

SAW Components

B4124

SAW filter

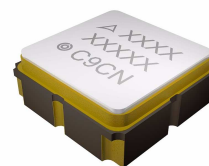
942.5 MHz

Data sheet



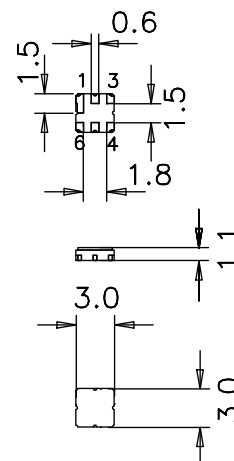
Application

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



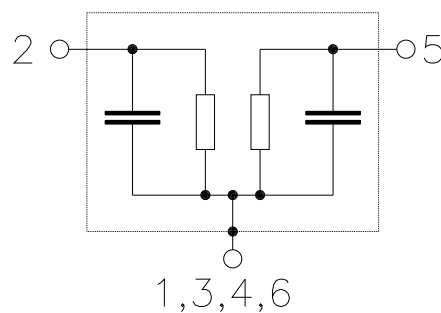
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- 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



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

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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.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	3,0	4,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,3	2,3	dB
Input VSWR					
925,0 ... 960,0 MHz		—	2,3	2,5	
Output VSWR					
925,0 ... 960,0 MHz		—	2,3	2,5	
Attenuation	α				
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
Input reflection coefficient @1842,5 MHz					
Phase		-150	-140	-130	°

SAW Components	B4124
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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.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	3,2	4,5	dB
925,0 ... 960,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,5	2,8 ¹⁾	dB
925,0 ... 960,0 MHz					
Input VSWR		—	2,3	2,5	
925,0 ... 960,0 MHz					
Output VSWR		—	2,3	2,5	
925,0 ... 960,0 MHz					
Attenuation	α				
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 ²⁾
980,0 ... 1005,0 MHz		23	27	—	dB ³⁾
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
Input reflection coefficient @1842,5 MHz					
Phase		-150	-140	-130	°

¹⁾ 2,5dB_{max} at +5° C to +70° C

²⁾ Specification valid for $T < 25$ °C

³⁾ Specification valid for $T \geq 25$ °C

SAW Components
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SAW filter
942.5 MHz
Data sheet

Characteristics

Operating temperature range: $T = -30$ to $+80$ °C

Terminating source impedance: $Z_S = 50 \Omega$

Terminating load impedance: $Z_L = 50 \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	3,2	4,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,5	2,8	dB
Input VSWR					
925,0 ... 960,0 MHz		—	2,3	2,5	
Output VSWR					
925,0 ... 960,0 MHz		—	2,3	2,5	
Attenuation	α				
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 ¹⁾
980,0 ... 1005,0 MHz		23	27	—	dB ²⁾
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
Input reflection coefficient @1842,5 MHz					
Phase		-150	-140	-130	°

¹⁾ Specification valid for $T < 25$ °C

²⁾ Specification valid for $T \geq 25$ °C

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

SAW Components	B4124
SAW filter	942.5 MHz

Data sheet

Characteristics

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

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	3,2	4,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,5	3,1	dB
Input VSWR					
925,0 ... 960,0 MHz		—	2,3	2,6	
Output VSWR					
925,0 ... 960,0 MHz		—	2,3	2,6	
Attenuation	α				
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 ¹⁾
980,0 ... 1005,0 MHz		23	27	—	dB ²⁾
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
Input reflection coefficient @1842,5 MHz					
Phase		-150	-140	-130	$^{\circ}$

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

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

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

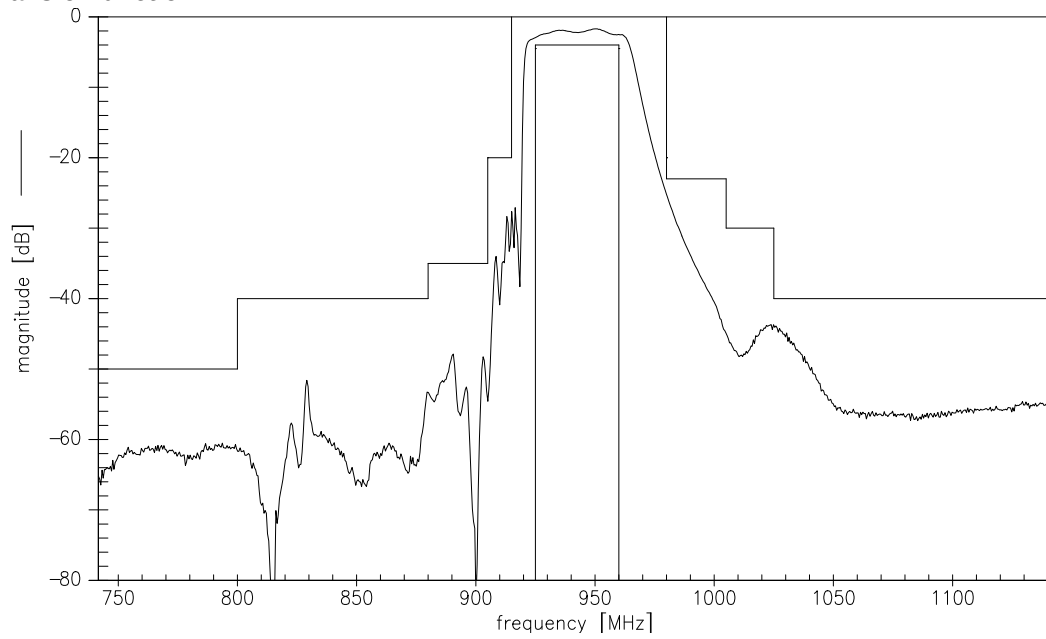
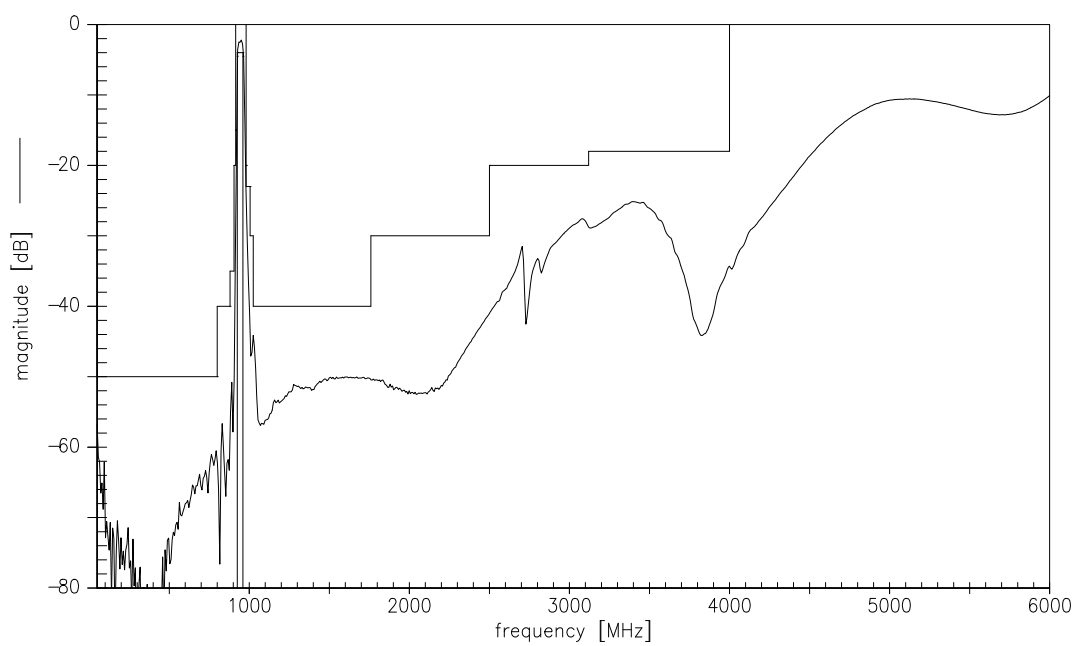
SAW Components		B4124
SAW filter		942.5 MHz
Data sheet		

Maximum ratings

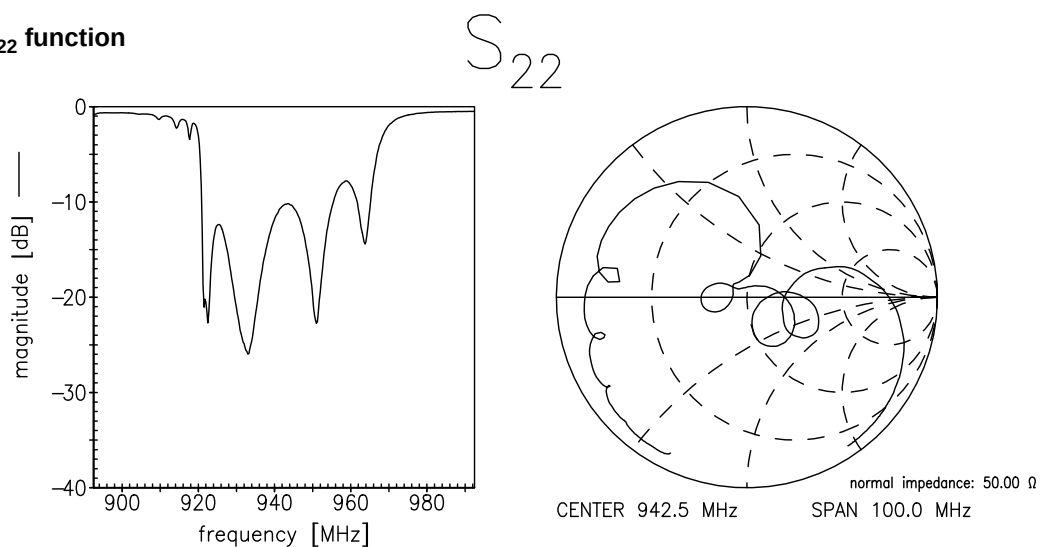
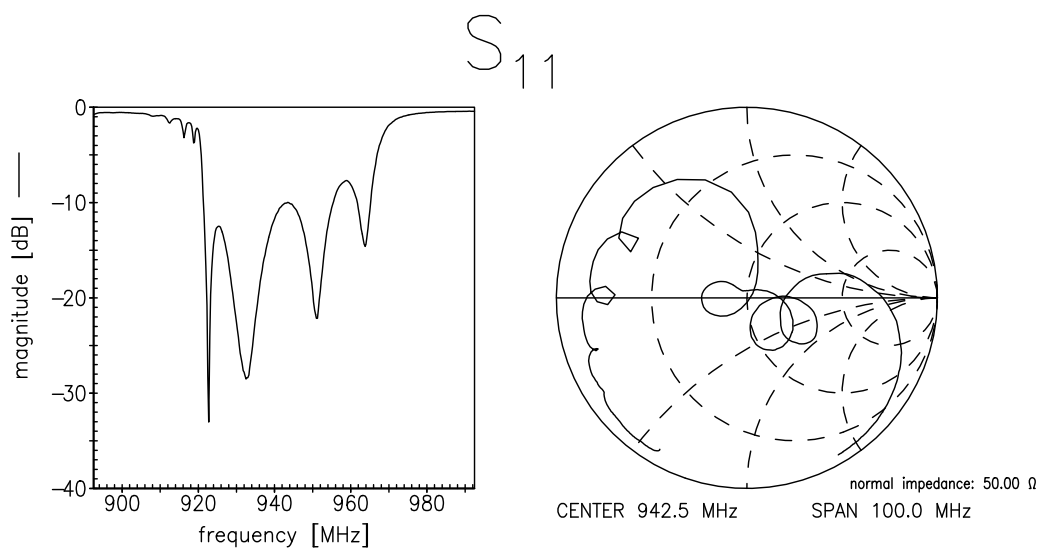
Operable temperature range	T	−40/+85	°C	machine model, 10 pulses charged device model, 3 pulses source and load impedance 50 Ω CW, 100 000 hrs, 85 °C
Storage temperature range	T _{stg}	−40/+85	°C	
DC voltage	V _{DC}	3	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	
ESD voltage	V _{ESD}	700 ²⁾	V	
Input power	P _{IN}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

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

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

Transfer function

Transfer function (wideband)


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



SAW Components	B4124
SAW filter	942.5 MHz
Data sheet	SMD

References

Type	B4124
Ordering code	B39941B4124U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8088-Z000
Date codes	L_1126
S-parameters	B4124_NB.s2p B4124_WB.s2p See file header for port/pin assignment table
Soldering profile	S_6001
RoHS compatible	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.
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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

10 May 10, 2013

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