



SAW Components

SAW filter

EGSM 900 Rx

Series/type:	B4124
Ordering code:	B39941B4124U410
Date:	March 15, 2010
Version:	2.2



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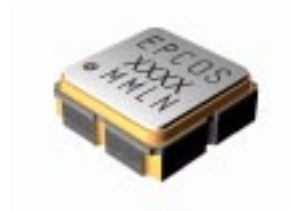
942.5 MHz

Data sheet



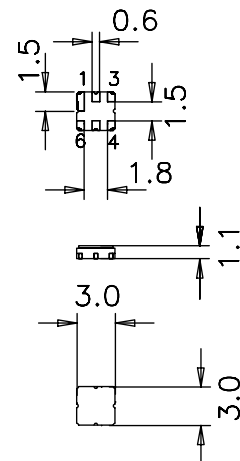
Application

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



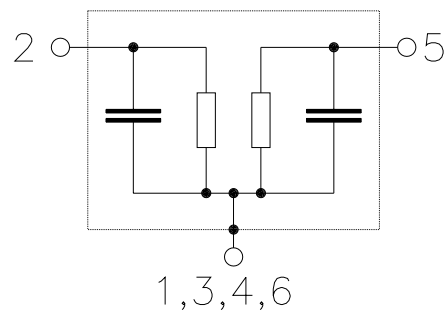
Features

- 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





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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 ... 1800,0 MHz		30	40	—	dB
	1800,0 ... 2000,0 MHz		33	40	—	dB
	2000,0 ... 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	°



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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	$\alpha_{\max}$					
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 ¹⁾	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			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 ... 1800,0 MHz			30	40	—	dB
1800,0 ... 2000,0 MHz			33	40	—	dB
2000,0 ... 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



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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.	
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 ... 1800,0 MHz		30	40	—	dB
	1800,0 ... 2000,0 MHz		33	40	—	dB
	2000,0 ... 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 $T < 25^{\circ}\text{C}$

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

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**Maximum ratings**

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

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



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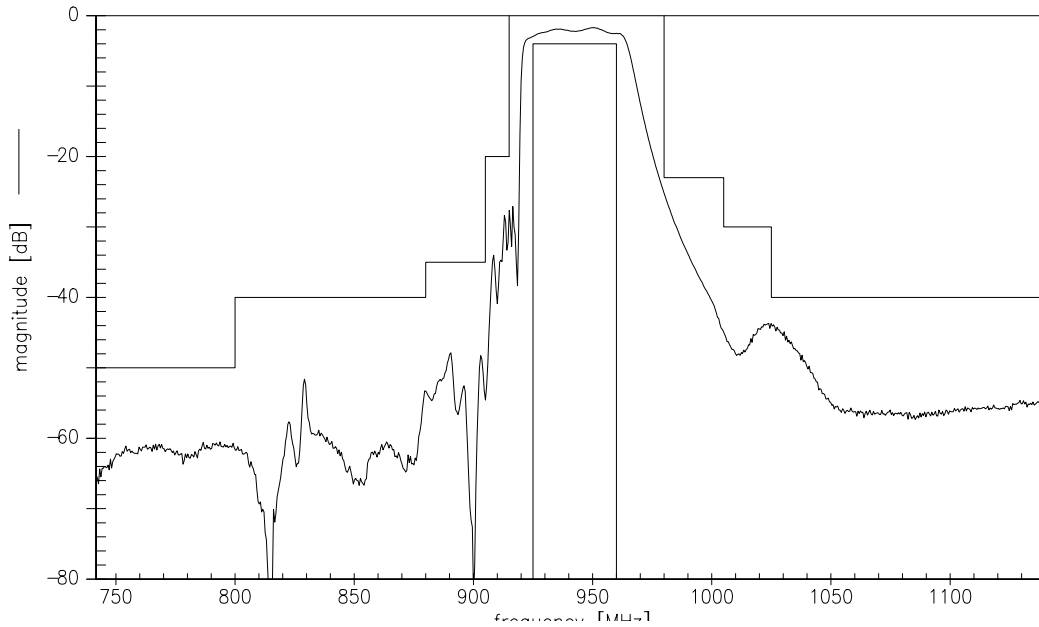
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942.5 MHz

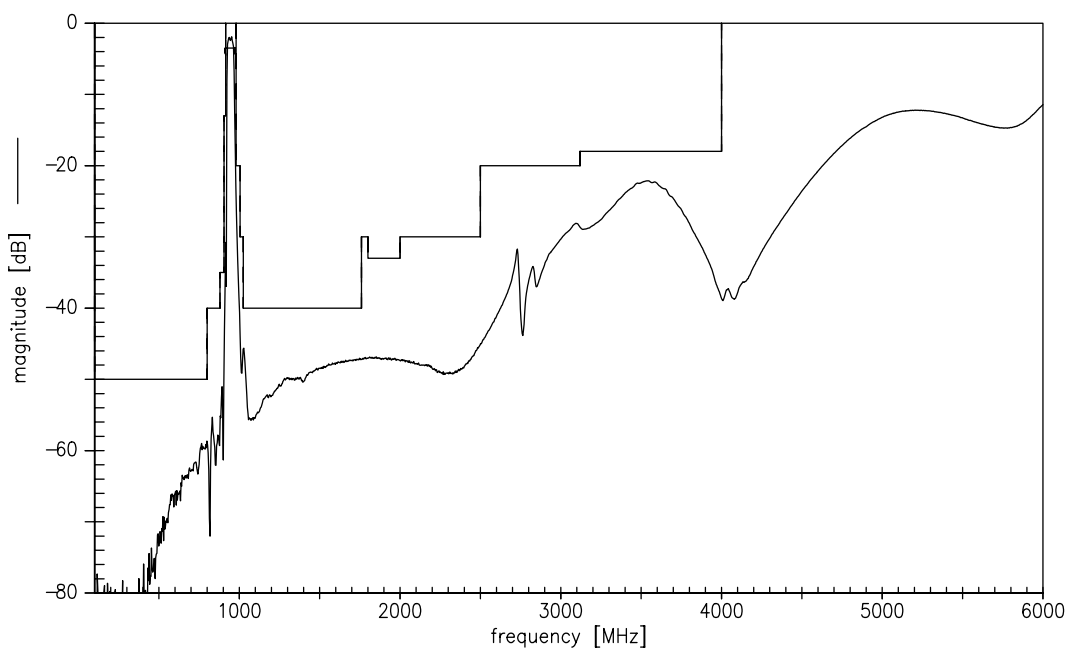
Data sheet



Transfer function



Transfer function (wideband)



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



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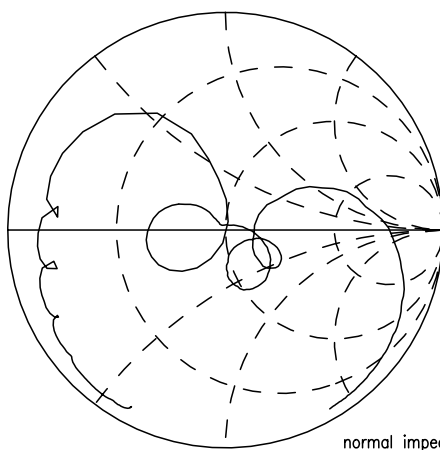
942.5 MHz

Data sheet

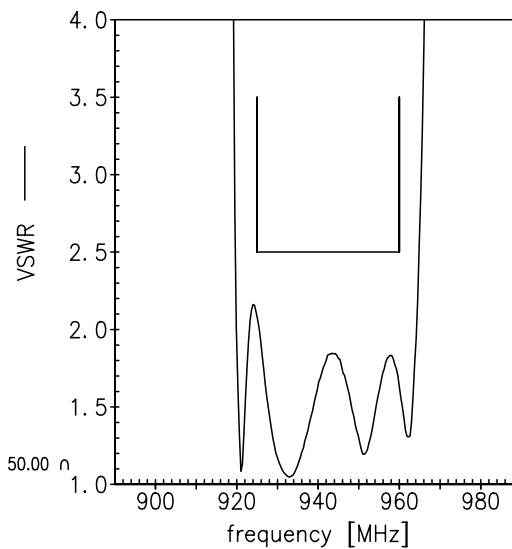


Smith charts

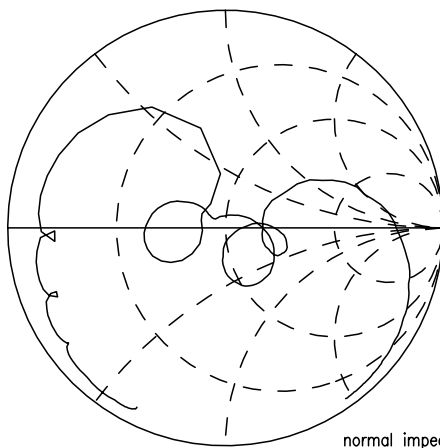
S_{11} function



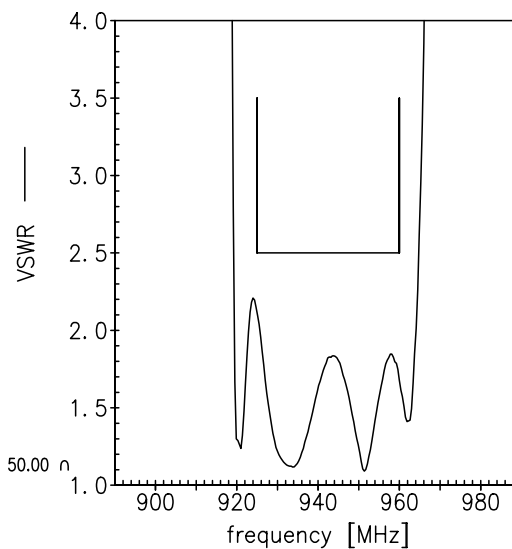
normal impedance: 50.00 Ω



S_{22} function



normal impedance: 50.00 Ω



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**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	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."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

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