SAW Components

SAW RF filter

Automotive telematics

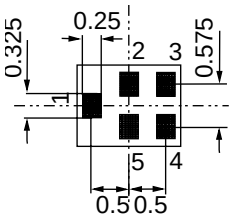
Series/type:	**B4309**
Ordering code:	**B39202B4309P810**
Date:	May 11, 2011
Version:	2.1

Application

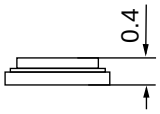
- Low-loss RF filter for mobile telephone WCDMA systems, transmit path (Tx)
- Unbalanced to unbalanced operation
- Very low insertion attenuation
- Low amplitude ripple
- Very low Error Vector Magnitude (EVM)
- High Rx-suppression
- Usable passband 60 MHz

Features

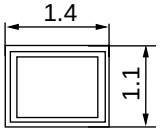
- Package size 1.4 x 1.1 x 0.4 mm^3
- Package code QCS5P
- RoHS compatible
- Approximate weight 0.003 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- AEC-Q200 qualified component family (operable temperature range –40˚C to +85˚C)
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- Moisture Sensitivity Level 3



bottom view



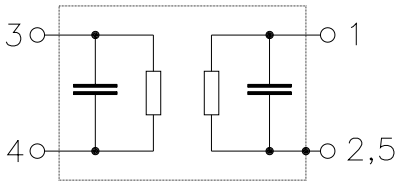
side view



top view

Pin configuration

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



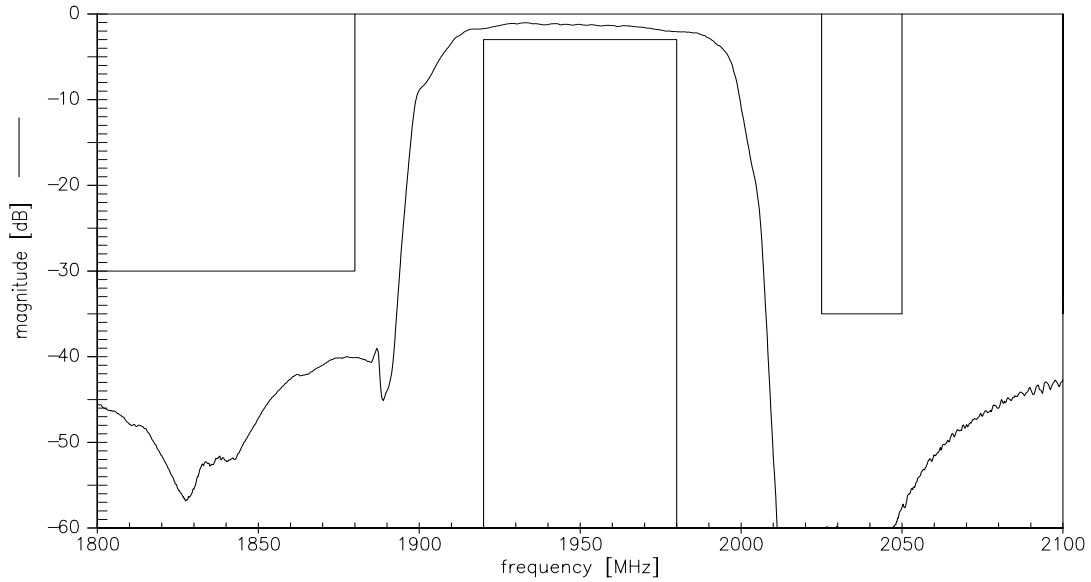
Characteristics

Temperature range for specification: T = –20 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

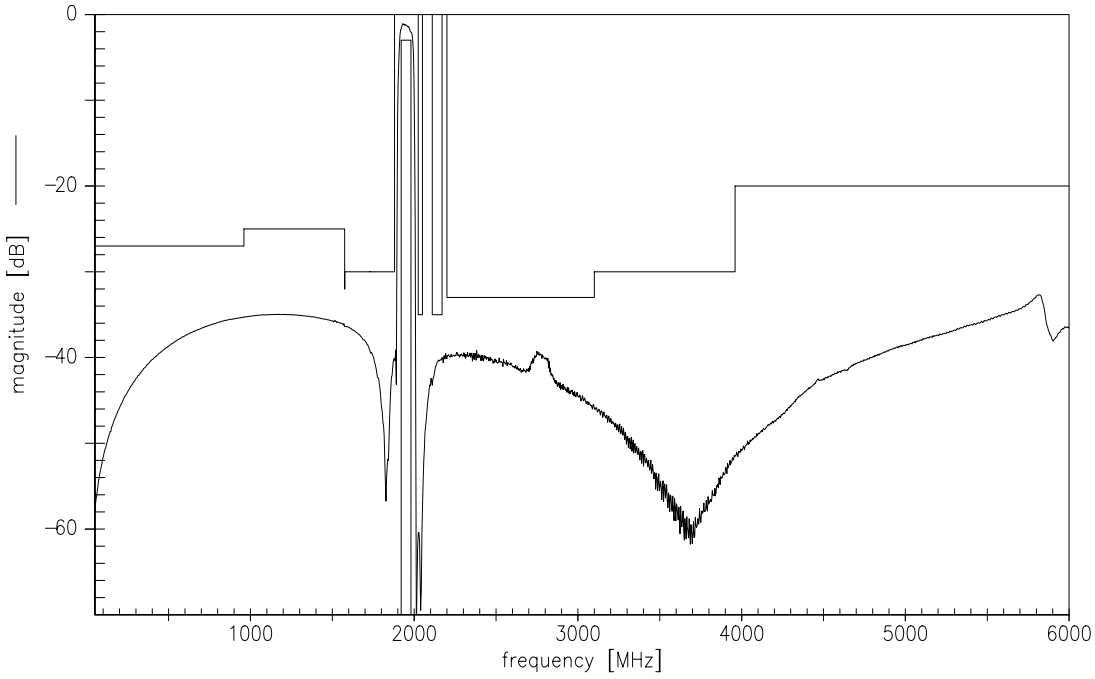
		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	1950.0	—	MHz
Maximum insertion attenuation	α_{max}				
1920.00 ... 1980.00 MHz		—	2.3	3.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1920.00 ... 1980.00 MHz		—	1.1	1.8	dB
VSWR					
1920.00 ... 1980.00 MHz		—	1.8	2.2	
Error Vector Magnitude	EVM[1)]				
@fCarrier 1922.50 ... 1977.50 MHz		—	1.0	3.0	%
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

Transfer function

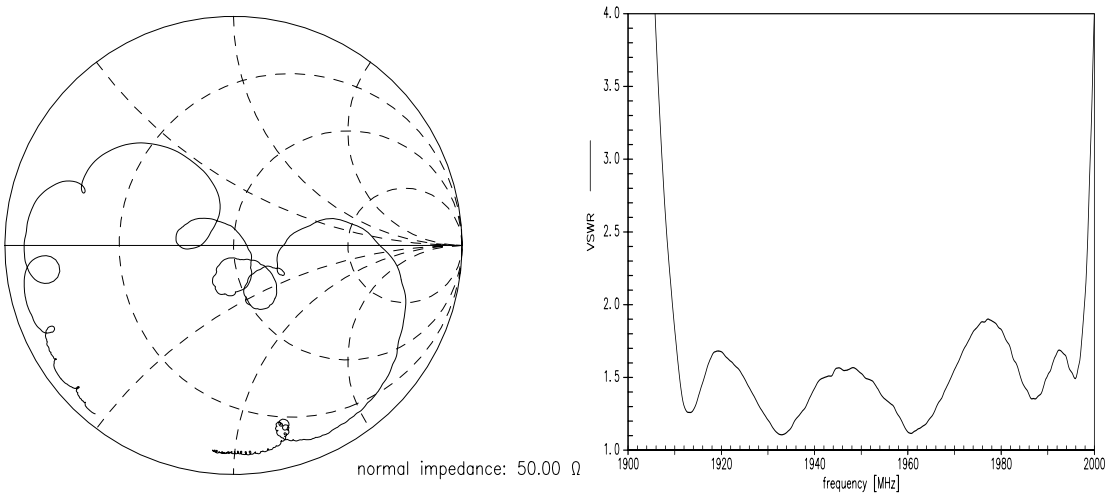


Transfer function (wideband)

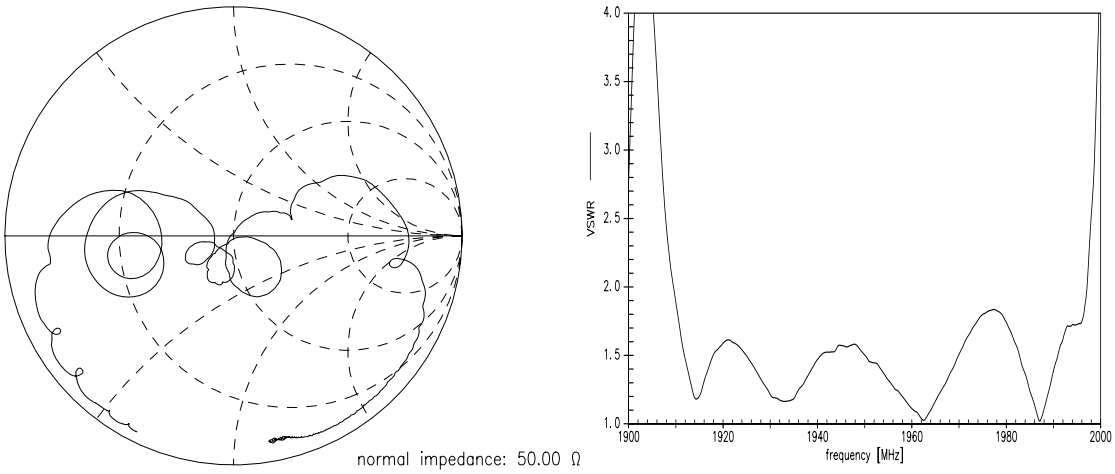


Smith chart

S11 function



S22 function



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

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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