



## **SAW Components**

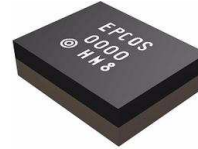
### **SAW Rx Filter**

Cellular

<b>Series/Type:</b>	<b>B9446</b>
<b>Ordering code:</b>	<b>B39881B9446K610</b>
<b>Date:</b>	<b>February 5, 2009</b>
<b>Version:</b>	<b>2.1</b>

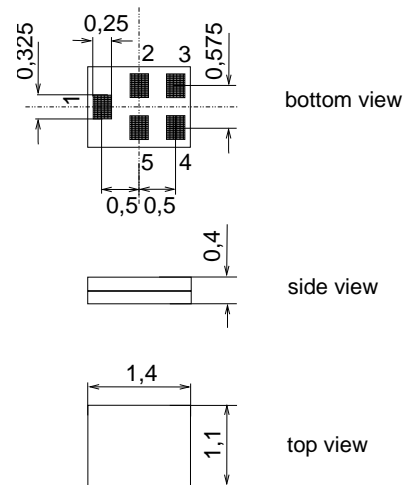
**Application**

- Low-loss RF filter for mobile telephone Cellular systems, receive path (Rx)
- Low insertion attenuation
- Usable passband 25.0 MHz
- Impedance 50 Ω at input and output
- Unbalanced to unbalanced operation



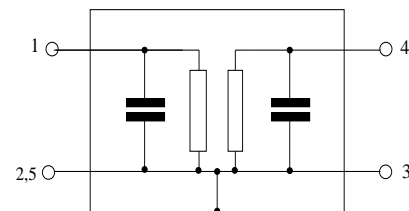
**Features**

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- Package code QCS5F
- RoHS compatible
- Approx. weight 0.003g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



**Pin configuration**

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





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**SMD**

**Characteristics**

Temperature range for specification:  $T = -30\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$	—	881.5	—	MHz
<b>Maximum insertion attenuation</b>					
869.0 ... 894.0 MHz	$\alpha_{max}$	—	1.2	1.5	dB
<b>Amplitude ripple (p-p)</b>					
869.0 ... 894.0 MHz	$\Delta\alpha$	—	0.6	1.0	dB
<b>Input VSWR</b>					
869.0 ... 894.0 MHz		—	1.7	2.0	
<b>Output VSWR</b>					
869.0 ... 894.0 MHz		—	1.7	2.0	
<b>Attenuation</b>	$\alpha_{abs}$				
10.0 ... 824.0 MHz		20	24	—	dB
824.0 ... 843.0 MHz		20	29	—	dB
843.0 ... 849.0 MHz		20	24	—	dB
1710.0 ... 1788.0 MHz		20	33	—	dB
1850.0 ... 1915.0 MHz		20	35	—	dB
2400.0 ... 2682.0 MHz		20	30	—	dB
3296.0 ... 3396.0 MHz		20	31	—	dB



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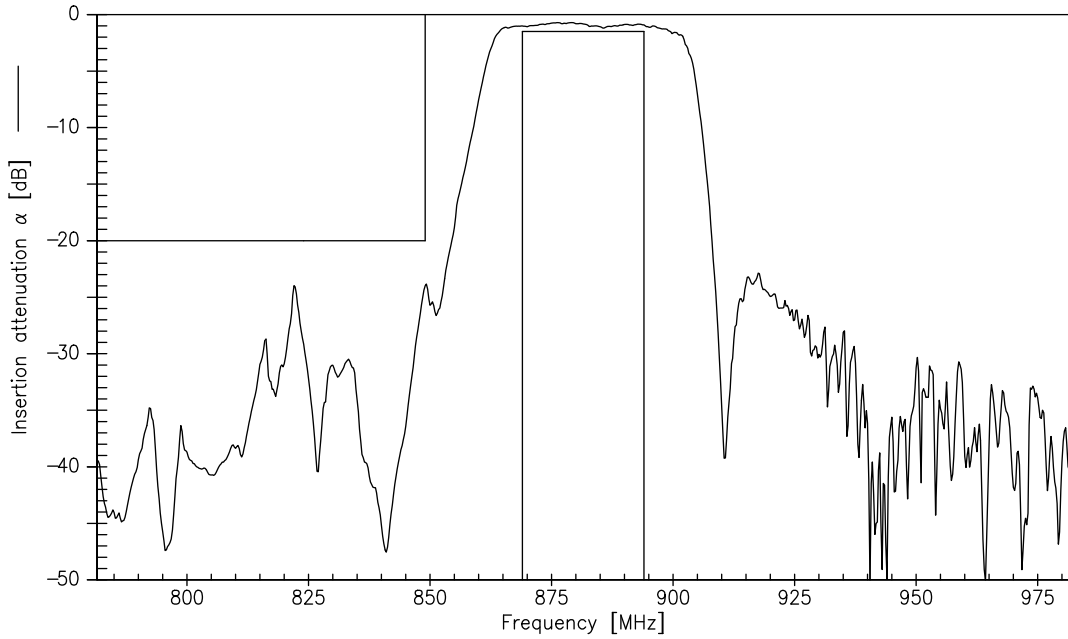
**Maximum ratings**

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	100 <sup>1)</sup>	V	machine model, 1 pulse
Input Power at 869.0 ... 894.0 MHz	P <sub>IN</sub>	15	dBm	effective power in the on-state, duty cycle 4:8
Tx band	P <sub>IN</sub>	5	dBm	2000h CW at Ta = 50°C

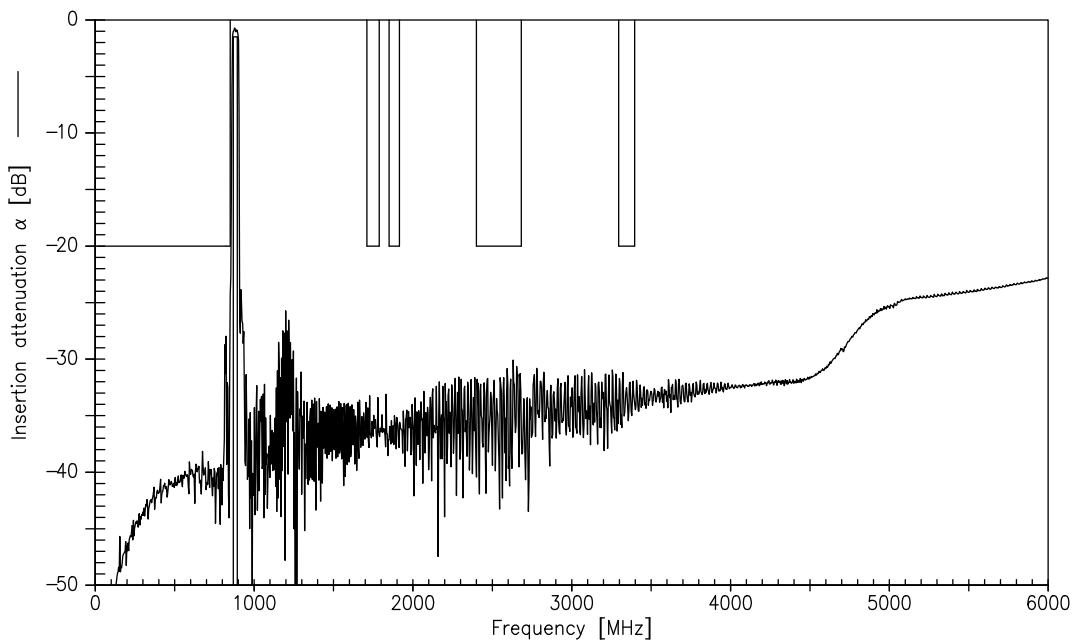
<sup>1)</sup> acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function



Transfer function (wideband)

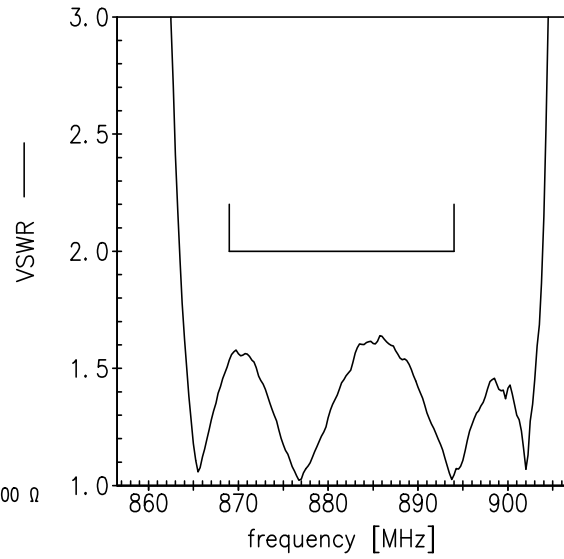
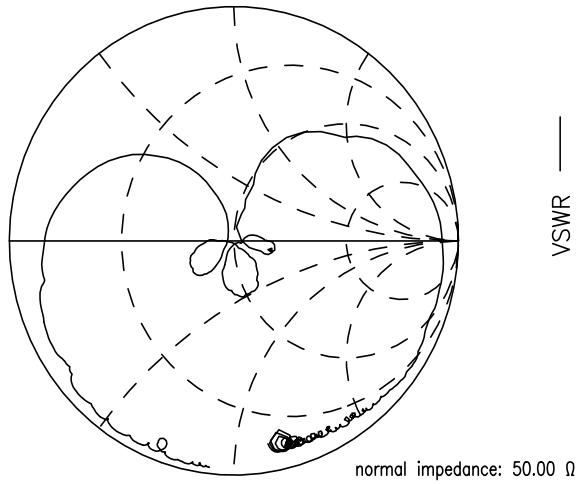


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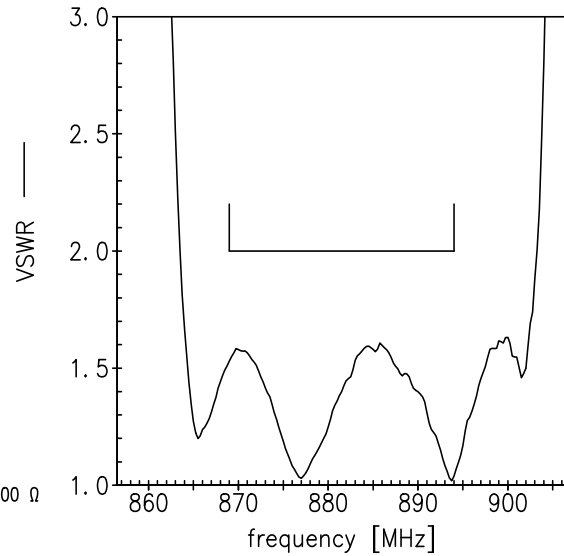
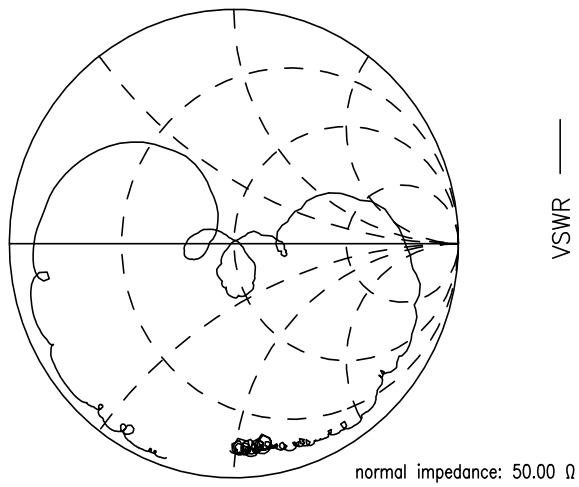


Smith charts

$S_{11}$  function



$S_{22}$  function





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<b>SAW Rx Filter</b>	<b>881.5 MHz</b>

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## References

<b>Type</b>	B9446
<b>Ordering code</b>	B39881B9446K610
<b>Marking and package</b>	C61157-A8-A1
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9446_NB.s2p B9446_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.

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