SAW Components

SAW Rx Filter

Low Loss Filter for Mobile Telephone PCS system

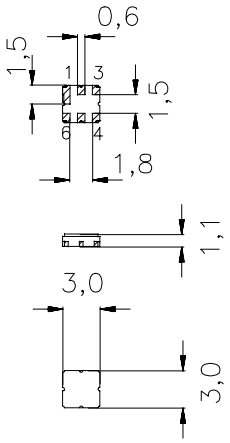
Series/type:	**B4150**
Ordering code:	**B39202B4150U410**
Date:	November 24, 2009
Version:	2.0

Application

- Low-loss RF filter for mobile telephone, receive path
  PCS systems, receive path
- Usable passband of 60MHz
- No matching required for operation at 50 Ω

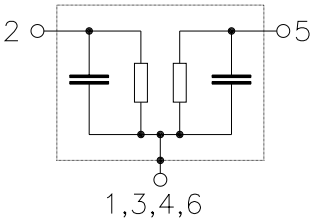
Features

- Package size 3.0x 3.0 x 1.1 mm³
- Package code DCC6C
- Approx. weight 0.037 g
- Ceramic package for **S**urface **M**ount **T**echnology (**SMT**)
- RoHS compliant
- Ni, gold-plated



Pin configuration

- 2 Input
- 1,3 To be ground
- 5 Output
- 4,6 To be ground



Data sheet SMD

Characteristics

Temperature range for specification: T = 25 +-2˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	1960.0	—	MHz
Maximum insertion attenuation	α_{max}				
1930.0 ... 1990.0 MHz		—	2.8	3.5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930.0 ... 1990.0 MHz		—	0.9	1.6	dB
Input return loss					
1930.0 ... 1990.0 MHz		9.5	10.5	—	dB
Output return loss					
1930.0 ... 1990.0 MHz		9.5	10.5	—	dB
Attenuation	α				
10.0 ... 1850.0 MHz		20	21	—	dB
1850.0 ... 1910.0 MHz		21	30	—	dB
2040.0 ... 2100.0 MHz		25	27	—	dB
2100.0 ... 5000.0 MHz		20	25	—	dB
5000.0 ... 6000.0 MHz		8	18	—	dB

Data sheet 

Characteristics

Temperature range for specification: T = -30 to +80 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	1960.0	—	MHz
Maximum insertion attenuation	α_{max}				
1930.0 ... 1990.0 MHz		—	3.2	5.3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930.0 ... 1990.0 MHz		—	1.2	3.2	dB
Input return loss					
1930.0 ... 1990.0 MHz		9.5	10.5	—	dB
Output return loss					
1930.0 ... 1990.0 MHz		9.5	10.5	—	dB
Attenuation	α				
10.0 ... 1850.0 MHz		20	21	—	dB
1850.0 ... 1910.0 MHz		15	30	—	dB
2040.0 ... 2100.0 MHz		25	27	—	dB
2100.0 ... 5000.0 MHz		20	25	—	dB
5000.0 ... 6000.0 MHz		8	18	—	dB

Data sheet SMD

Characteristics

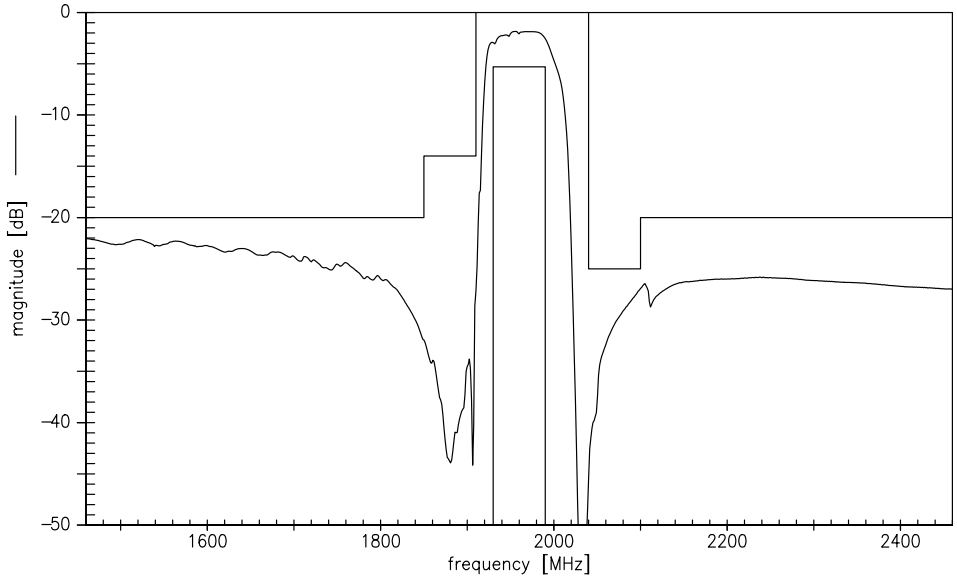
Temperature range for specification: T = -30 to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	1960.0	—	MHz
Maximum insertion attenuation	α_{max}				
1930.0 ... 1990.0 MHz		—	3.2	5.3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930.0 ... 1990.0 MHz		—	1.2	3.2	dB
Input return loss					
1930.0 ... 1990.0 MHz		9.0	10.5	—	dB
Output return loss					
1930.0 ... 1990.0 MHz		9.0	10.5	—	dB
Attenuation	α				
10.0 ... 1850.0 MHz		20	21	—	dB
1850.0 ... 1910.0 MHz		14	30	—	dB
2040.0 ... 2100.0 MHz		25	27	—	dB
2100.0 ... 5000.0 MHz		20	25	—	dB
5000.0 ... 6000.0 MHz		8	18	—	dB

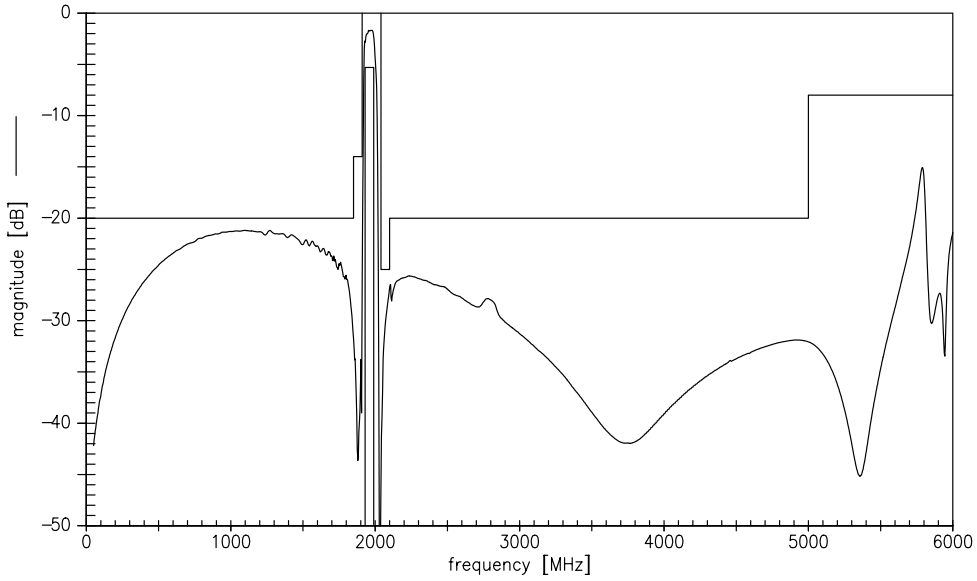
Maximumratings

Operable temperature range	T	-30 / +85	˚C	
Storage temperature range	T_{stg}	-40 / +85	˚C	
DC voltage	V_{DC}	0	V	
Input power max	P_{IN}			source and load impedance 50 Ω
1930.0...1990.0 MHz		13	dBm	peak power of TDMA signal, duty cycle 1 : 3
		10	dBm	continuous wave

Transfer function (narrowband)

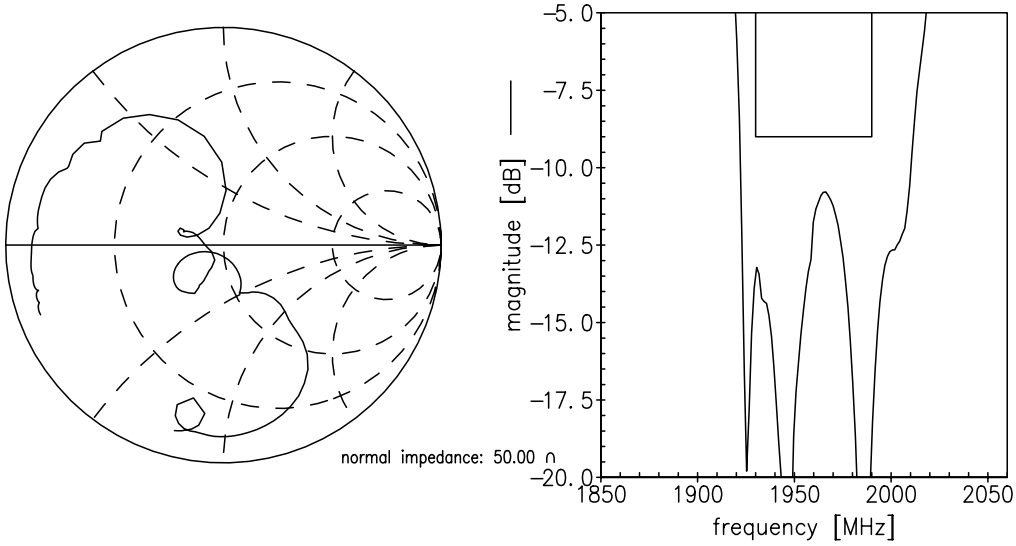


Transfer function (wideband)

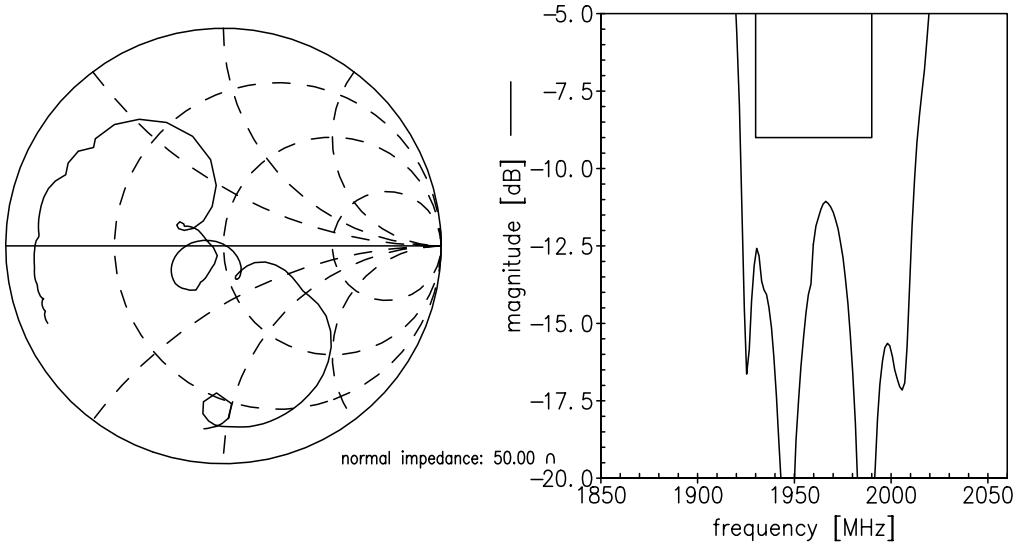


Smith charts

S_{11} function



S_{22} function



References

Type	B4150
Ordering code	B39202B4150U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8088-Z000
Date codes	L_1126
S-parameters	B4150_NB.s2p B4150_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."

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P.O. Box 80 17 09, 81617 Munich, GERMANY

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Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:
moschip.ru
moschip.ru_4
moschip.ru_6
moschip.ru_9