



SAW Components

SAW filter

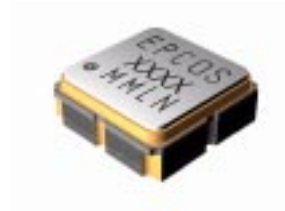
EGSM 900 Rx

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



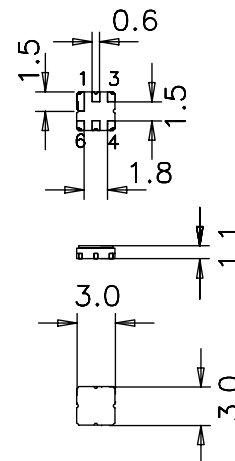
Application

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



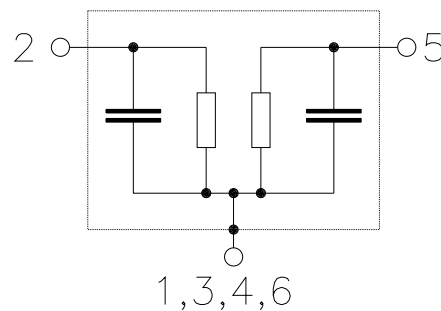
Features

- 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





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	α_{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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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.	
Center frequency	f_C		—	942,5	—	MHz
Maximum insertion attenuation	α_{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 >= 25 °C



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



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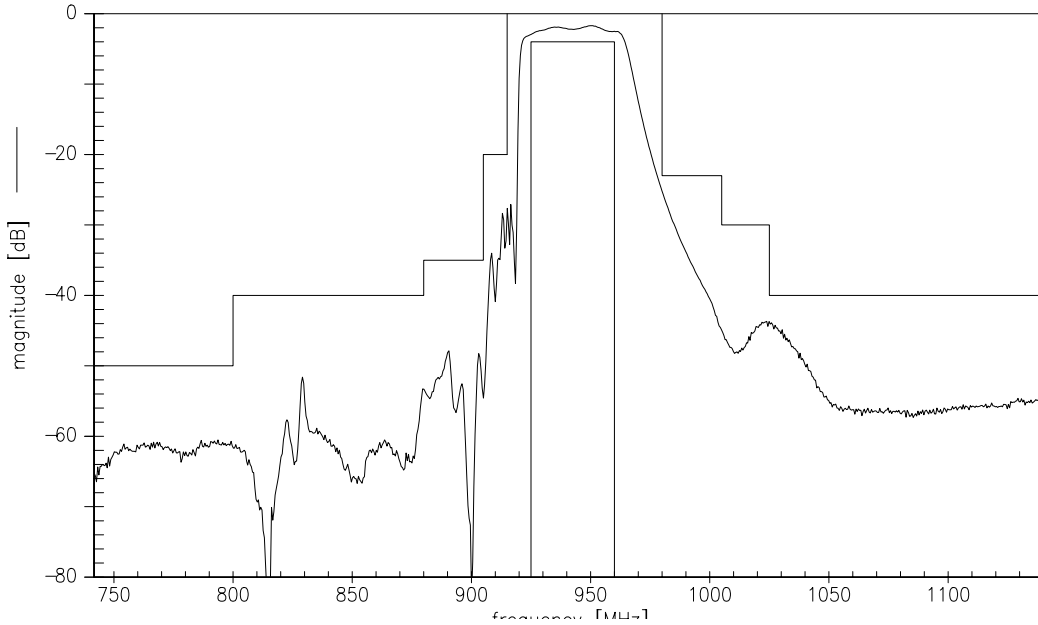
Maximum ratings

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

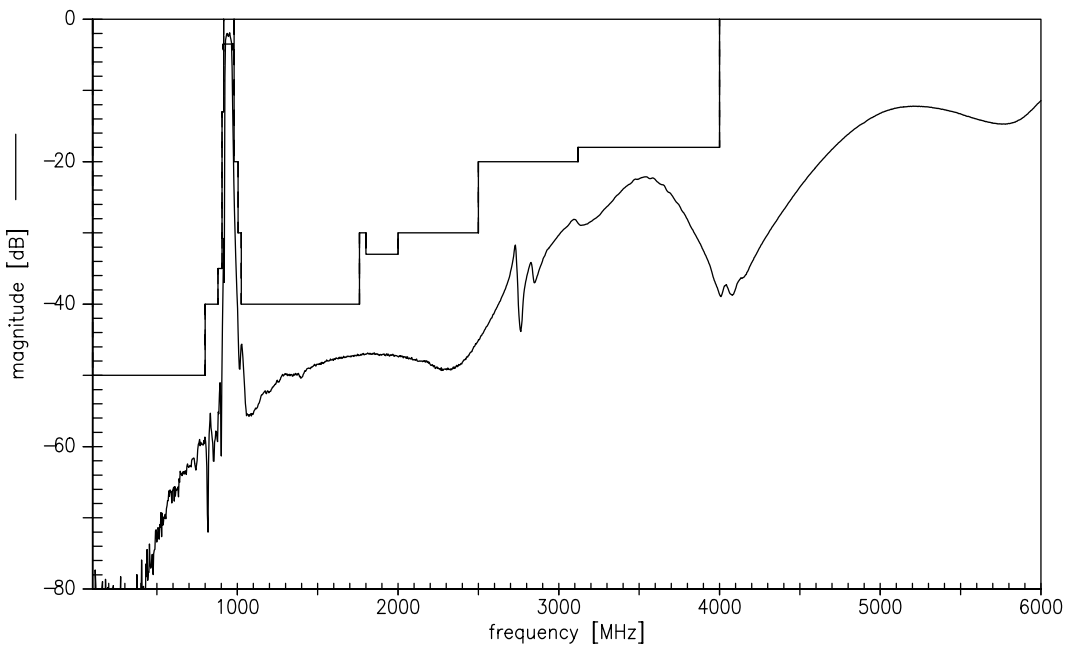
¹⁾ acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function



Transfer function (wideband)



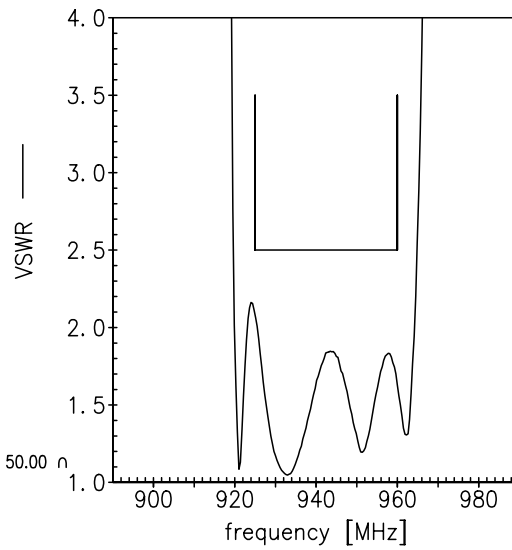
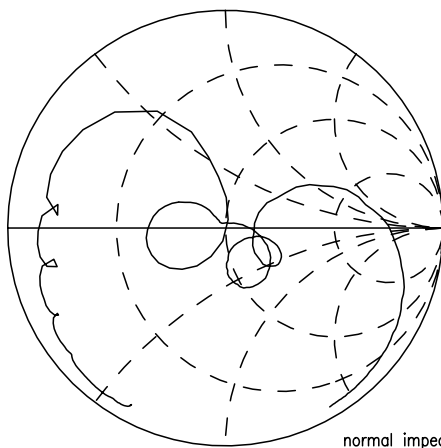


Data sheet

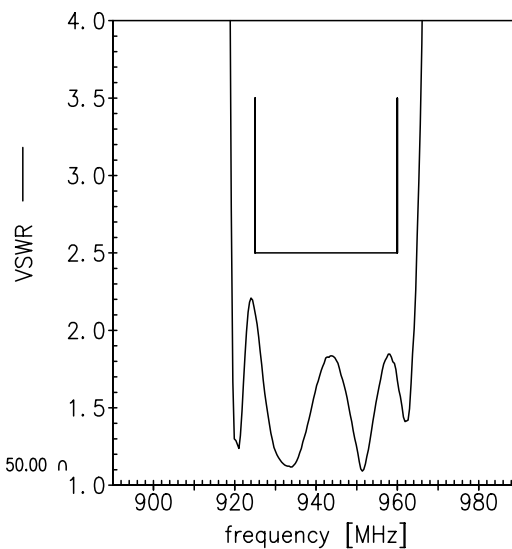
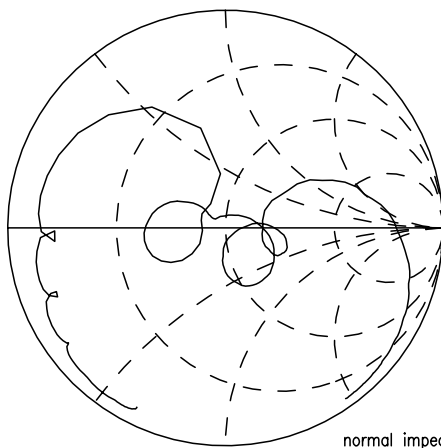


Smith charts

S₁₁ function



S₂₂ function





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Data sheet



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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