



# SAW Components

## SAW filter

EGSM

**Series/type:** B4130  
**Ordering code:** B39901B4130U410

**Date:** November 04, 2009  
**Version:** 2.0

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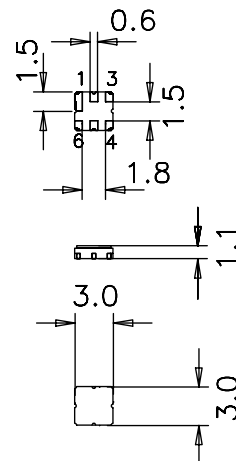
Data sheet

**Application**

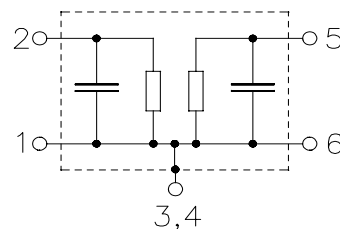
- Low-loss RF filter for EGSM mobile systems
- Low amplitude ripple
- No matching required for operation at 50Ω
- Usable passband 35 MHz


**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)**


**Pin configuration**

- 2 Input
- 1 Input - ground
- 5 Output
- 6 Output - ground
- 3,4 Case ground



Data sheet


**Characteristics**

Temperature range for specification:  $T = 25 \pm 2 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ }\Omega$   
 Terminating load impedance:  $Z_L = 50 \text{ }\Omega$

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_c$	—	897.50	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2.0	2.3	dB
880.0 ... 915.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.8	1.1	dB
880.0 ... 915.0 MHz					
<b>Input VSWR</b>		—	1.7	2.0	
880.0 ... 915.0 MHz					
<b>Output VSWR</b>		—	1.7	2.0	
880.0 ... 915.0 MHz					
<b>Attenuation</b>	$\alpha$				
0.0 ... 860.0 MHz		17	20	—	dB
925.0 ... 935.0 MHz		5.5	13	—	
935.0 ... 960.0 MHz		20	26	—	
960.0 ... 3660.0 MHz		20	26	—	

Data sheet


**Characteristics**

Temperature range for specification:  $T = -10$  to  $+80$  °C  
 Terminating source impedance:  $Z_S = 50$  Ω  
 Terminating load impedance:  $Z_L = 50$  Ω

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_c$	—	897.50	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2.0	2.5	dB
880.0 ... 915.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.8	1.3	dB
880.0 ... 915.0 MHz					
<b>Input VSWR</b>		—	1.7	2.0	
<b>Output VSWR</b>		—	1.7	2.0	
<b>Attenuation</b>	$\alpha$				
0.0 ... 860.0 MHz		17	20	—	dB
925.0 ... 935.0 MHz		4	8	—	dB
935.0 ... 960.0 MHz		20	26	—	dB
960.0 ... 3660.0 MHz		20	26	—	dB


**Characteristics**

Temperature range for specification:  $T = -40$  to  $+85$  °C  
 Terminating source impedance:  $Z_S = 50$  Ω  
 Terminating load impedance:  $Z_L = 50$  Ω

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_c$	—	897.50	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2.0	2.5	dB
880.0 ... 915.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.8	1.3	dB
880.0 ... 915.0 MHz					
<b>Input VSWR</b>		—	1.7	2.0	
880.0 ... 915.0 MHz					
<b>Output VSWR</b>		—	1.7	2.0	
880.0 ... 915.0 MHz					
<b>Attenuation</b>	$\alpha$				
0.0 ... 860.0 MHz		17	20	—	dB
925.0 ... 935.0 MHz		3.2	7	—	dB
935.0 ... 960.0 MHz		20	26	—	dB
960.0 ... 3660.0 MHz		20	26	—	dB

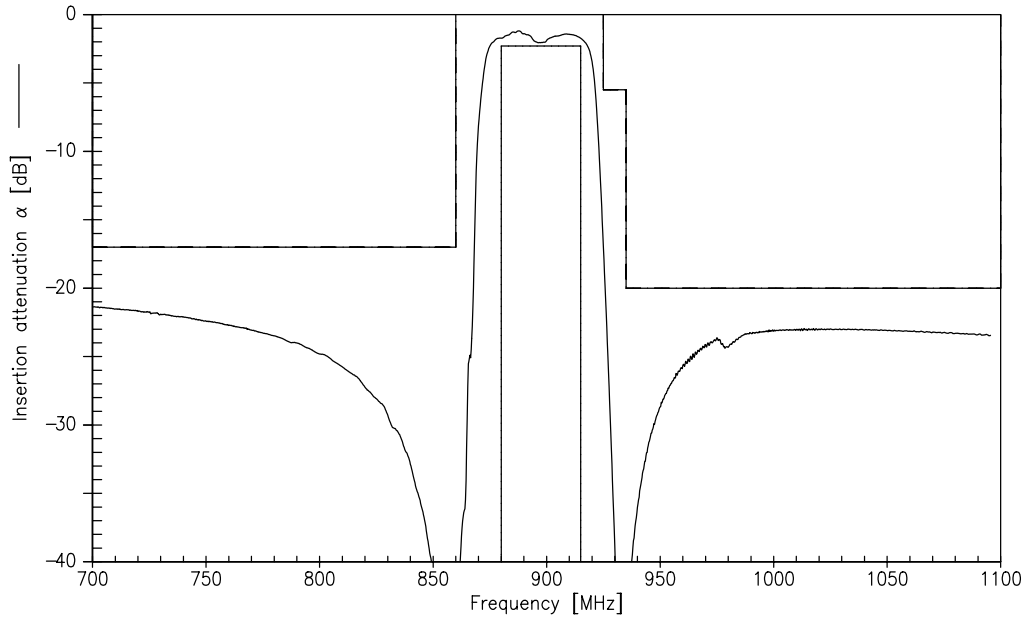

**Maximum ratings**

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>	100 <sup>1)</sup>	V	machine model, 1 pulse
Input power max				
925.0 ... 960.0 MHz	P <sub>IN</sub>	12	dBm	continuous wave, 85 °C
	P <sub>IN</sub>	15	dBm	continuous wave, 55 °C
880.0 ... 915.0 MHz	P <sub>IN</sub>	17	dBm	continuous wave, 85 °C

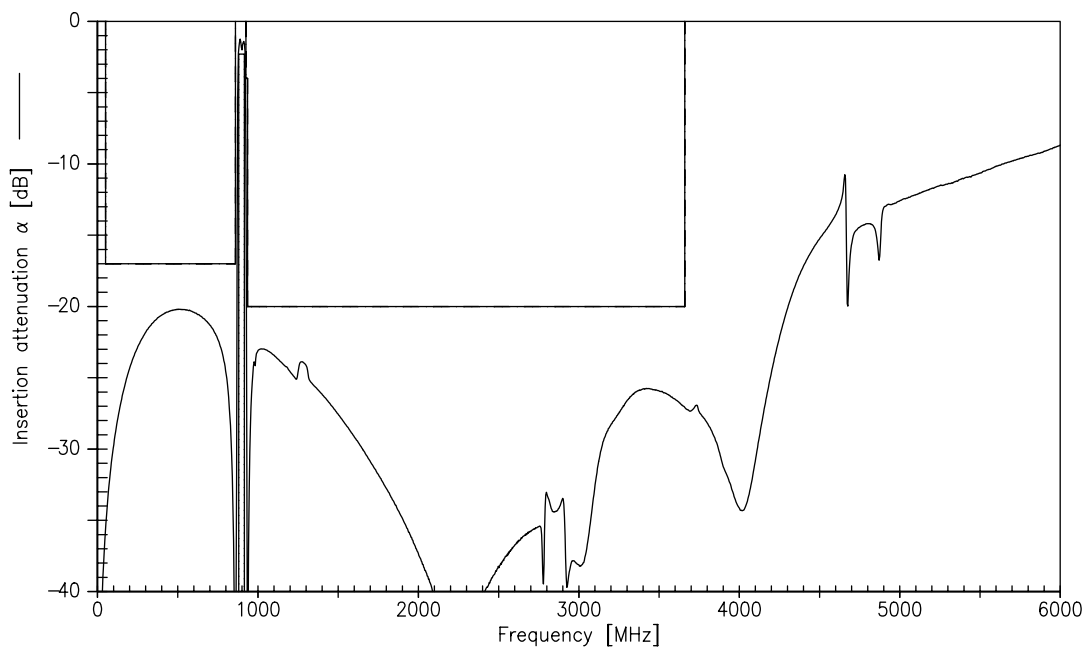
1) acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function



Transfer function (wideband)

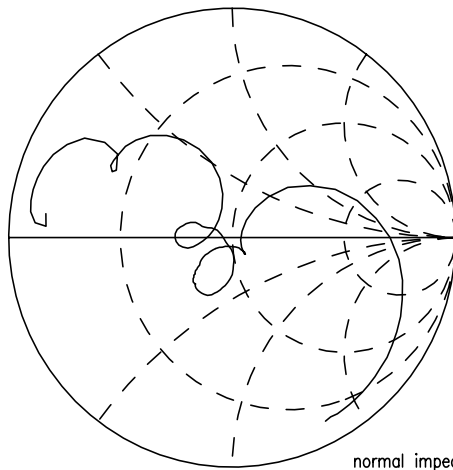


Data sheet

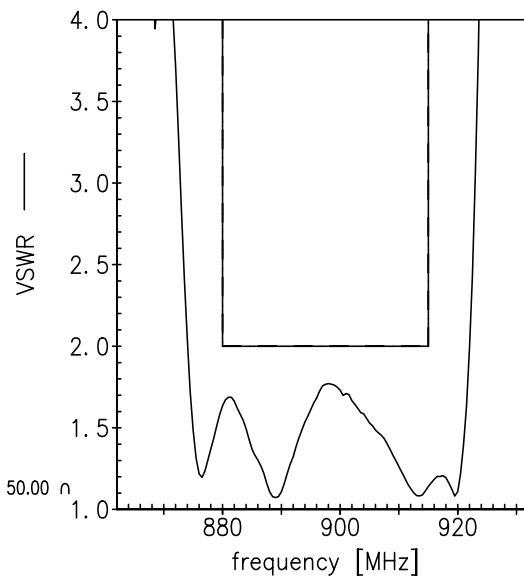


Smith charts

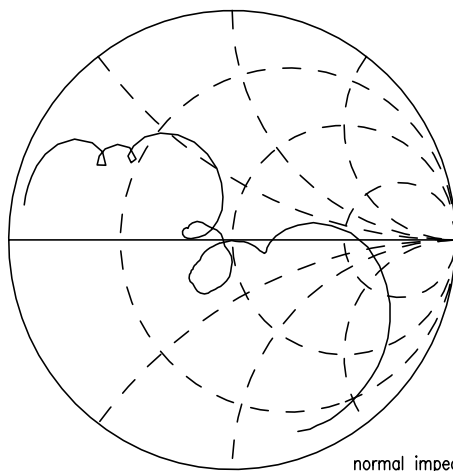
S<sub>11</sub> function



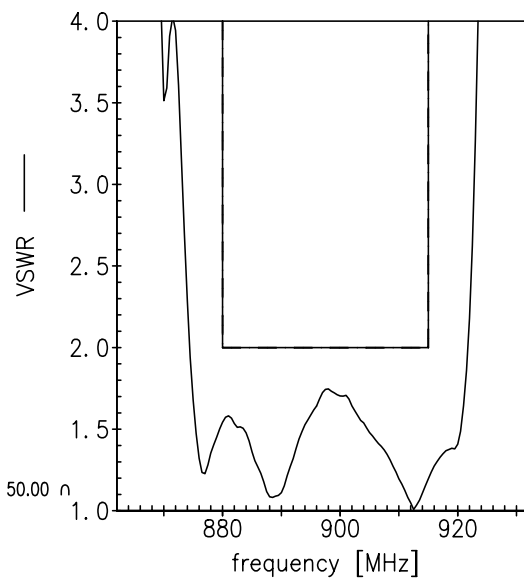
normal impedance: 50.00  $\Omega$



S<sub>22</sub> function



normal impedance: 50.00  $\Omega$





<b>SAW Components</b>	<b>B4130</b>
<b>SAW filter</b>	<b>897.5 MHz</b>

Data sheet



## References

<b>Type</b>	B4130
<b>Ordering code</b>	B39901B4130U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B4130_NB.s2p B4130_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."

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