



# SAW Components

## SAW Filter

PCS / WCDMA band II

<b>Series/Type:</b>	<b>B9477</b>
<b>Ordering code:</b>	<b>B39202B9477P810</b>
<b>Date:</b>	<b>August 16, 2012</b>
<b>Version:</b>	<b>2.2</b>

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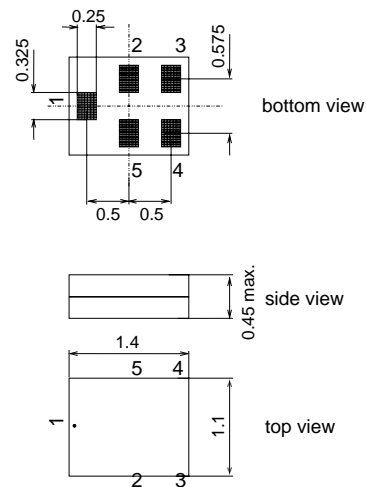
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**Application**

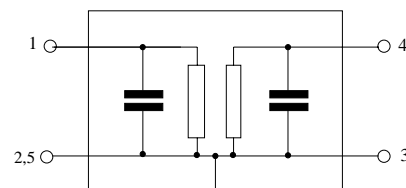
- Low-loss RF filter for mobile telephone PCS systems, receive path (RX)
- Useable passband 60 MHz
- Useable for antenna diversity systems
- Suitable for GPRS class 1 to 12


**Features**

- Package size 1.4 x 1.1 mm<sup>2</sup>
- max. Package height 0.45 mm
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 3**


**Pin configuration**

- 1 Input unbalanced
- 4 Output unbalanced
- 2,3,5 To be grounded



**Data sheet**

**Characteristics**

Operating temperature range:  $T = -30\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$  (unbalanced)  
 Terminating load impedance:  $Z_L = 50\ \Omega$  (unbalanced)

		<b>B9477</b>			
		<b>min.</b>	<b>typ. @ 25°C</b>	<b>max.</b>	
<b>Center frequency</b>	$f_C$	-	1960.0	-	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	-	2.6	4.2 <sup>1)</sup>	dB
1930.6 ... 1989.4 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	-	1.1	2.6	dB
1930.6 ... 1989.4 MHz					
<b>Input return loss</b>		-	1.8	2.3	
1930.6 ... 1989.4 MHz					
<b>Output return loss</b>		-	2.0	2.4	
1930.6 ... 1989.4 MHz					
<b>Attenuation</b>	$\alpha$				
DC ... 1500.0 MHz		43	51	-	dB
1500.0 ... 1907.0 MHz		43	48	-	
1907.0 ... 1909.4 MHz		43 <sup>2)</sup>	51 <sup>3)</sup>	-	dB
2040.0 ... 2070.0 MHz		35	55	-	
2070.0 ... 2500.0 MHz		35	46	-	dB
2500.0 ... 4500.0 MHz		31	37	-	
4500.0 ... 5200.0 MHz		31	36	-	dB
5200.0 ... 6000.0 MHz		22	30	-	

1) 4.0dB for  $T = 0...85\text{ °C}$

2) 18dB for  $T = 100\text{ °C}$

3) 49dB for  $T = 100\text{ °C}$


**Maximum ratings**

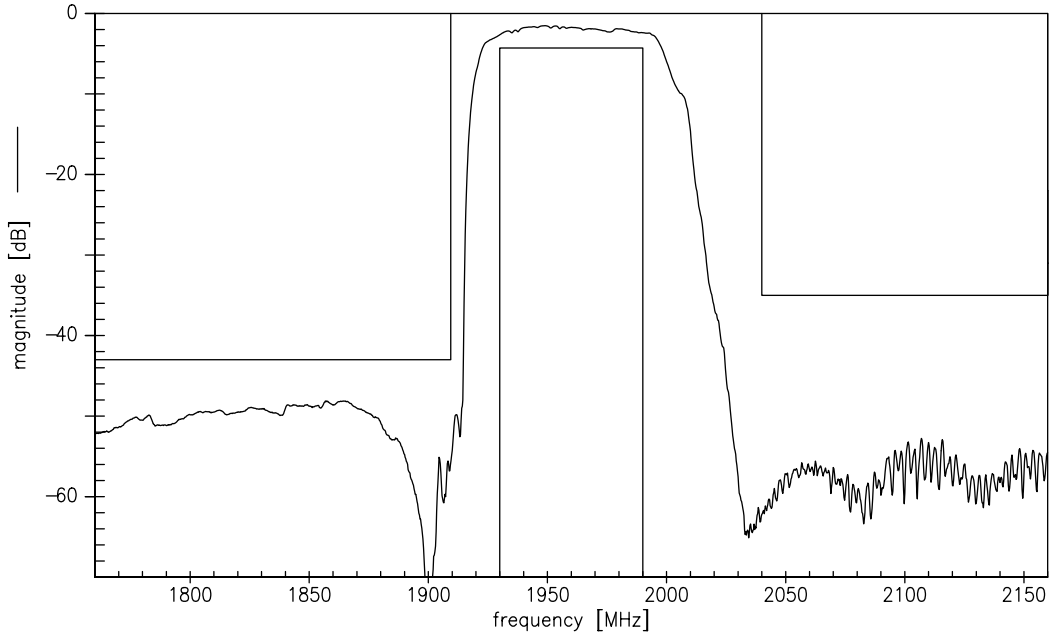
Operable temperature range	T	-30/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 10 pulses
Input Power at PCS Tx band	P <sub>IN</sub>	16	dBm	CW signal @ T=55°C, 2000h

<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

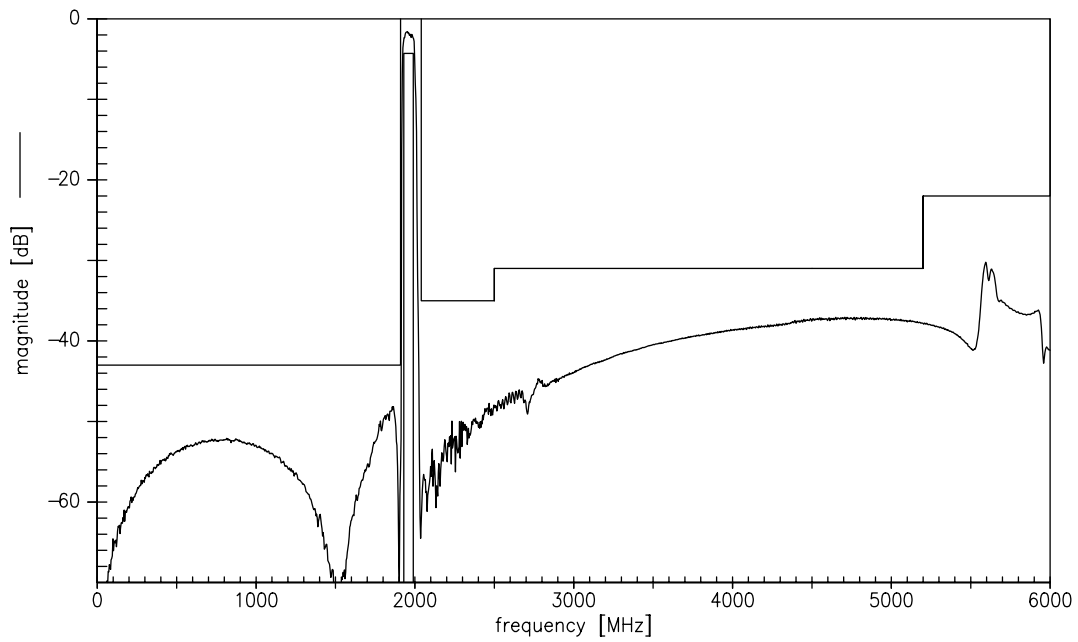
Data sheet



**Transfer function (narrowband)**



**Transfer function (wideband)**

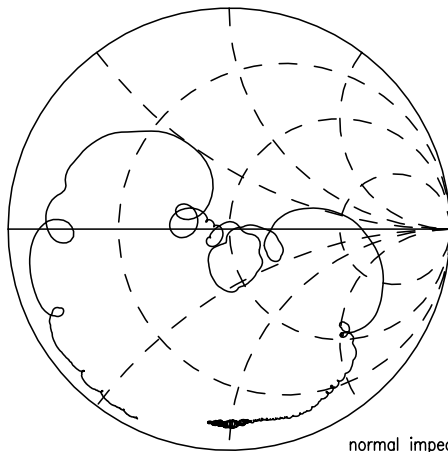


Data sheet

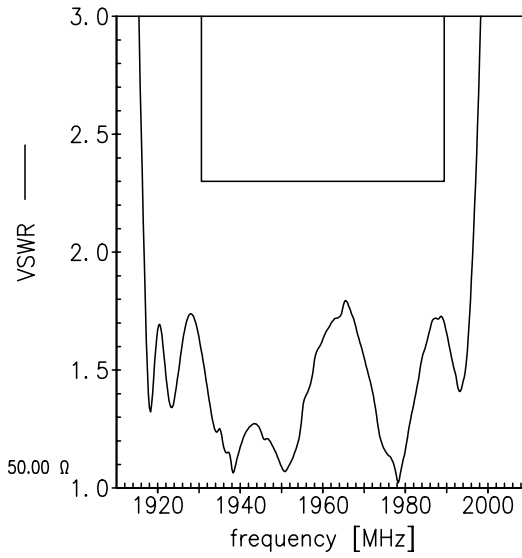


Smith chart

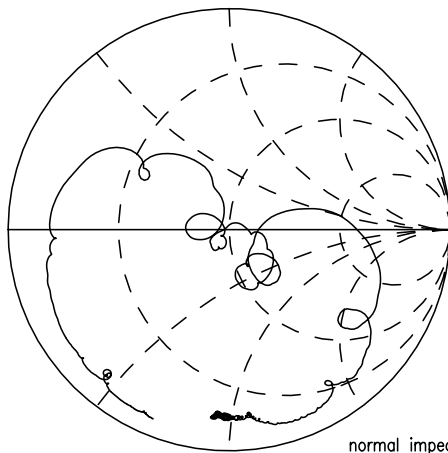
$S_{11}$  function



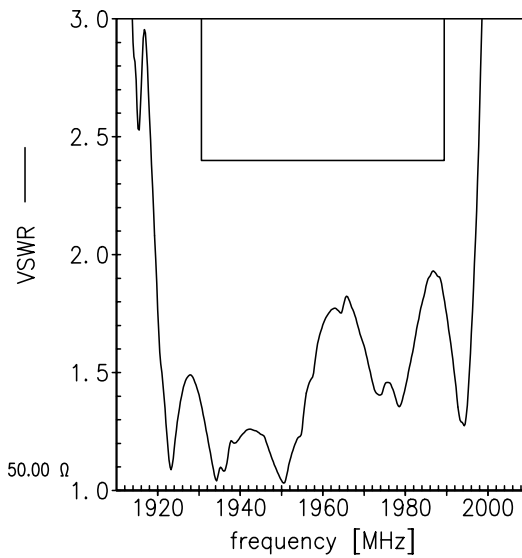
normal impedance: 50.00  $\Omega$



$S_{22}$  function



normal impedance: 50.00  $\Omega$



<b>SAW Components</b>	<b>B9477</b>
<b>SAW Filter</b>	<b>1960.0 MHz</b>

Data sheet



References

<b>Type</b>	B9477
<b>Ordering code</b>	B39202B9477P810
<b>Marking and package</b>	C61157-A8-A3
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9477_NB.s2p B9477_WB.s2p see file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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."
<b>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office.
<b>Matching coils</b>	See <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a> for a large variety of matching coils.

For further information please contact your local EPCOS sales office or visit our webpage at [www.epcos.com](http://www.epcos.com).

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