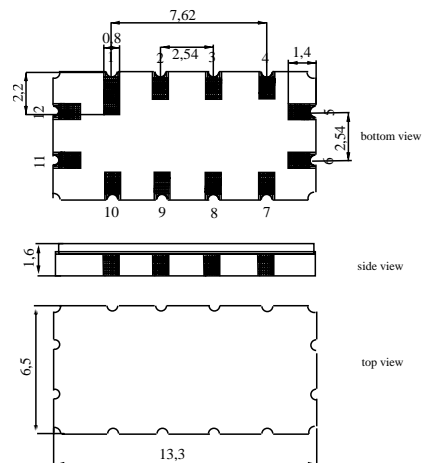
Application

- Low-loss IF filter for RadioLink base station
- Usable passband 12.0 MHz
- Balanced or unbalanced operation possible



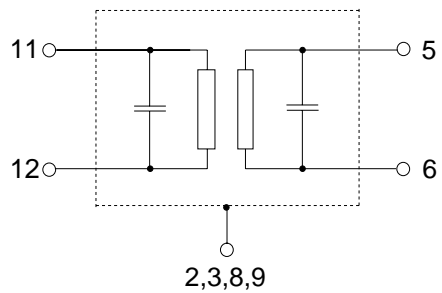
Features

- Package size 13.3 x 6.5 x 1.6 mm³
- Package code QCC12
- RoHS compatible
- Approximate weight 0.44 g
- Ceramic package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- Filter surface passivated



Pin configuration

- 11 Input
- 12 Input ground
- 5 Output
- 6 Output ground
- 1, 4, 7, 10 To be grounded
- 2, 3, 8, 9 Case ground





SAW Components

B5209

SAW IF filter

140.0 MHz

Data sheet



Characteristics

Temperature range for specification: $T = -5\text{ °C to }+80\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$ and matching network
 Terminating load impedance: $Z_L = 50\ \Omega$ and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	140	—	MHz
Minimum insertion attenuation (including matching network)	α_{\min}	—	7.8	10.0	dB
Passband width					
	$\alpha_{\text{rel}} \leq 3.0\text{ dB}$	$B_{3\text{dB}}$	15	18.7	— MHz
	$\alpha_{\text{rel}} \leq 40.0\text{ dB}$	$B_{40\text{dB}}$	—	34.1	60 MHz
Amplitude ripple (p-p)		$\Delta\alpha$			
	$f_N \pm 6.0\text{ MHz}$		—	0.66	1.0 dB
	$f_N \pm 7.5\text{ MHz}$			0.66	3.0 dB
Group delay ripple (p-p)		$\Delta\tau$			
	$f_N \pm 6.0\text{ MHz}$		—	55	100 ns
Relative attenuation (relative to α_{\min})		α_{rel}			
	$f_N - 30.0\text{ MHz} \dots f_N - 130.0\text{ MHz}$		40	55	— dB
	$f_N + 30.0\text{ MHz} \dots f_N + 360.0\text{ MHz}$		40	65	— dB
Temperature coefficient of frequency	TC_f	—	—87	—	ppm/K



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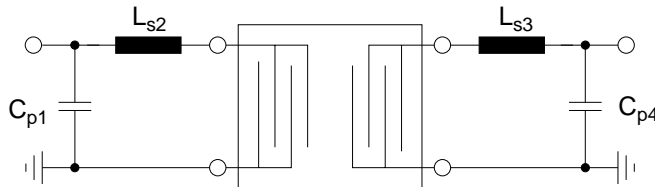
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Matching network to 50 Ω



$$C_{p1} = 56 \text{ pF}$$

$$L_{s2} = 39 \text{ nH}$$

$$L_{s3} = 39 \text{ nH}$$

$$C_{p4} = 39 \text{ pF}$$

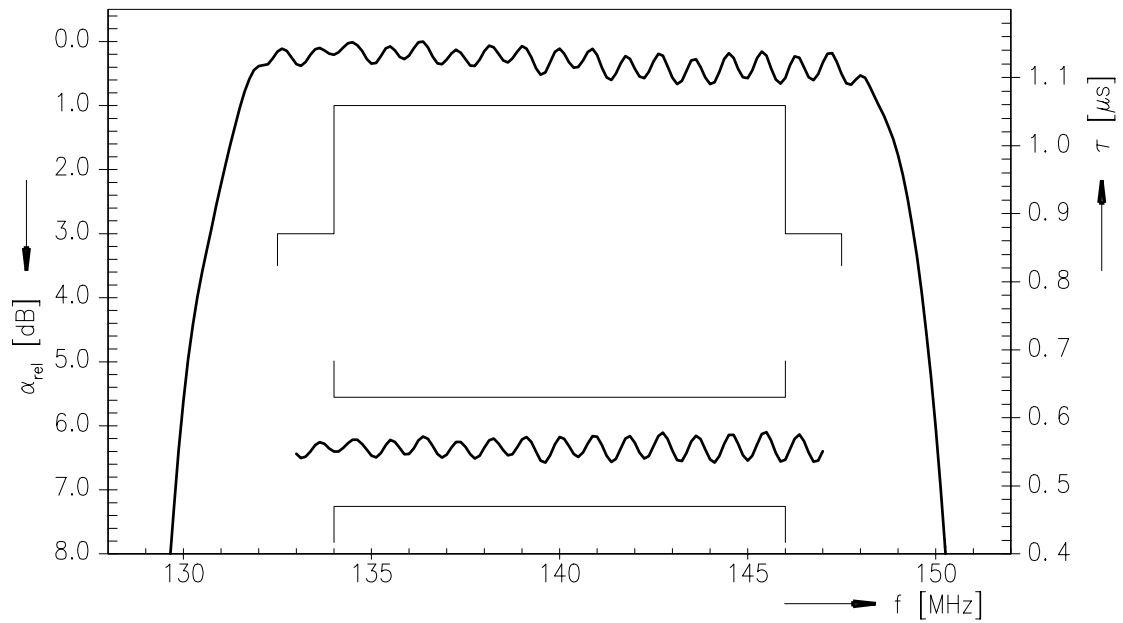
Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
Input Power	P _{IN}	5	dBm	

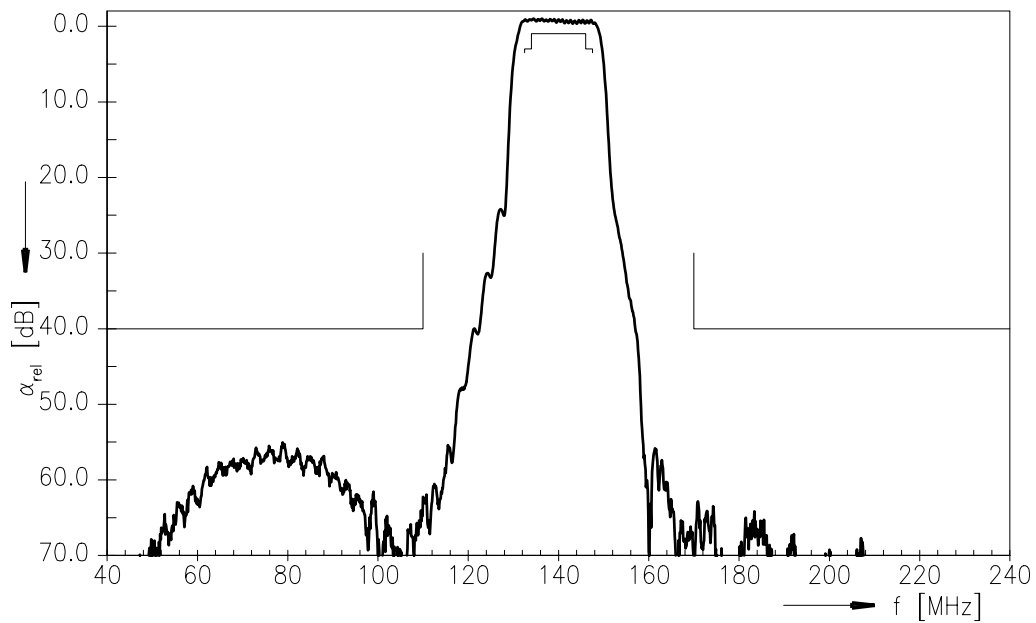
Please read *cautions and warnings and important notes* at the end of this document.



Transfer function (S21, Narrowband)



Transfer function (S21, Wideband)





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SAW IF filter

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References

Type	B5209
Ordering code	B39141B5209Z510
Marking and package	C61157-A7-A55
Packaging	F61074-V8163-Z000
Date codes	L_1126
S-parameters	
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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Please read *cautions and warnings and important notes* at the end of this document.



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