



SAW Components

SAW RF filter

Automotive telematics

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

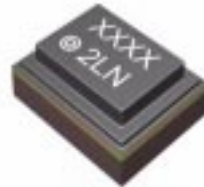


Data Sheet



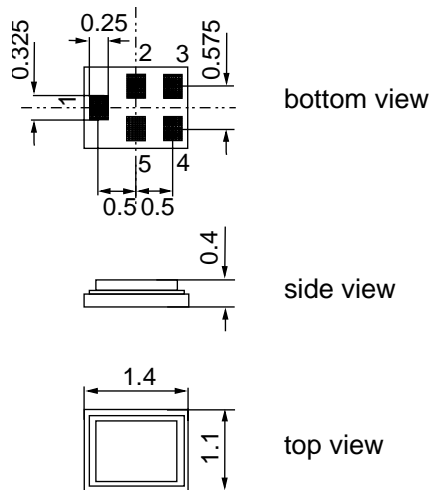
Application

- 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



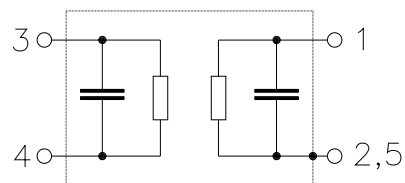
Features

- 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





| | |
|-----------------------|--------------------|
| SAW Components | B4309 |
| SAW RF filter | 1950.00 MHz |

Data Sheet



Characteristics

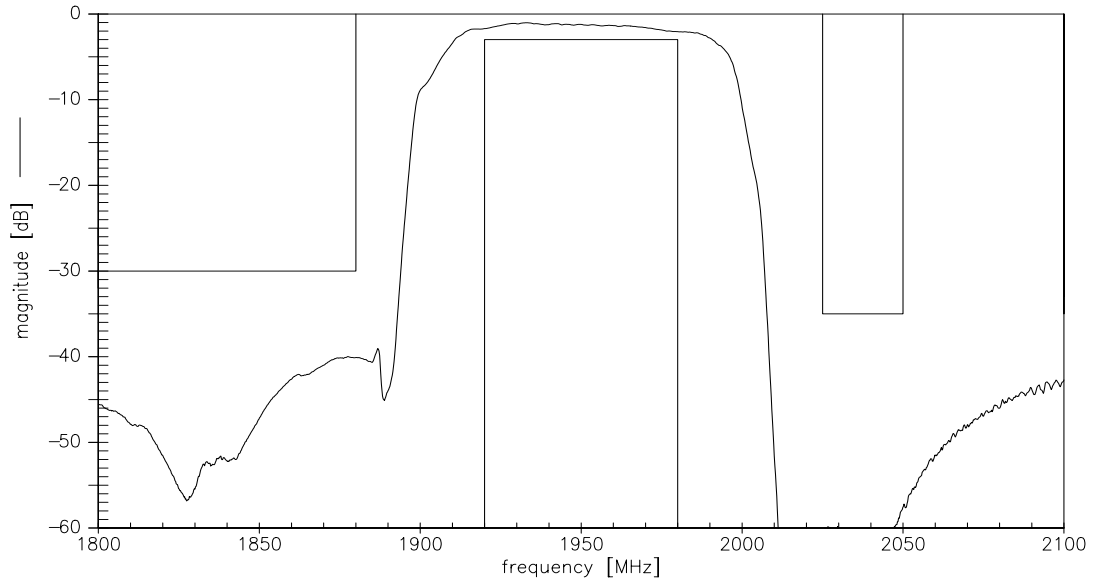
Temperature range for specification: T = -20 °C to +85 °C
 Terminating source impedance: Z_S = 50 Ω
 Terminating load impedance: Z_L = 50 Ω

| | | min. | typ. @ 25 °C | max. | |
|--------------------------------------|-------------------|------|-----------------|------|-----|
| Center frequency | f _C | — | 1950.0 | — | MHz |
| Maximum insertion attenuation | α _{max} | — | 2.3 | 3.0 | dB |
| 1920.00 ... 1980.00 MHz | | | | | |
| Amplitude ripple (p-p) | Δα | — | 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 |

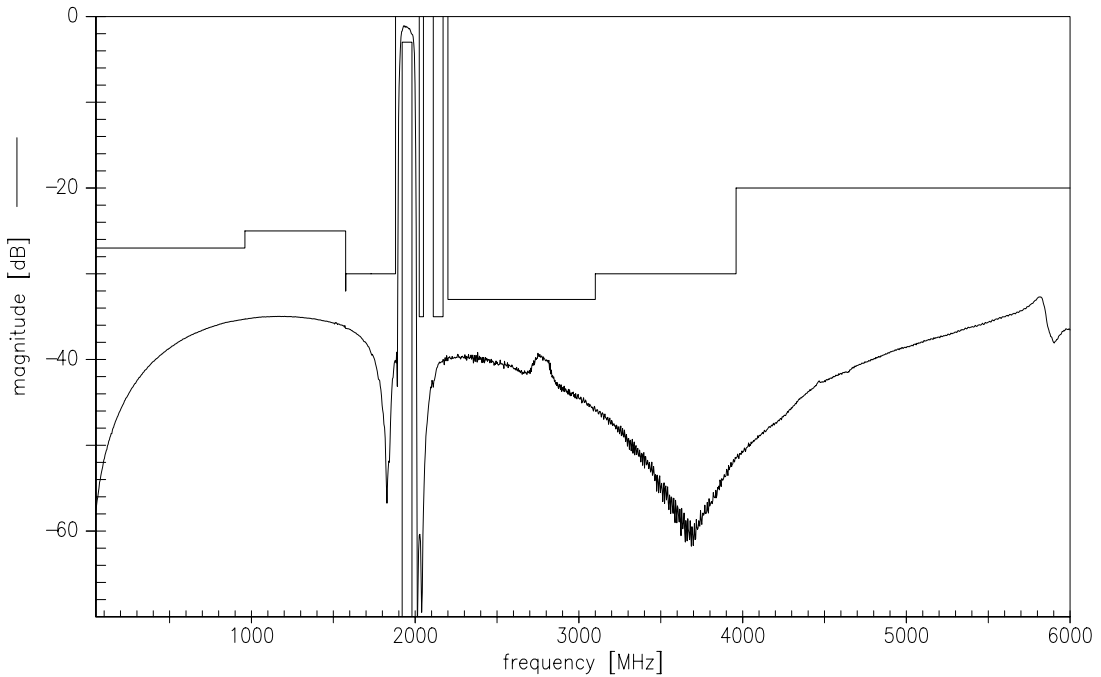
¹⁾ Error Vector Magnitude (EVM) based on definition in 3GPP TS 25.141



Transfer function



Transfer function (wideband)



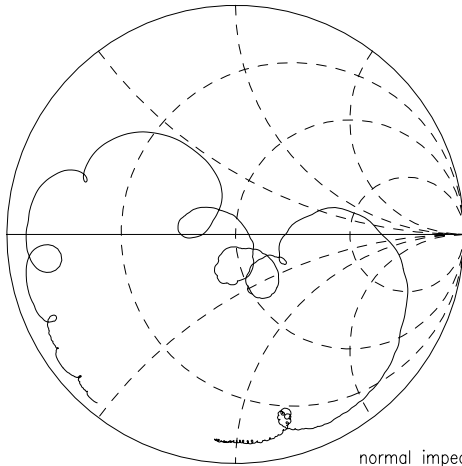


Data Sheet

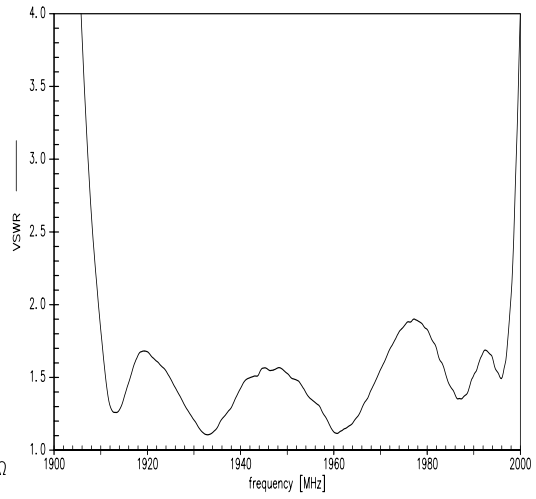


Smith chart

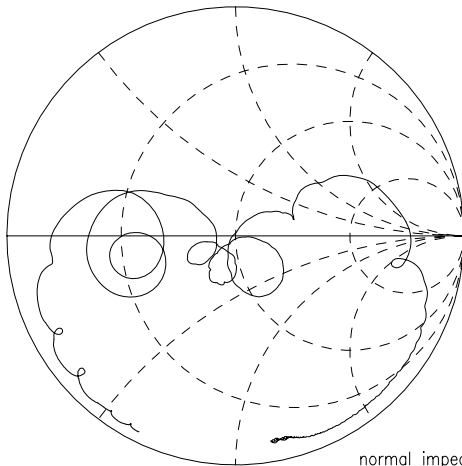
S11 function



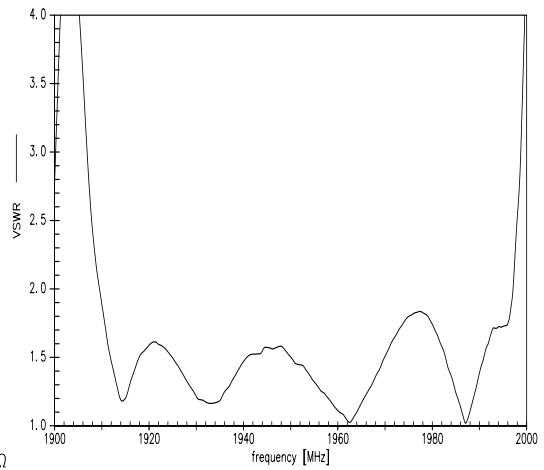
normal impedance: 50.00 Ω



S22 function



normal impedance: 50.00 Ω





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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 |

**SAW Components****B4309****SAW RF filter****1950.00 MHz**

Data Sheet

**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 |

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

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