



## **SAW Components**

### **SAW Tx Filter**

WCDMA Band I

<b>Series/Type:</b>	<b>B9872</b>
<b>Ordering code:</b>	<b>B39202B9872P810</b>
Date:	October 17, 2012
Version:	2.0



Data Sheet



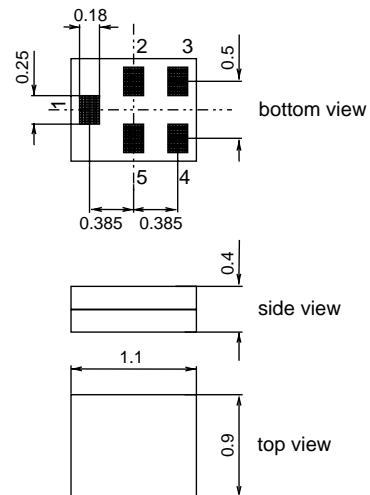
Application

- Low-loss RF filter for mobile telephone WCDMA Band I systems
- Impedance transform from 50  $\Omega$  to 50  $\Omega$
- Unbalanced to unbalanced operation
- Low amplitude ripple
- High Rx-suppression
- Usable passband: 60 MHz



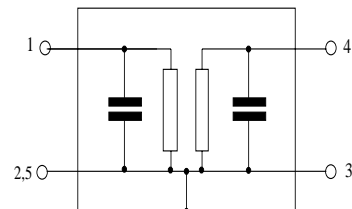
Features

- Package size 1.1 x 0.9 x 0.4 mm<sup>3</sup>
- RoHS compatible
- Approx. weight 0.001 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:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

		min.	typ. @ 25°C	max.	
<b>Center frequency</b>	$f_C$	—	1950.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
1920.0 ... 1980.0	MHz	—	1.7	3.3	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
1920.0 ... 1980.0	MHz	—	1.0	2.5	dB
<b>Input VSWR</b>					
1920.0 ... 1980.0	MHz	—	1.6	2.2	
<b>Output VSWR</b>					
1920.0 ... 1980.0	MHz	—	1.6	2.2	
<b>Attenuation</b>	$\alpha$				
50.0 ... 960.0	MHz	35	40	—	dB
960.0 ... 1575.0	MHz	32	41	—	dB
1575.0 ... 1576.0	MHz	37	44	—	dB
1576.0 ... 1700.0	MHz	30	40	—	dB
1700.0 ... 1880.0	MHz	25	30	—	dB
2025.0 ... 2110.0	MHz	20	24	—	dB
2110.0 ... 2170.0	MHz	30	40	—	dB
2170.0 ... 2400.0	MHz	30	38	—	dB
2400.0 ... 2500.0	MHz	32	40	—	dB
2500.0 ... 6000.0	MHz	26	31	—	dB



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SAW Tx Filter

1950.0 MHz

Data Sheet



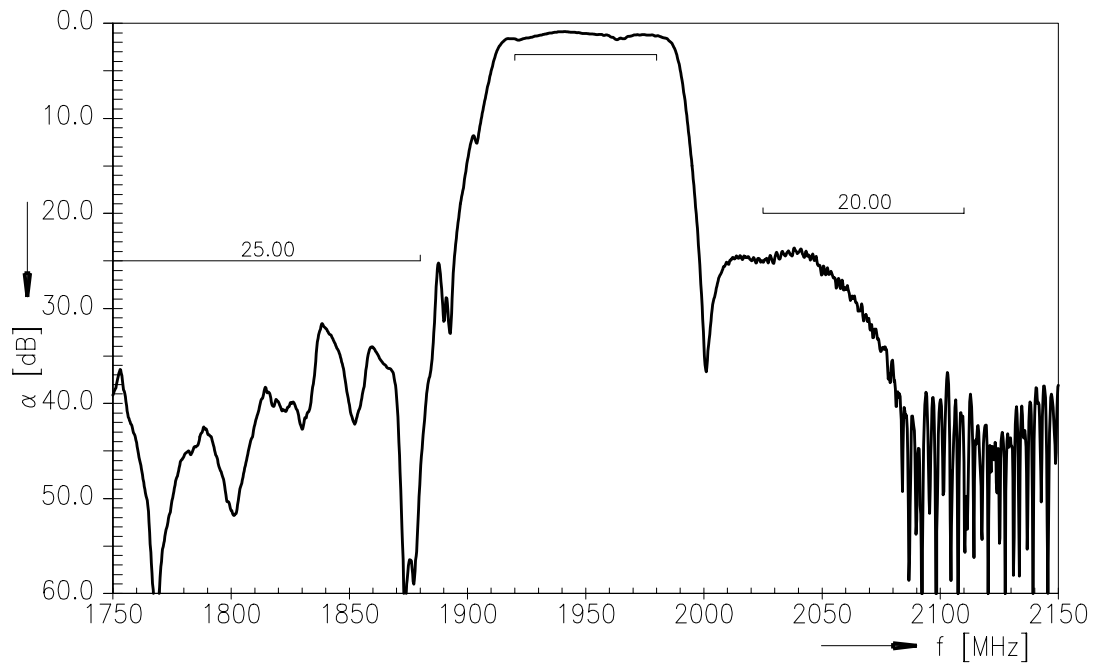
### Maximum ratings

Operable temperature range	T	-40/+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
Input Power at 1920.0 ...1980.0 MHz	P <sub>IN</sub>	10	dBm	continuous wave

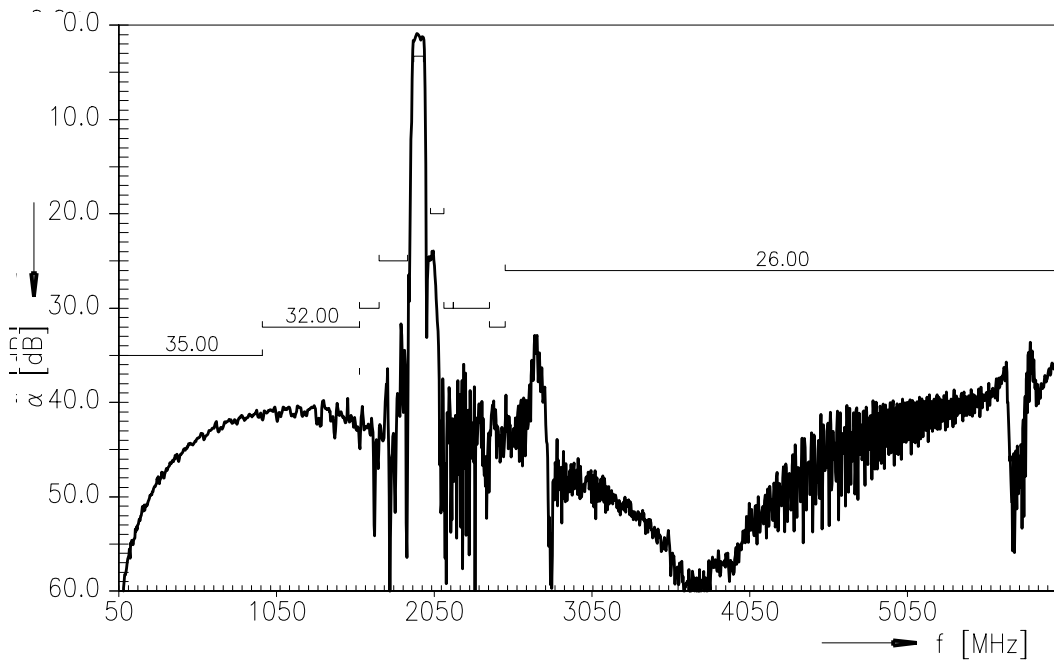
1) acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function

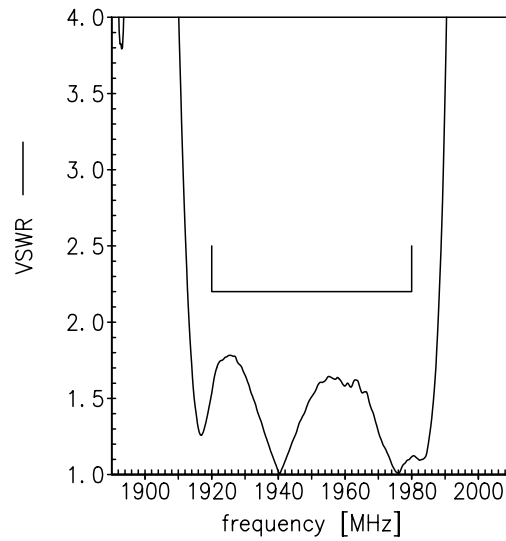
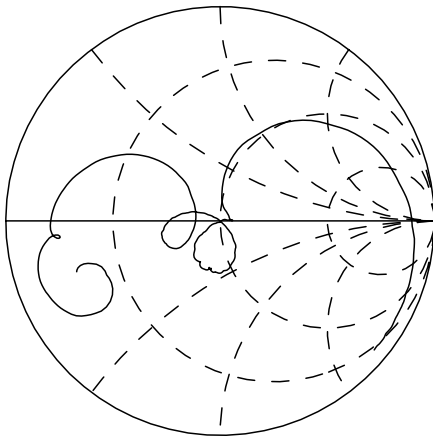


Transfer function (wideband)

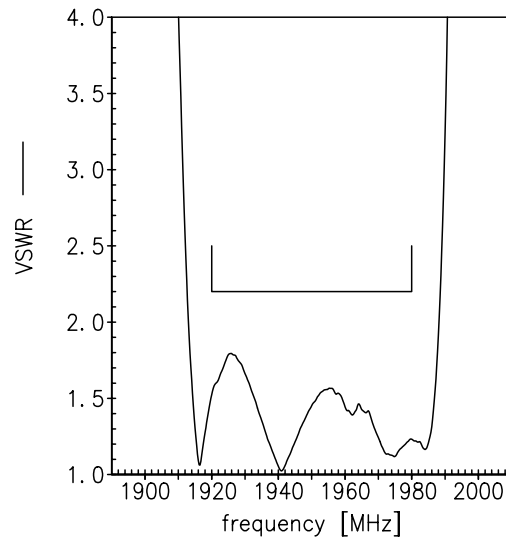
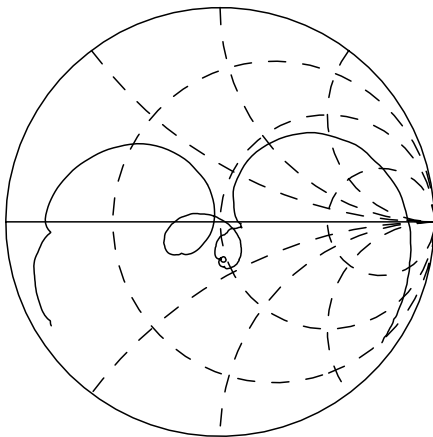


Smith charts

$S_{11}$  function



$S_{22}$  function





<b>SAW Components</b>	<b>B9872</b>
<b>SAW Tx Filter</b>	<b>1950.0 MHz</b>
Data Sheet	<b>SMD</b>

## References

<b>Type</b>	B9872
<b>Ordering code</b>	B39202B9872P810
<b>Marking and package</b>	C61157-A8-A56
<b>Packaging</b>	F61074-V8255-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9872_NB.s2p, B9872_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.

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