



# SAW Components

## SAW filter

GSM RF Filter

**Series/type:** B4125

**Ordering code:** B39881B4125U410

**Date:** June 26, 2012

**Version:** 2.1

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## SAW Components

B4125

### SAW filter

881.5 MHz

Data sheet



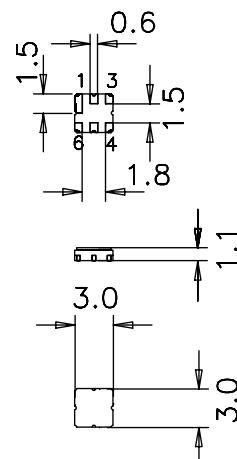
### Application

- Low-loss RF filter for AMPS mobile telephone system, receive path
- Low amplitude ripple
- Usable passband of 25 MHz



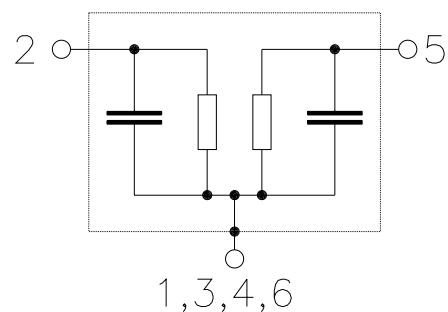
### Features

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 1**
- Filter surface passivated



### Pin configuration

- 2 Input unbalanced
- 5 Output unbalanced
- 1,3,4,6 To be grounded



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

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**Characteristics**

 Temperature range for specification:  $T = -40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ 

 Terminating source impedance:  $Z_S = 50 \Omega$ 

 Terminating load impedance:  $Z_L = 50 \Omega$ 

			min.	typ. @ 25 °C	max.	
<b>Centre frequency</b>	$f_C$		—	881.5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$		—	2.6	3.0	dB
869.0 ... 894.0 MHz						
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$		—	1.1	1.5	dB
869.0 ... 894.0 MHz						
<b>VSWR</b>						
Input	869.0 ... 894.0 MHz		—	1.4	1.6	
Output	869.0 ... 894.0 MHz		—	1.4	1.6	
<b>Attenuation</b>	$\alpha$					
0.0 ... 824.0 MHz		35.0	50.0	—	—	dB
824.0 ... 849.0 MHz		35.0	45.0	—	—	dB
970.0 ... 997.0 MHz		35.0	60.0	—	—	dB
997.0 ... 1150.0 MHz		40.0	60.0	—	—	dB
1150.0 ... 1500.0 MHz		30.0	50.0	—	—	dB
1500.0 ... 2000.0 MHz		25.0	38.0	—	—	dB
2000.0 ... 6000.0 MHz		20.0	25.0	—	—	dB

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**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>	3	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input power				
869.0 ... 894.0 MHz	P <sub>IN</sub>	13	dBm	Continuous Wave, 100000hrs, 85°C

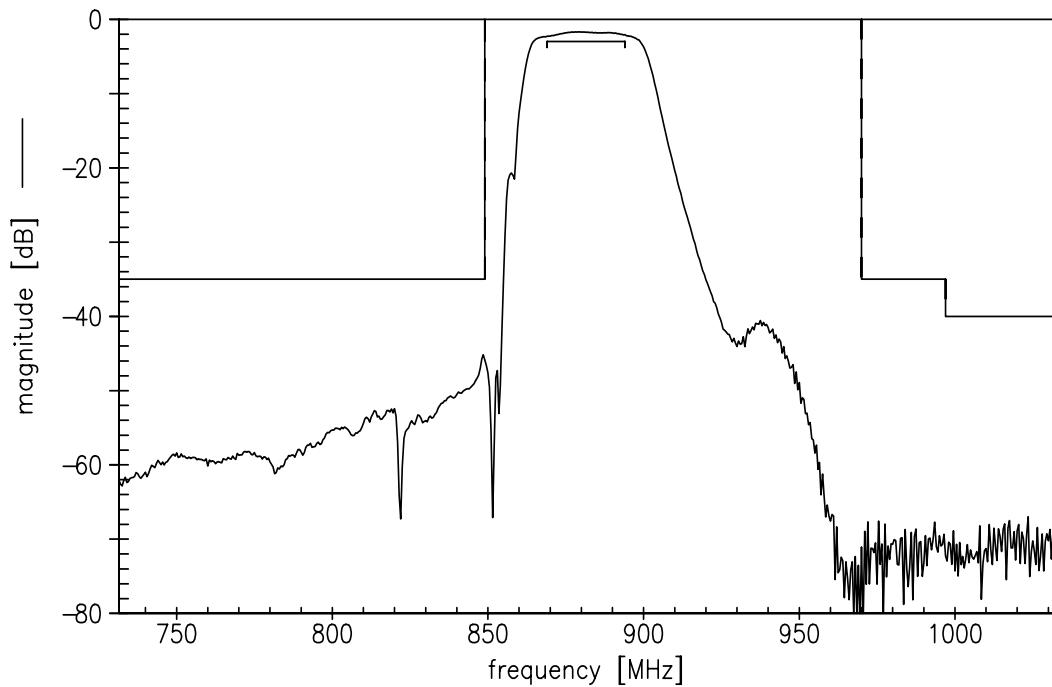
<sup>1)</sup> acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.

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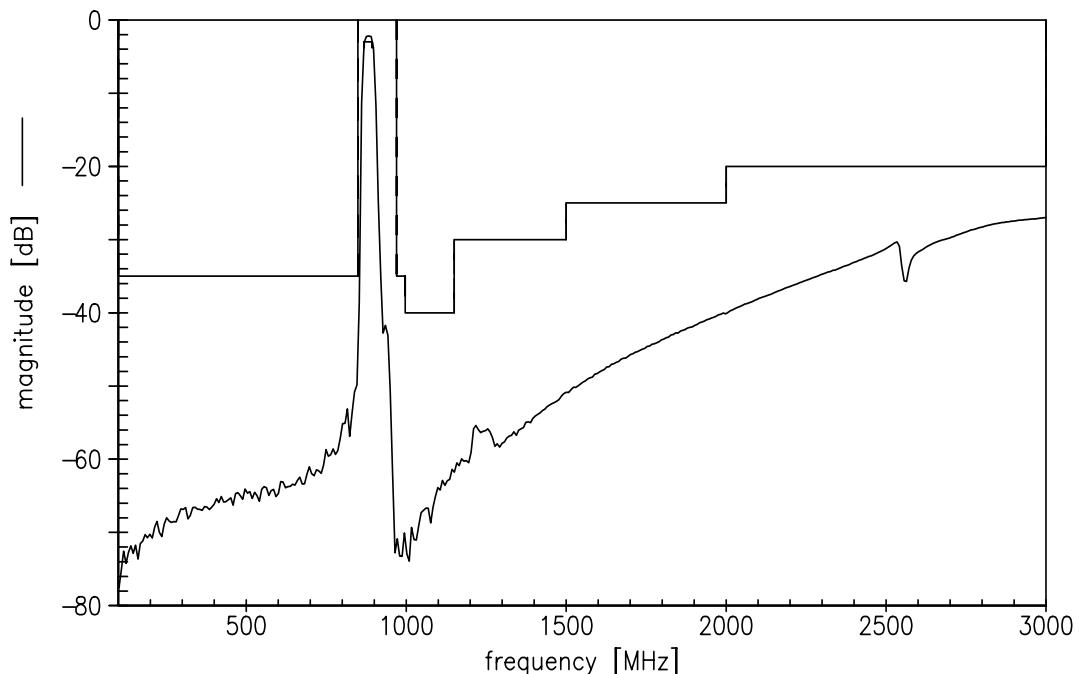
Data sheet



**Transfer function**

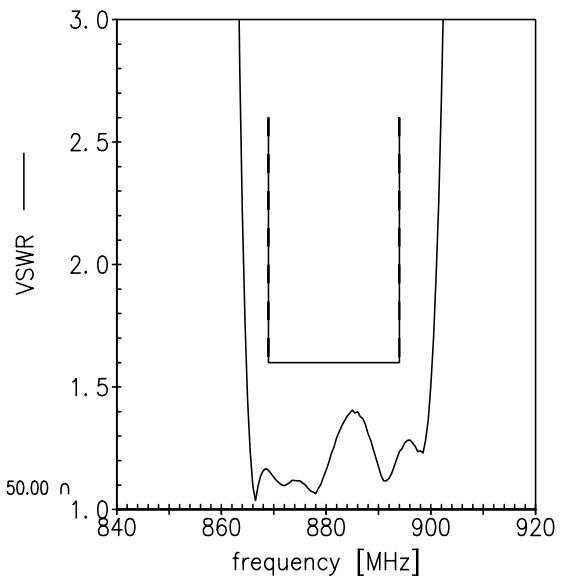
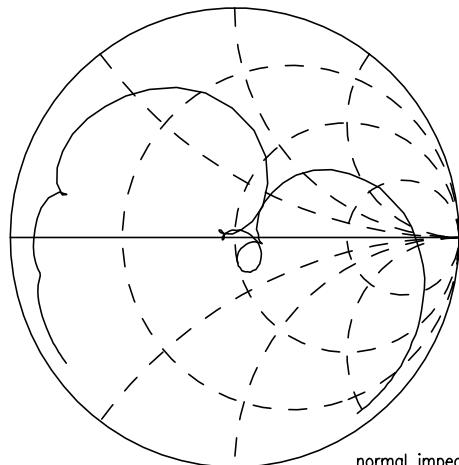
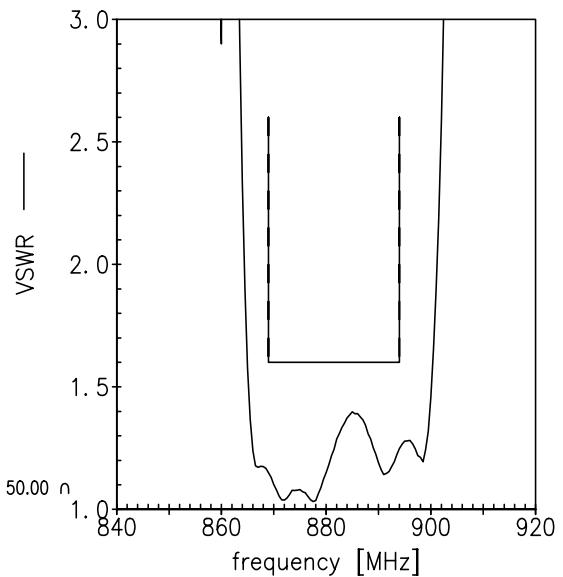
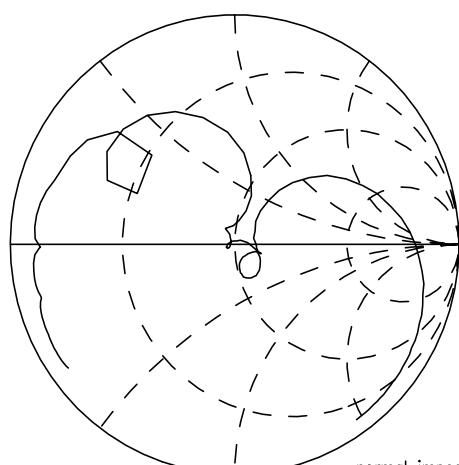


**Transfer function (wideband)**



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**Smith charts**
 **$S_{11}$  function**

 **$S_{22}$  function**


**SAW Components****B4125****SAW filter****881.5 MHz**

Data sheet

**References**

<b>Type</b>	B4125
<b>Ordering code</b>	B39881B4125U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B4125_NB.s2p, B4125_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>Matching coils</b>	See Inductor pdf-catalog <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> and Data Library for circuit simulation <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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