



## **SAW Components**

### **SAW Diversity Rx filter**

WCDMA Band I/IV

<b>Series/type:</b>	<b>B9469</b>
<b>Ordering code:</b>	<b>B39212B9469K610</b>
<b>Date:</b>	<b>November 24, 2010</b>
<b>Version:</b>	<b>2.0</b>

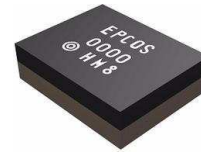


Data Sheet



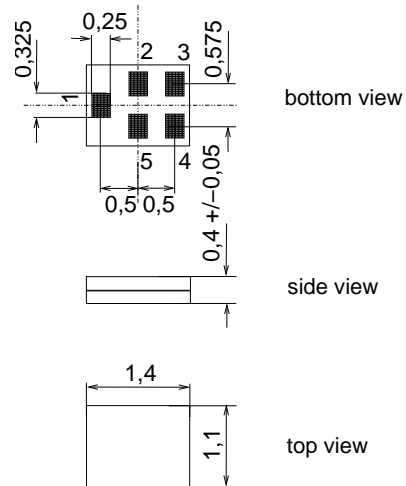
Application

- Low-loss RF filter for mobile telephone WCDMA Band I/IV systems (diversity) receive path (RX)
- Usable for diversity application
- Usable passband 60 MHz
- Unbalanced to balanced operation (50Ω /100Ω)



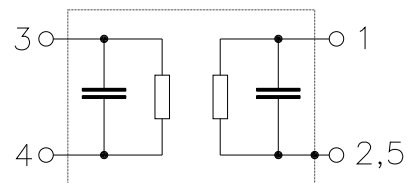
Features

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- 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
- 3,4 Output, balanced
- 2,5 To be grounded





<b>SAW Components</b>	<b>B9469</b>
<b>SAW RF Filter</b>	<b>2140.0 MHz</b>

Data Sheet



**Characteristics**

Temperature range for specification: T = -30 °C to +85 °C  
 Terminating source impedance: Z<sub>S</sub> = 50 Ω (unbalanced)  
 Terminating load impedance: Z<sub>L</sub> = 100 Ω || 22 nH (balanced)

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	f <sub>C</sub>	—	2140.0	—	MHz
<b>Maximum insertion attenuation</b> 2110.0 ... 2170.0 MHz	α <sub>max</sub>	—	2.2	2.5	dB
<b>Amplitude ripple (p-p)</b> 2110.0 ... 2170.0 MHz	Δα	—	0.7	1.0	dB
<b>CMRR</b> ( S <sub>21</sub> -S <sub>31</sub>   /  S <sub>21</sub> +S <sub>31</sub>  ) 2110.0 ... 2170.0 MHz	CMRR <sup>1)</sup>	23	29		dB
<b>Input VSWR</b> 2110.0 ... 2170.0 MHz		—	1.7	2.0	
<b>Output VSWR</b> 2110.0 ... 2170.0 MHz		—	1.8	2.0	
<b>Attenuation</b>	α				
0.0 ... 1920.0 MHz		40	49		dB
810.0 ... 849.0 MHz		50	61		dB
898.0 ... 925.0 MHz		50	61		dB
1710.0 ... 1755.0 MHz		46	52		dB
1920.0 ... 1980.0 MHz		46	56		dB
1980.0 ... 2050.0 MHz		25	39		dB
2400.0 ... 2484.0 MHz		30	44		dB
2484.0 ... 3000.0 MHz		35	45		dB
3000.0 ... 6000.0 MHz		40	45		dB

<sup>1)</sup> A combination of 5° phase balance and 1 dB amplitude balance corresponds to 23 dB CMRR



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<b>SAW RF Filter</b>	<b>2140.0 MHz</b>
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**Maximum ratings**

Operable temperature range	T	-30/+85	°C	machine model, 10 pulses
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	3	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	
Input power at				
824.0 ... 849.0 MHz				
880.0 ... 915.0 MHz				
1710.0 ... 1755.0 MHz				
1920.0 ... 1980.0 MHz		15	dBm	
else where	P <sub>IN</sub>	10	dBm	

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



SAW Components

B9469

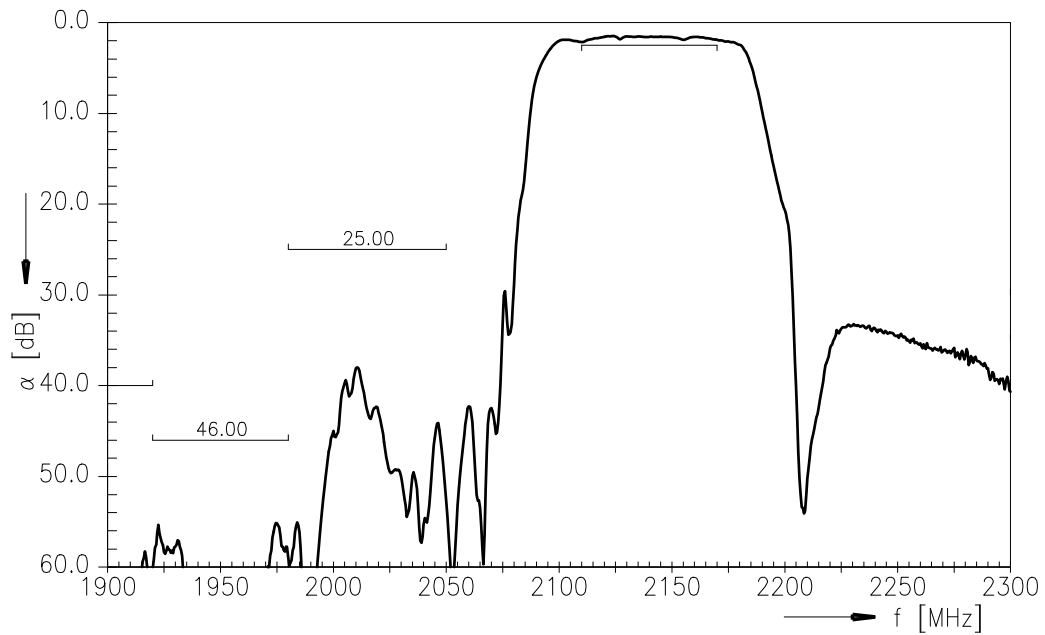
SAW RF Filter

2140.0 MHz

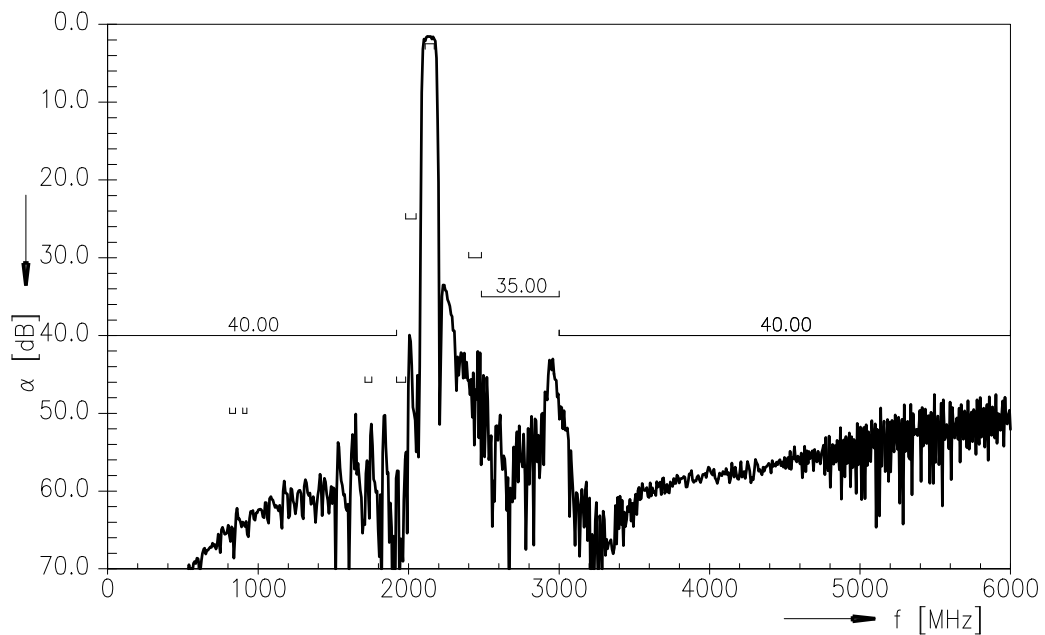
Data Sheet

SMD

Transfer function



Transfer function (wideband)



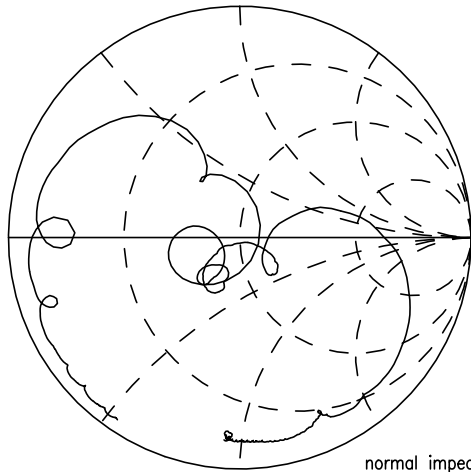
Please read *cautions and warnings* and *important notes* at the end of this document.

Data Sheet

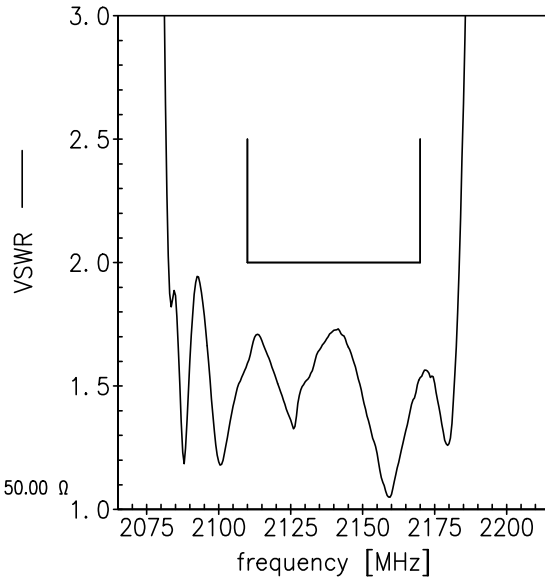


Smith chart

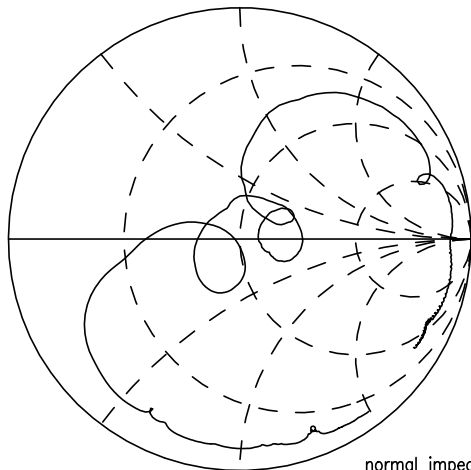
S<sub>11</sub> function



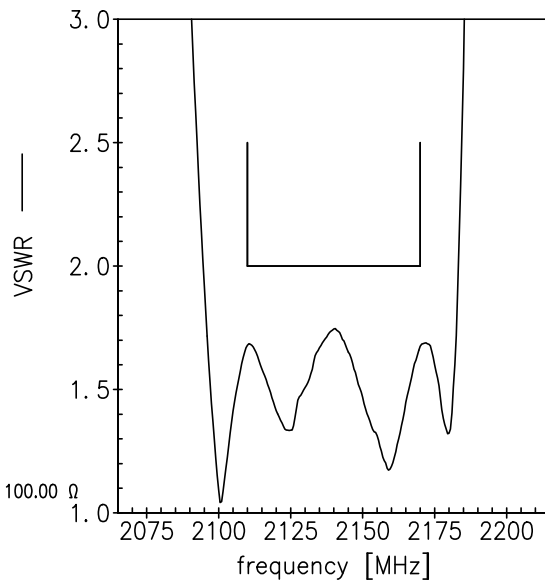
normal impedance: 50.00 Ω



S<sub>22</sub> function



normal impedance: 100.00 Ω





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<b>SAW RF Filter</b>	<b>2140.0 MHz</b>
<b>Data Sheet</b>	<b>SMD</b>

## References

<b>Type</b>	B9469
<b>Ordering code</b>	B39212B9469K610
<b>Marking and package</b>	C61157-A8-A1
<b>Packaging</b>	F61074-V8212-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9469_UN_NB.s3p, B9469_UN_WB.s3p 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: CTIVE 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."
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<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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