



SAW Components

SAW Rx filter

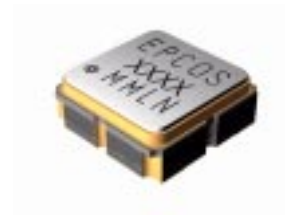
WCDMA Band I

Series/type:	B5064
Ordering code:	B39202B5064U410
Date:	March 05, 2009
Version:	2.3



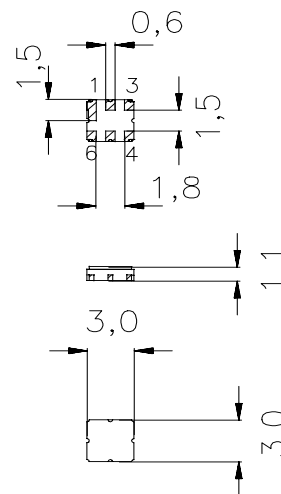
Application

- Low-loss RF filter for UMTS Basestation, receive path
- Unbalanced to unbalanced operation
- Usable passband of 60MHz
- Suitable for GPRS class 1 to 12



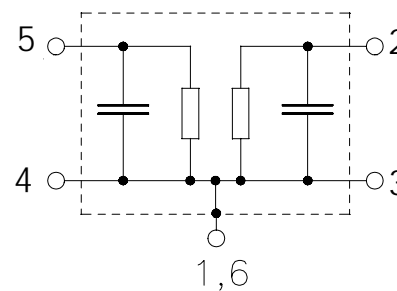
Features

- Package size 3.0 x3.0 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

- 5 Input
- 2 Output
- 1,3,4,6 Ground





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SAW Rx filter	1950.0 MHz

Data sheet



Characteristics

Temperature range for specification: T = -30 °C to +85 °C
 Terminating source impedance: Z_S = 50 Ω unbal
 Terminating load impedance: Z_L = 50 Ω unbal with matching network.

		min.	typ. @ 25 °C	max.	
Center frequency	f _C	—	1950.0	—	MHz
Maximum insertion attenuation	α _{max}				
1920.0MHz ... 1980.0MHz		—	2.4	2.8 ¹⁾	dB
Amplitude ripple (p-p)	Δα				
1920.0MHz ... 1980.0MHz		—	0.7	1.1 ²⁾	dB
Input VSWR					
1920.0MHz ... 1980.0MHz		—	1.6	1.8	
Output VSWR					
1920.0MHz ... 1980.0MHz		—	1.6	1.8	
Attenuation	α				
0.1 ... 1600.0 MHz		35.0	38.0	—	dB
1600.0 ... 1818.0 MHz		28.0	30.0	—	dB
1818.0 ... 1876.0 MHz		18.0	22.0	—	dB
1876.0 ... 1890.0 MHz		8.0	12.0	—	dB
2010.0 ... 2050.0 MHz		10.0	20.0	—	dB
2050.0 ... 2110.0 MHz		15.0	20.0	—	dB
2110.0 ... 2170.0 MHz		20.0	25.0	—	dB
2170.0 ... 3500.0 MHz		24.0	26.0	—	dB

1) 2.6dB at 25 °C
 2) 0.9dB at 25 °C



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Data sheet



Maximum ratings

Operable temperature range	T	-40/+85	°C	machine model, 1 pulse effective power in the on-state, duty cycle 4:8
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	3	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	
Input power max	P _{IN}	10	dBm	

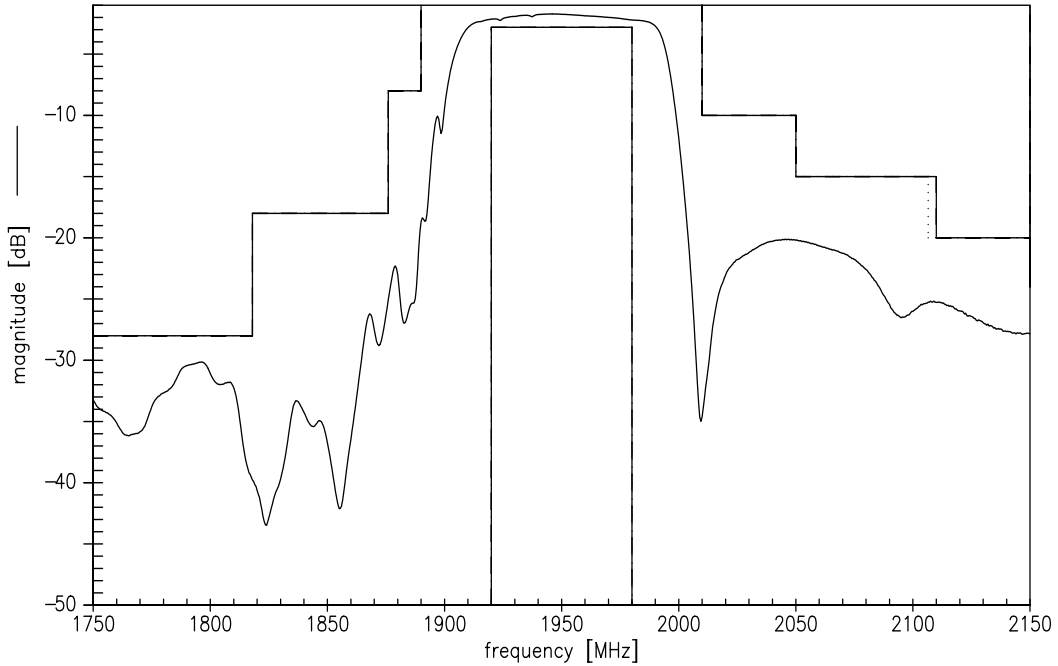
¹⁾ acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



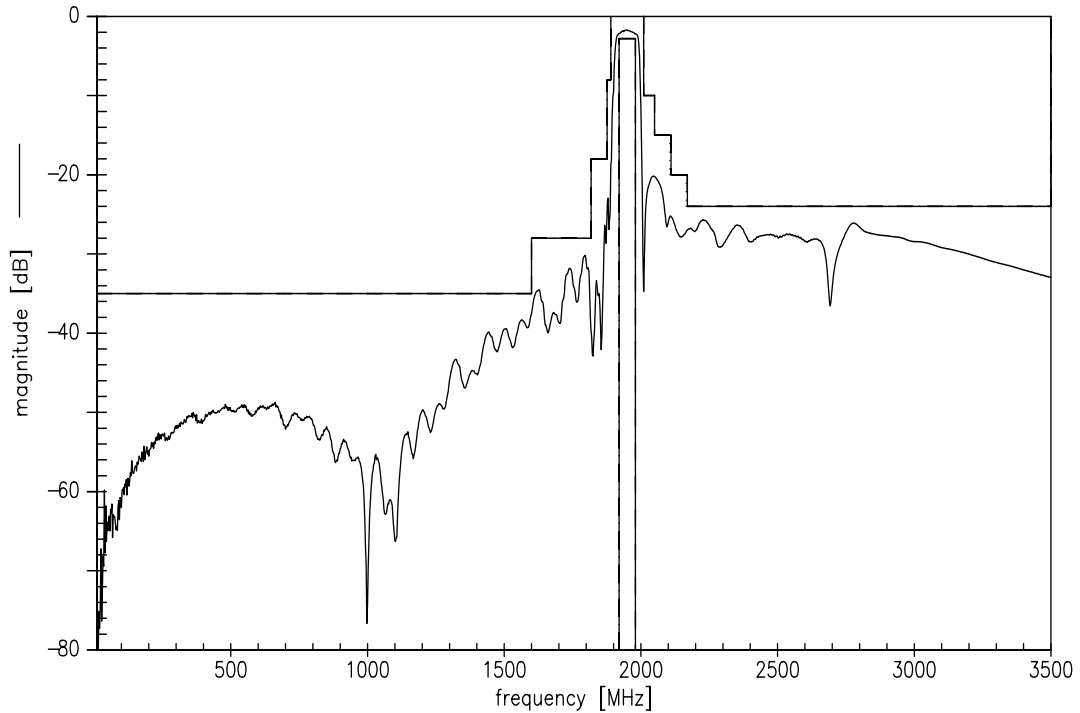
Data sheet



Transfer function (narrowband) (with matching network)



Transfer function (wideband) (with matching network)



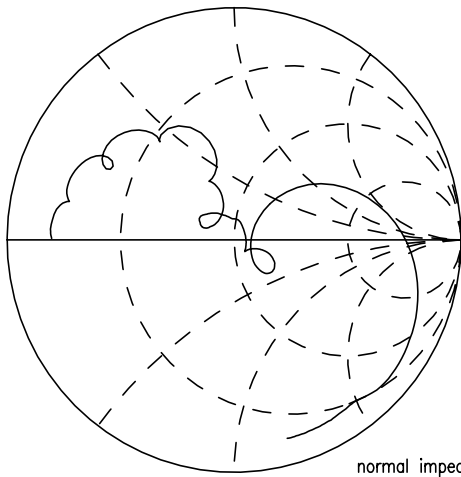
Please read *cautions and warnings and important notes* at the end of this document.

Data sheet

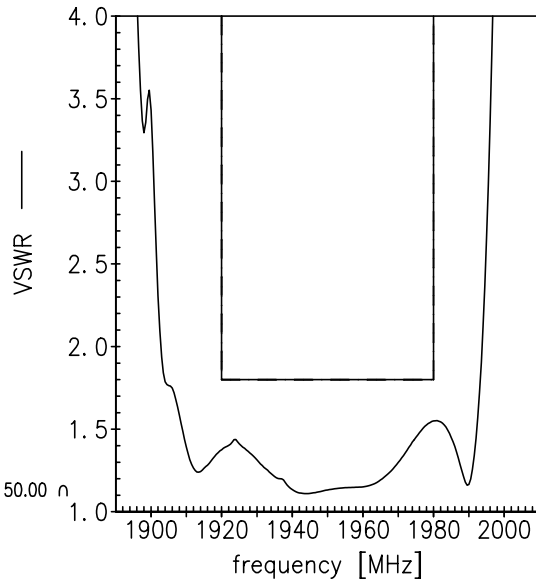


Smith charts (with matching network)

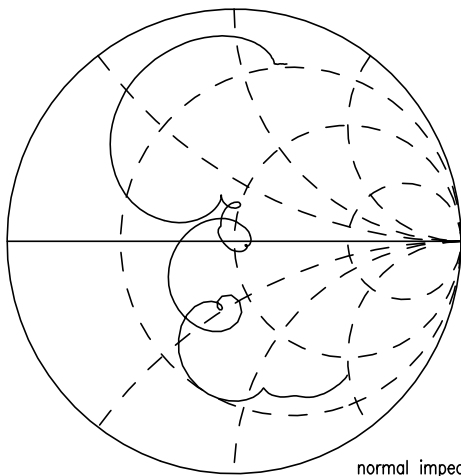
S₁₁ function



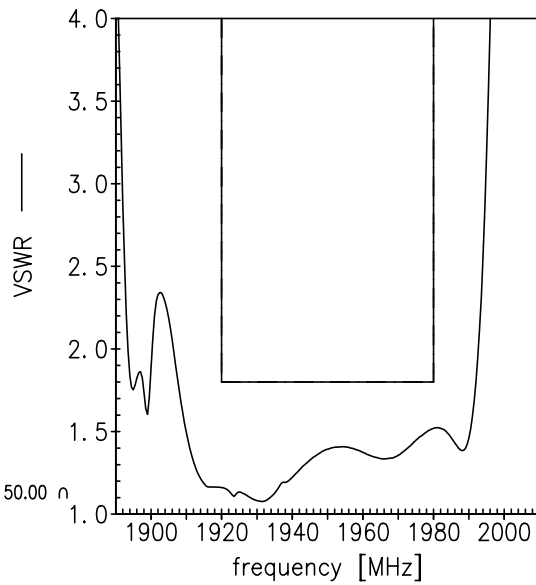
normal impedance: 50.00 Ω



S₂₂ function



normal impedance: 50.00 Ω





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Amplitude ripple (p-p)	Δα	—	0.7	1.1 ²⁾	dB
1920.0MHz ... 1980.0MHz					
Input VSWR		—	1.6	1.8	
1920.0MHz ... 1980.0MHz					
Output VSWR		—	1.6	1.8	
1920.0MHz ... 1980.0MHz					
Attenuation	α				
0.1 ... 1580.0 MHz		35.0	40.0	—	dB
1705.0 ... 1745.0 MHz		28.0	33.0	—	dB
1805.0 ... 1880.0 MHz		18.0	21.0	—	dB
2110.0 ... 2170.0 MHz		20.0	25.0	—	dB
2300.0 ... 2550.0 MHz		24.0	27.0	—	dB
2680.0 ... 3120.0 MHz		24.0	27.0	—	dB
3840.0 ... 3960.0 MHz		25.0	32.0	—	dB

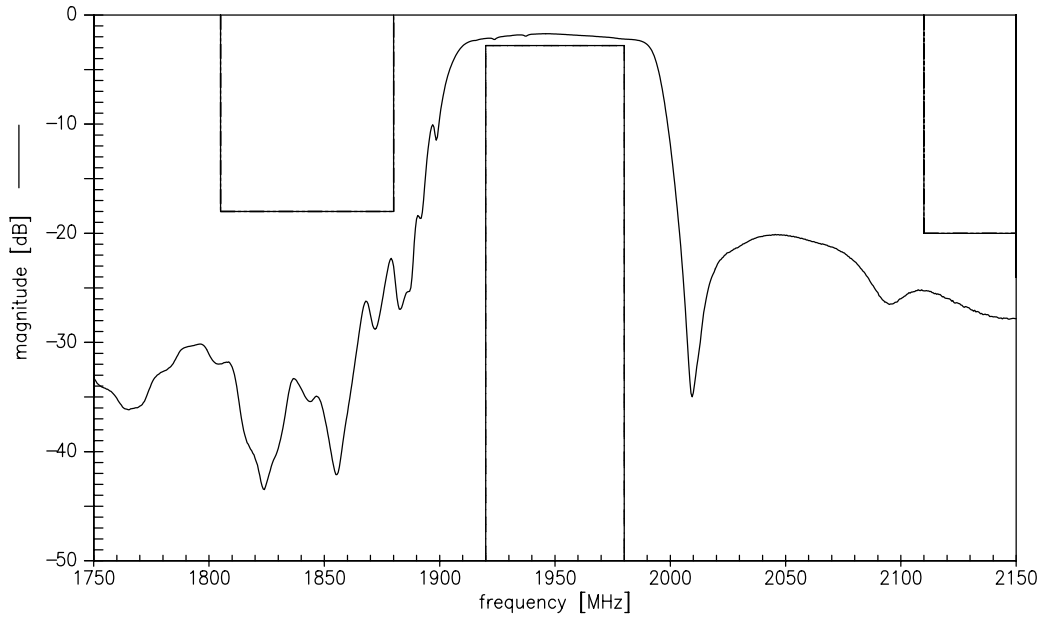
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 2) 0.9dB at 25 °C



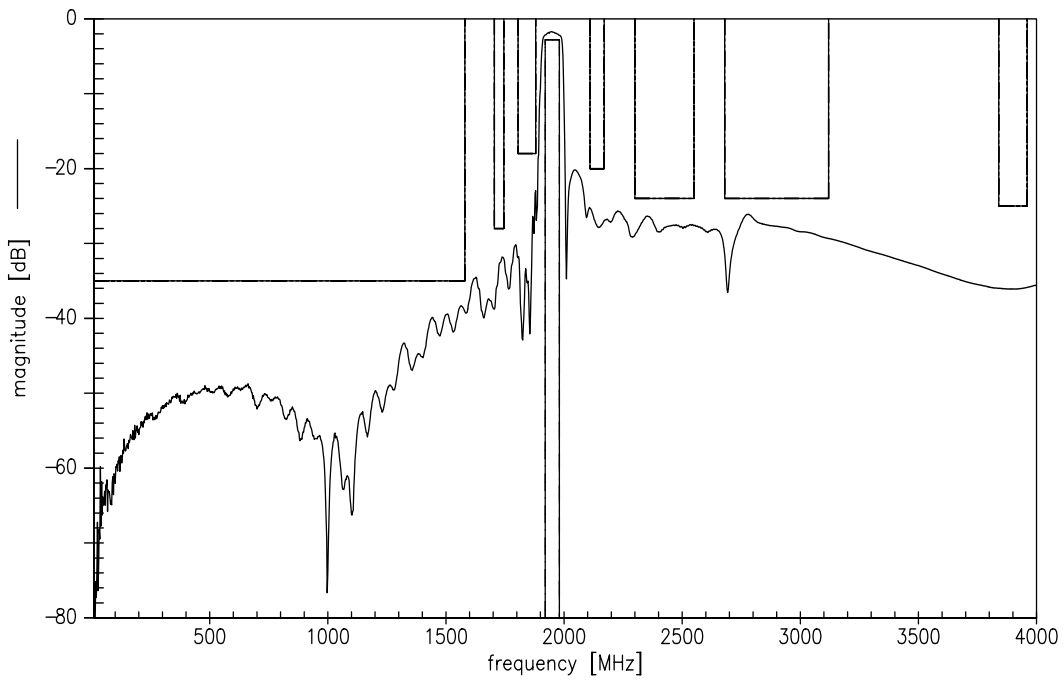
Data sheet



Transfer function (narrowband) (with matching network)



Transfer function - (Wideband) (with matching network)



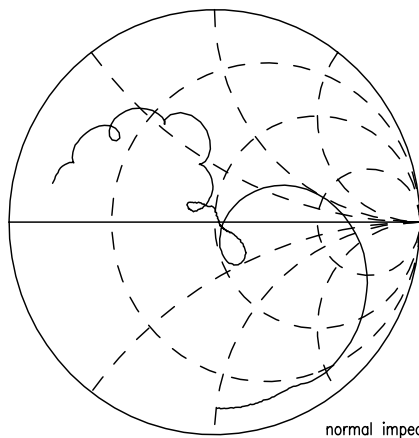


Data sheet

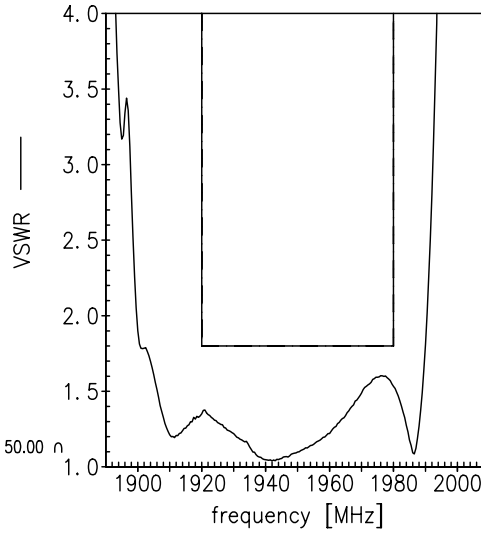


Smith charts (with matching network)

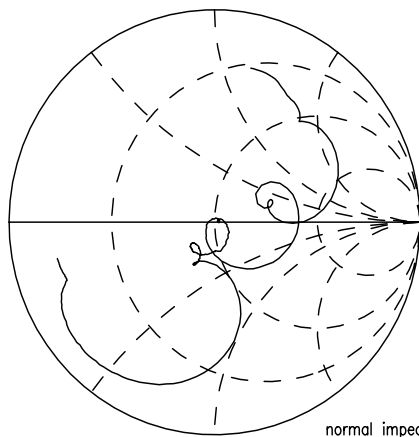
S₁₁ function



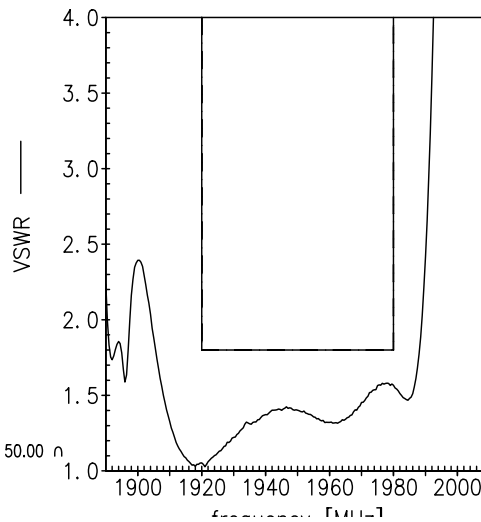
normal impedance: 50.00 Ω



S₂₂ function



normal impedance: 50.00 Ω





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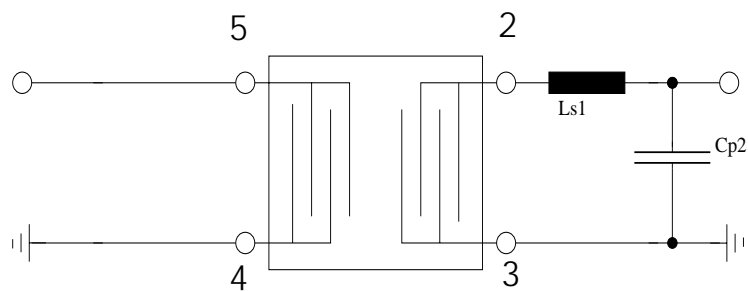
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Testing Matching Network

(Element values depend on PCB layout)



$$L_{s1} = 1.5\text{nH}$$

$$C_{p2} = 1.0\text{pF}$$



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References

Type	B5064
Ordering code	B39202B5064U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8152-Z000
Date code	L_1126
S-parameters	B5064_NB.s2p B5064_WB.s2p
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."

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