



## SAW Components

### SAW filter

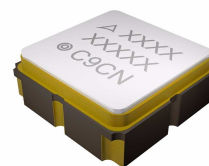
EGSM 900 Rx

<b>Series/type:</b>	<b>B4124</b>
<b>Ordering code:</b>	<b>B39941B4124U410</b>

Date:	April 18, 2013
Version:	2.3

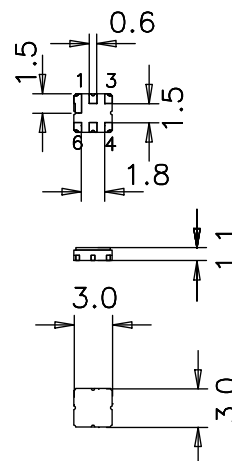
### Application

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



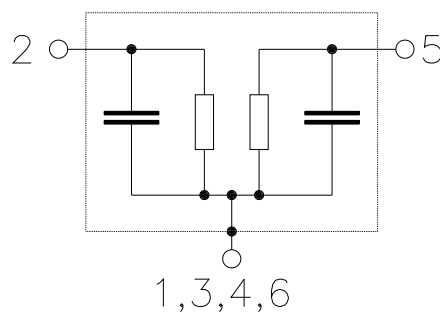
### Features

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



**SAW Components**
**B4124**
**SAW filter**
**942.5 MHz**
**Data sheet**

**Characteristics**

Operating temperature range:  $T = +25\text{ °C}$ 

Terminating source impedance:  $Z_S = 50\ \Omega$ 

Terminating load impedance:  $Z_L = 50\ \Omega$ 

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	3,0	4,0	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,3	2,3	dB
<b>Input VSWR</b>					
925,0 ... 960,0 MHz		—	2,3	2,5	
<b>Output VSWR</b>					
925,0 ... 960,0 MHz		—	2,3	2,5	
<b>Attenuation</b>	$\alpha$				
0,0 ... 800,0 MHz		50	60	—	dB
800,0 ... 880,0 MHz		40	52	—	dB
880,0 ... 905,0 MHz		35	45	—	dB
905,0 ... 915,0 MHz		24	28	—	dB
980,0 ... 1005,0 MHz		23	25	—	dB
1005,0 ... 1025,0 MHz		30	42	—	dB
1025,0 ... 1760,0 MHz		40	50	—	dB
1760,0 ... 2500,0 MHz		30	40	—	dB
2500,0 ... 3120,0 MHz		20	27	—	dB
3120,0 ... 4000,0 MHz		18	25	—	dB
4000,0 ... 6000,0 MHz		—	8	—	dB
<b>Input reflection coefficient @1842,5 MHz</b>					
Phase		-150	-140	-130	°

**SAW Components**
**B4124**
**SAW filter**
**942.5 MHz**
**Data sheet**

**Characteristics**

Operating temperature range:  $T = -10$  to  $+80$  °C  
Terminating source impedance:  $Z_S = 50 \Omega$   
Terminating load impedance:  $Z_L = 50 \Omega$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3,2	4,5	dB
925,0 ... 960,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,5	2,8 <sup>1)</sup>	dB
925,0 ... 960,0 MHz					
<b>Input VSWR</b>		—	2,3	2,5	
925,0 ... 960,0 MHz					
<b>Output VSWR</b>		—	2,3	2,5	
925,0 ... 960,0 MHz					
<b>Attenuation</b>	$\alpha$				
0,0 ... 800,0 MHz		50	60	—	dB
800,0 ... 880,0 MHz		40	52	—	dB
880,0 ... 905,0 MHz		35	45	—	dB
905,0 ... 915,0 MHz		20	28	—	dB
980,0 ... 1005,0 MHz		20	23	—	dB <sup>2)</sup>
980,0 ... 1005,0 MHz		23	27	—	dB <sup>3)</sup>
980,0 ... 982,0 MHz		20	23	—	dB
982,0 ... 1005,0 MHz		23	27	—	dB
1005,0 ... 1025,0 MHz		30	42	—	dB
1025,0 ... 1760,0 MHz		40	50	—	dB
1760,0 ... 2500,0 MHz		30	40	—	dB
2500,0 ... 3120,0 MHz		20	27	—	dB
3120,0 ... 4000,0 MHz		18	25	—	dB
4000,0 ... 6000,0 MHz		—	8	—	dB
<b>Input reflection coefficient @1842,5 MHz</b>					
Phase		-150	-140	-130	°

<sup>1)</sup> 2,5dB<sub>max</sub> at +5 °C to +70 °C

<sup>2)</sup> Specification valid for  $T < 25$  °C

<sup>3)</sup> Specification valid for  $T \geq 25$  °C

<b>SAW Components</b>	<b>B4124</b>
<b>SAW filter</b>	<b>942.5 MHz</b>

**Data sheet**

**Characteristics**

Operating temperature range:  $T = -30 \text{ to } +80 \text{ }^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$   
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3,2	4,5	dB
925,0 ... 960,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,5	2,8	dB
925,0 ... 960,0 MHz					
<b>Input VSWR</b>		—	2,3	2,5	
925,0 ... 960,0 MHz					
<b>Output VSWR</b>		—	2,3	2,5	
925,0 ... 960,0 MHz					
<b>Attenuation</b>	$\alpha$				
0,0 ... 800,0 MHz		50	60	—	dB
800,0 ... 880,0 MHz		40	52	—	dB
880,0 ... 905,0 MHz		35	45	—	dB
905,0 ... 915,0 MHz		15	28	—	dB
980,0 ... 1005,0 MHz		20	23	—	dB <sup>1)</sup>
980,0 ... 1005,0 MHz		23	27	—	dB <sup>2)</sup>
980,0 ... 982,0 MHz		20	23	—	dB
982,0 ... 1005,0 MHz		23	27	—	dB
1005,0 ... 1025,0 MHz		30	42	—	dB
1025,0 ... 1760,0 MHz		40	50	—	dB
1760,0 ... 2500,0 MHz		30	40	—	dB
2500,0 ... 3120,0 MHz		20	27	—	dB
3120,0 ... 4000,0 MHz		18	25	—	dB
4000,0 ... 6000,0 MHz		—	8	—	dB
<b>Input reflection coefficient @1842,5 MHz</b>					
Phase		-150	-140	-130	°

<sup>1)</sup> Specification valid for  $T < 25^{\circ}\text{C}$

<sup>2)</sup> Specification valid for  $T \geq 25^{\circ}\text{C}$

<b>SAW Components</b>	<b>B4124</b>
<b>SAW filter</b>	<b>942.5 MHz</b>

**Data sheet**

**Characteristics**

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

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	3,2	4,8	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,5	3,1	dB
<b>Input VSWR</b>					
925,0 ... 960,0 MHz		—	2,3	2,6	
<b>Output VSWR</b>					
925,0 ... 960,0 MHz		—	2,3	2,6	
<b>Attenuation</b>	$\alpha$				
0,0 ... 800,0 MHz		50	60	—	dB
800,0 ... 880,0 MHz		40	52	—	dB
880,0 ... 905,0 MHz		35	45	—	dB
905,0 ... 915,0 MHz		13	28	—	dB
980,0 ... 1005,0 MHz		20	23	—	dB <sup>1)</sup>
980,0 ... 1005,0 MHz		23	27	—	dB <sup>2)</sup>
980,0 ... 982,0 MHz		20	23	—	dB
982,0 ... 1005,0 MHz		23	27	—	dB
1005,0 ... 1025,0 MHz		30	42	—	dB
1025,0 ... 1760,0 MHz		40	50	—	dB
1760,0 ... 2500,0 MHz		30	40	—	dB
2500,0 ... 3120,0 MHz		20	27	—	dB
3120,0 ... 4000,0 MHz		18	25	—	dB
4000,0 ... 6000,0 MHz		—	8	—	dB
<b>Input reflection coefficient @1842,5 MHz</b>					
Phase		-150	-140	-130	°

<sup>1)</sup> Specification valid for  $T < 25\text{ °C}$

<sup>2)</sup> Specification valid for  $T \geq 25\text{ °C}$

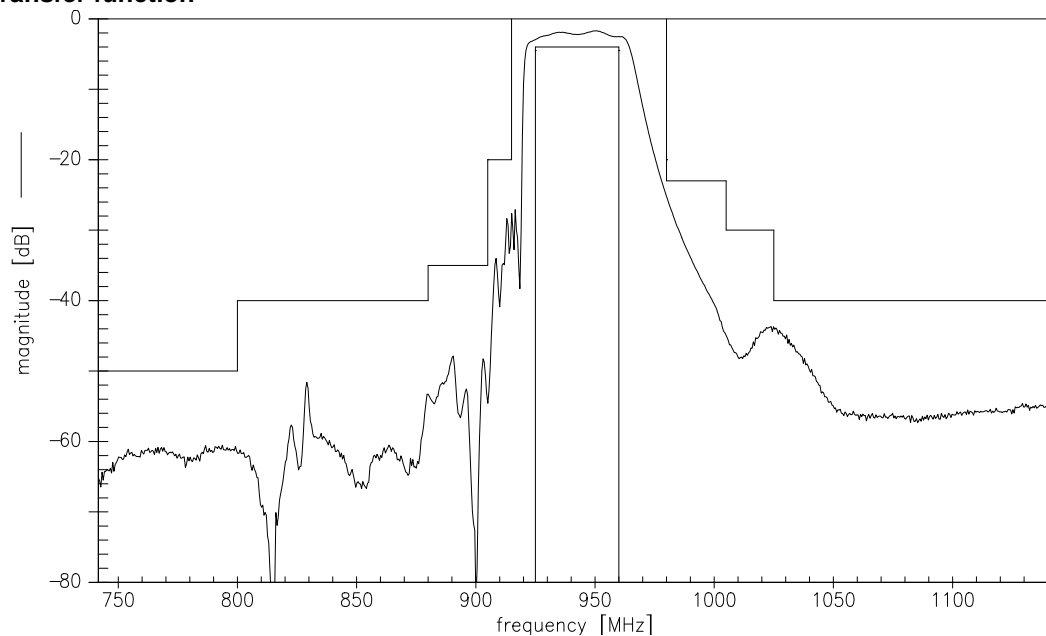
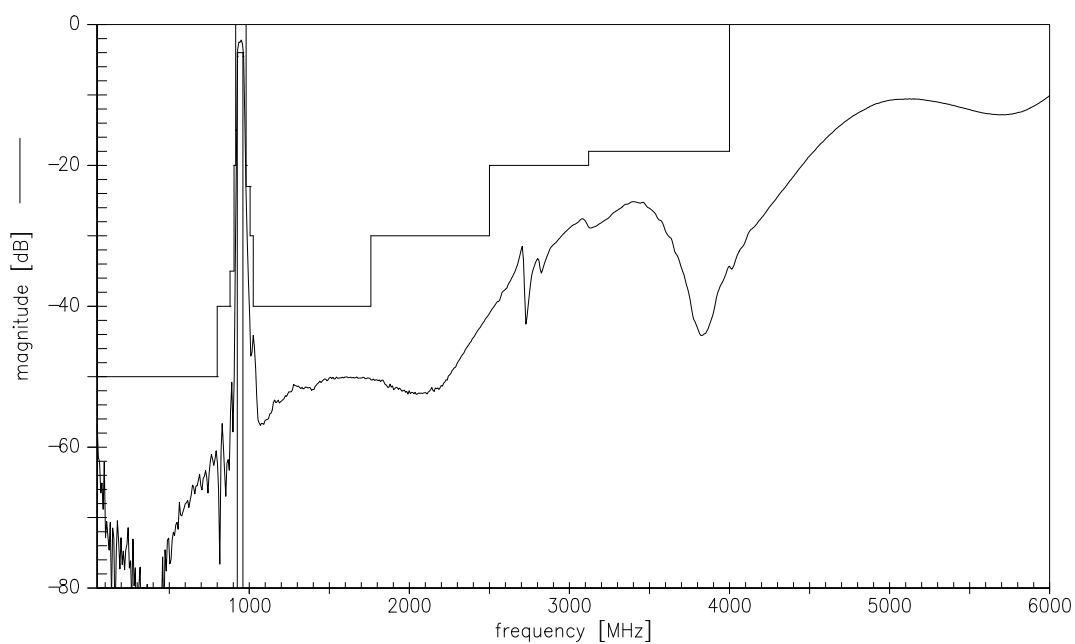
SAW Components		B4124
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Data sheet		

#### Maximum ratings

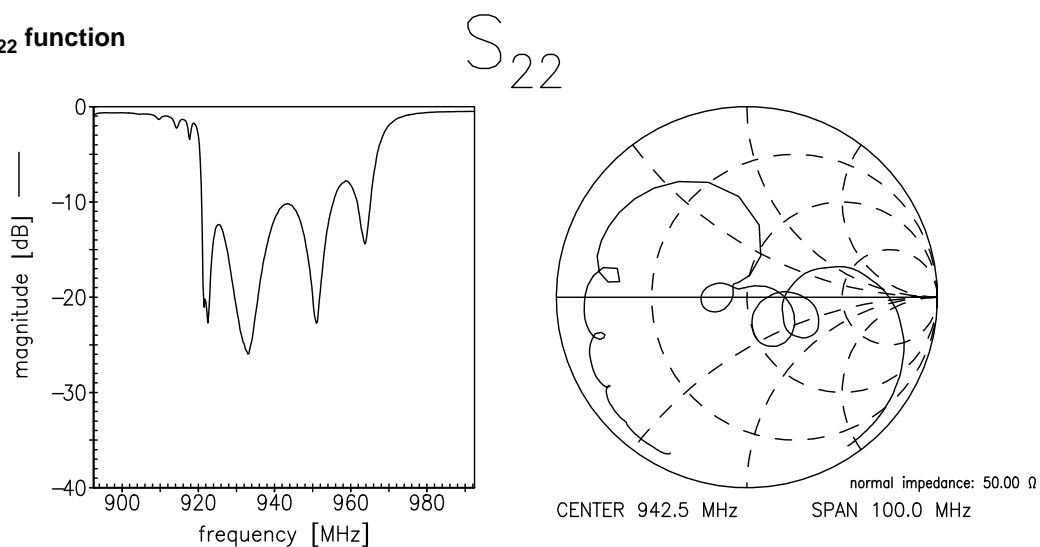
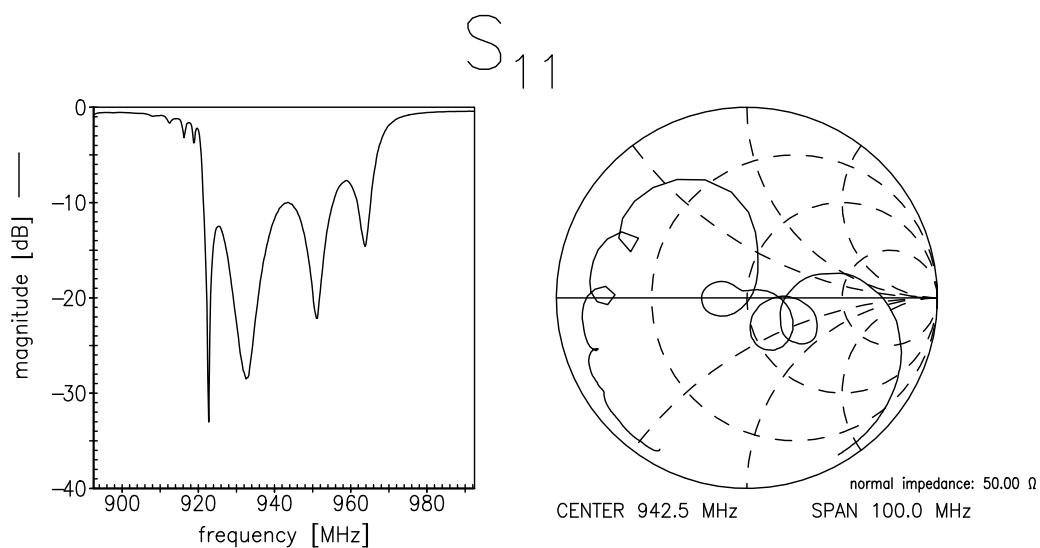
Operable temperature range	T	−40/+85	°C	machine model, 10 pulses charged device model, 3 pulses source and load impedance 50 Ω CW, 100 000 hrs, 85 °C
Storage temperature range	T <sub>stg</sub>	−40/+85	°C	
DC voltage	V <sub>DC</sub>	3	V	
ESD voltage	V <sub>ESD</sub>	100 <sup>1)</sup>	V	
ESD voltage	V <sub>ESD</sub>	700 <sup>2)</sup>	V	
Input power				
925.0 ... 960.0 MHz	P <sub>IN</sub>	11	dBm	

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

<sup>2)</sup> acc. to JESD22-C101E (charged device model), 3 negative & 3 positive pulses.

**Transfer function**

**Transfer function (wideband)**






<b>SAW Components</b>	<b>B4124</b>
<b>SAW filter</b>	<b>942.5 MHz</b>
<b>Data sheet</b>	<b>SMD</b>

## References

<b>Type</b>	B4124
<b>Ordering code</b>	B39941B4124U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8088-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B4124_NB.s2p B4124_WB.s2p See file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
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