



SAW Components

SAW RF filter

Automotive telematics

Series/type:	B4309
Ordering code:	B39202B4309P810
Date:	May 11, 2011
Version:	2.1

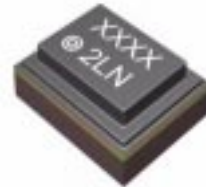


Data Sheet



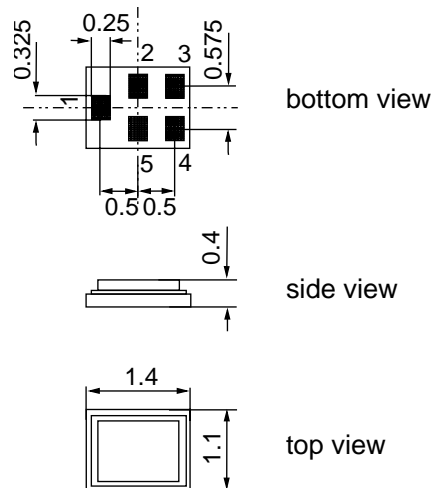
Application

- Low-loss RF filter for mobile telephone WCDMA systems, transmit path (Tx)
- Unbalanced to unbalanced operation
- Very low insertion attenuation
- Low amplitude ripple
- Very low Error Vector Magnitude (EVM)
- High Rx-suppression
- Usable passband 60 MHz



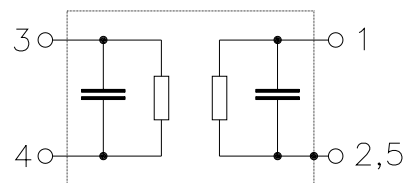
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- Package code QCS5P
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- AEC-Q200 qualified component family (operable temperature range -40°C to +85°C)
- **Electrostatic Sensitive Device (ESD)**
- Moisture Sensitivity Level 3



Pin configuration

- 1 Input
- 4 Output
- 2,3,5 to be grounded





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Characteristics

Temperature range for specification: $T = -20\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	1950.0	—	MHz
Maximum insertion attenuation	α_{max}	—	2.3	3.0	dB
1920.00 ... 1980.00 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1.1	1.8	dB
1920.00 ... 1980.00 MHz					
VSWR		—	1.8	2.2	
1920.00 ... 1980.00 MHz					
Error Vector Magnitude	EVM ¹⁾	—	1.0	3.0	%
@fCarrier 1922.50 ... 1977.50 MHz					
Attenuation	α				
50.00 ... 960.00 MHz		27	34	—	dB
960.00 ... 1575.00 MHz		25	35	—	dB
1575.00 ... 1576.00 MHz		32	35	—	dB
1576.00 ... 1730.00 MHz		30	35	—	dB
1730.00 ... 1880.00 MHz		30	38	—	dB
2025.00 ... 2050.00 MHz		35	54	—	dB
2110.00 ... 2170.00 MHz		35	38	—	dB
2200.00 ... 3100.00 MHz		33	37	—	dB
3100.00 ... 3960.00 MHz		30	42	—	dB
3960.00 ... 6000.00 MHz		20	34	—	dB

¹⁾ Error Vector Magnitude (EVM) based on definition in 3GPP TS 25.141



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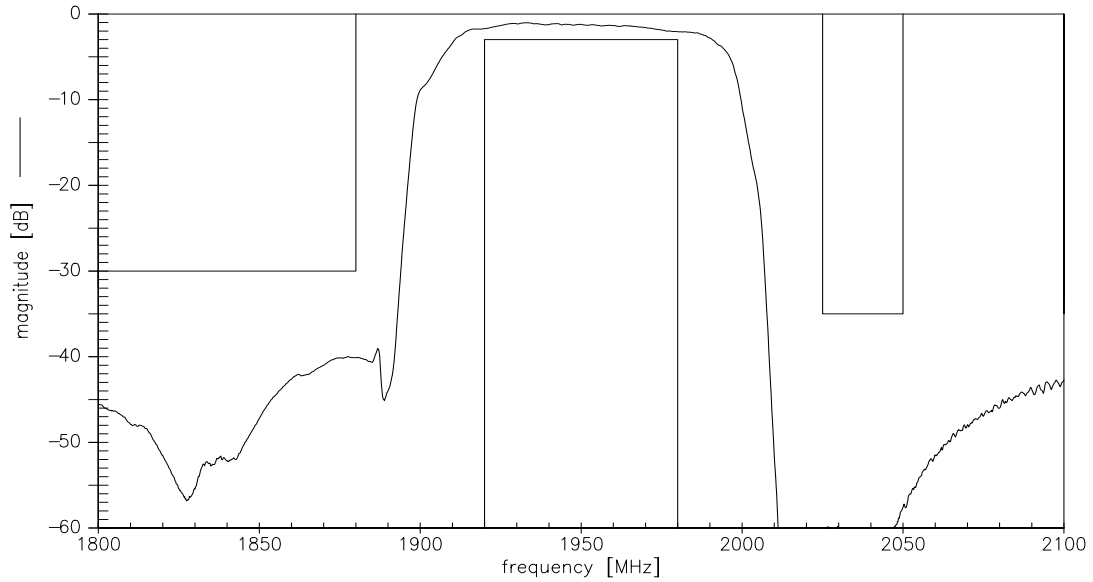
SAW RF filter

1950.00 MHz

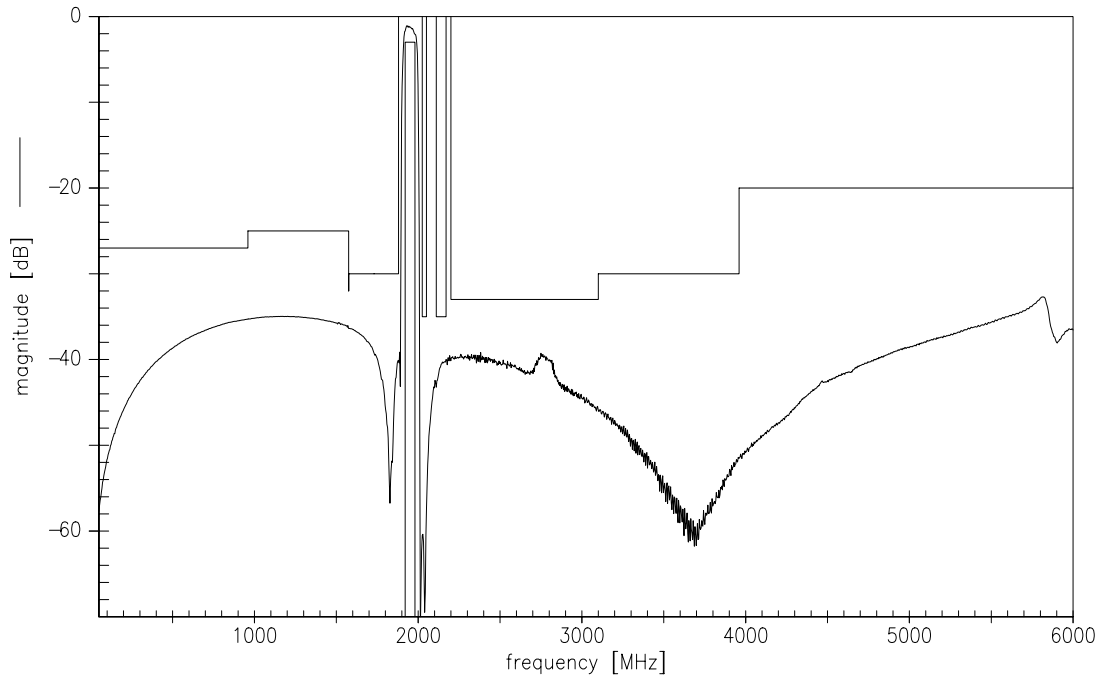
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Transfer function



Transfer function (wideband)



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

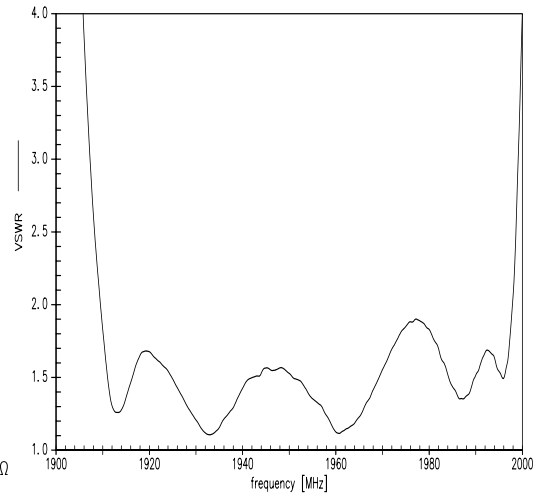
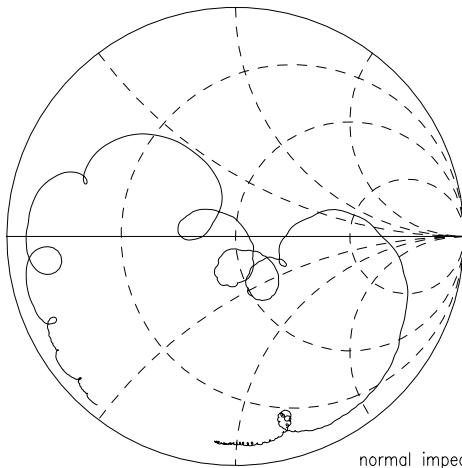


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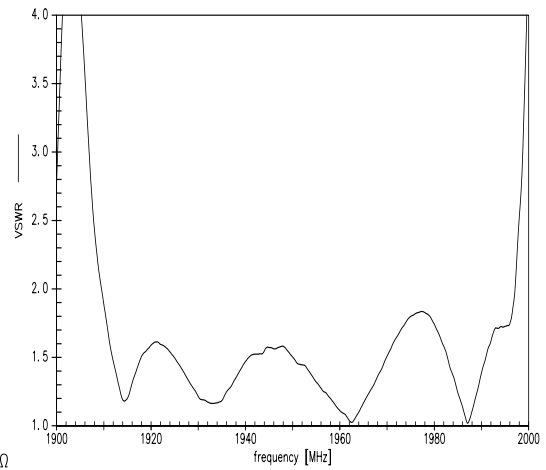
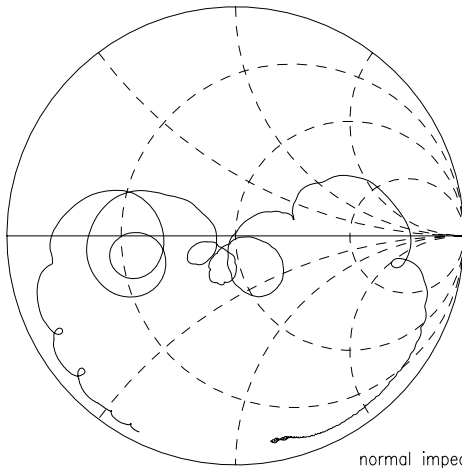


Smith chart

S11 function



S22 function





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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	cw signal

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**References**

Type	B4309
Ordering code	B39202B4309P810
Marking and package	C61157-A8-A9
Packaging	F61074-V8212-Z000
Date codes	L_1126
S-parameters	B4309_NB.s2p B4309_WB.s2p See file header for port/pin assignment table.
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."
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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