RF360 Europe GmbH

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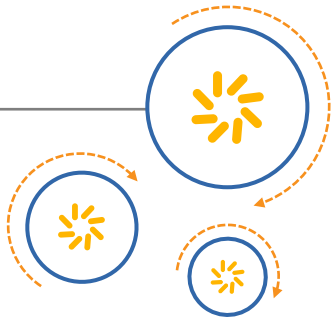

SAW Components

SAW Rx Filter

Trunked Radio

Series/type:	B5046
Ordering code:	B39821B5046U510
Date:	March 13, 2007
Version:	2.0

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SAW Rx Filter

Trunked Radio

Series/type:	**B5046**
Ordering code:	**B39821B5046U510**
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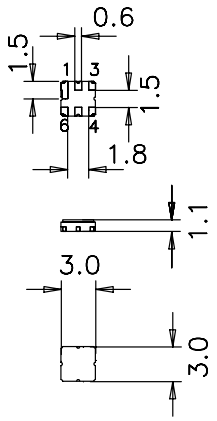
Application

- Low-loss filter (RX) for Trunked Radio
- Usable bandwidth 19 MHz
- No matching required for operation at 50 Ω
- Unbalanced to unbalanced or unbalanced to balanced operation
- Filter impedance 50 Ω

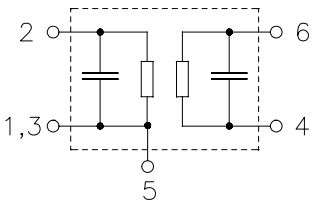
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6D
- Approx. weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Hermetically sealed ceramic package
- RoHS compliant
- Ni, gold-plated
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)



Pin configuration

- 2 Input
- 6 Output / Output balanced
- 4 Output ground / Output balanced
- 1, 3, 5 Input ground / Case ground



Data Sheet SMD

Characteristics

Temperature range for specification: T = -30 to +70˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω (balanced)

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	815.5	—	MHz
Maximum insertion attenuation	α_{max}				
806.0 ... 825.0 MHz		—	2.6	4.5 [1]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
806.0 ... 825.0 MHz		—	0.9	2.5 [2]	dB
Input VSWR					
806.0 ... 825.0 MHz		—	1.3	2.0	
Output VSWR					
806.0 ... 825.0 MHz		—	1.3	2.0	
Attenuation	α				
0.1 ... 663.0 MHz		44	47	—	dB
663.0 ... 789.0 MHz		30	39	—	dB
789.0 ... 796.0 MHz		13	32	—	dB
850.0 ... 900.0 MHz		20	26	—	dB
900.0 ... 1600.0 MHz		30	33	—	dB
1600.0 ... 2313.0 MHz		24	27	—	dB
2313.0 ... 3500.0 MHz		20	23	—	dB
3500.0 ... 4000.0 MHz		7	23	—	dB
Amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
806.0 ... 825.0 MHz		—	-0.1 / +1.0	-0.8 / +1.2	dB
Phase balance ($\phi(S_{31})-\phi(S_{21})+180^\circ$)					
806.0 ... 825.0 MHz		—	-/+ 3	-/+ 10	˚
Temperature coefficient of frequency	TC_f	—	-36	—	ppm/K

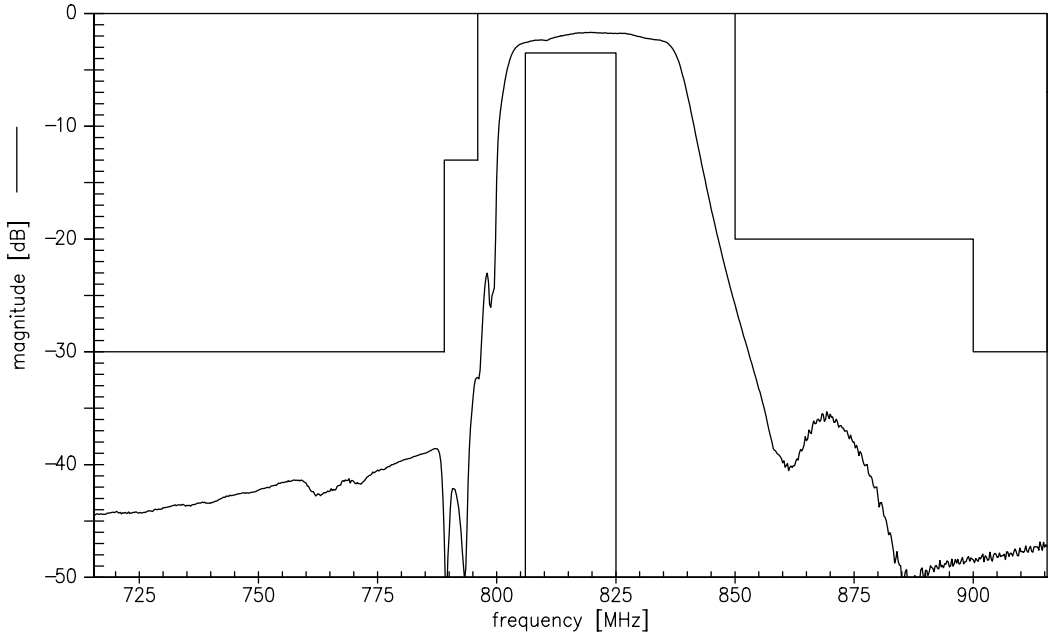
[1] 3.5 dB at +15 to +35 ˚C.
[2] 1.5 dB at +15 to +35 ˚C.

Maximum ratings

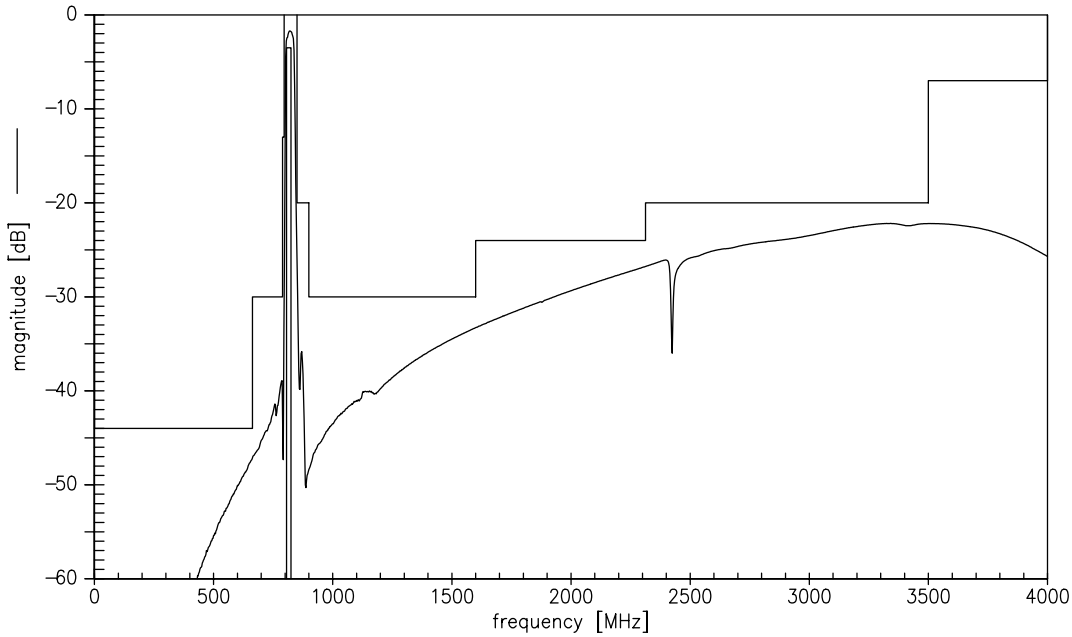
Operable temperature range	T	-40 / +85	°C	
Storage temperature range	T_{stg}	-40 / +85	°C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100 [1)]	V	machine model, 10 pulses
Input Power at 806.0 ... 825.0 MHz	P_{IN}	15	dBm	continuous wave

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

Transfer function (narrowband)

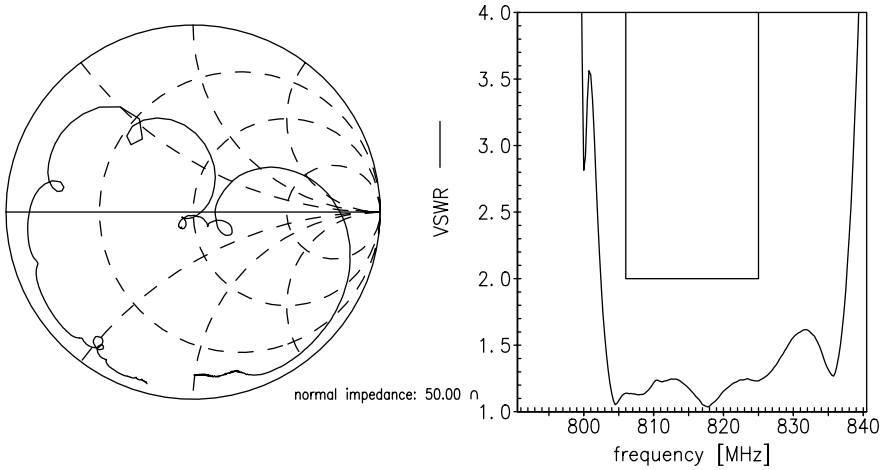


Transfer function (wideband)

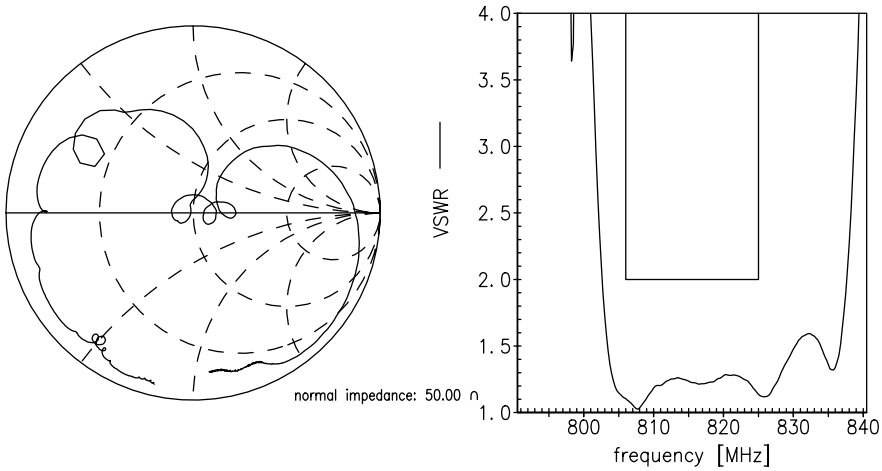


Smith chart

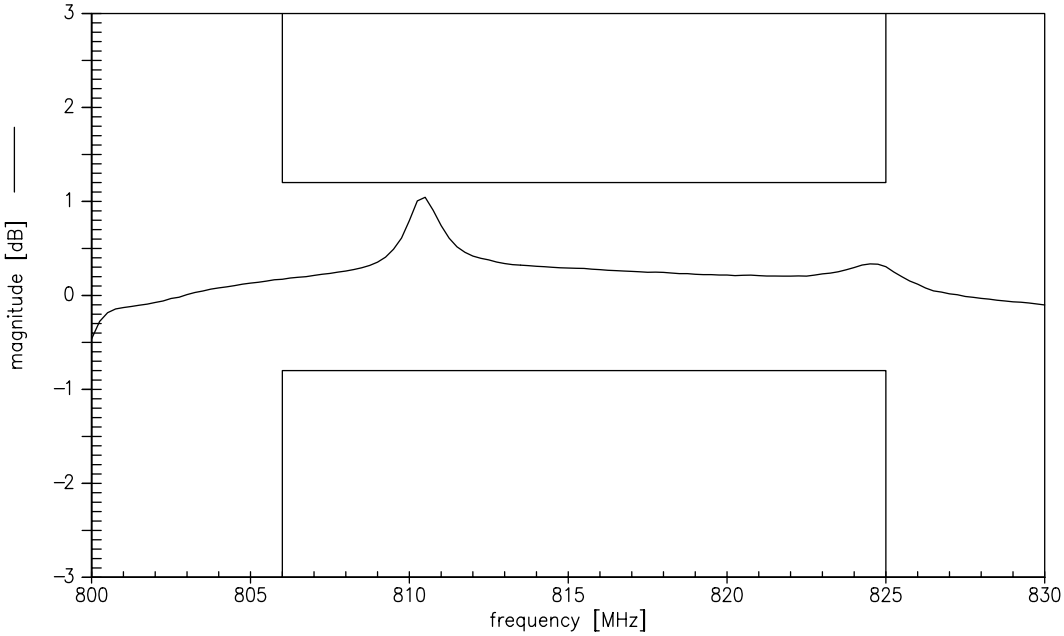
S_{11} function



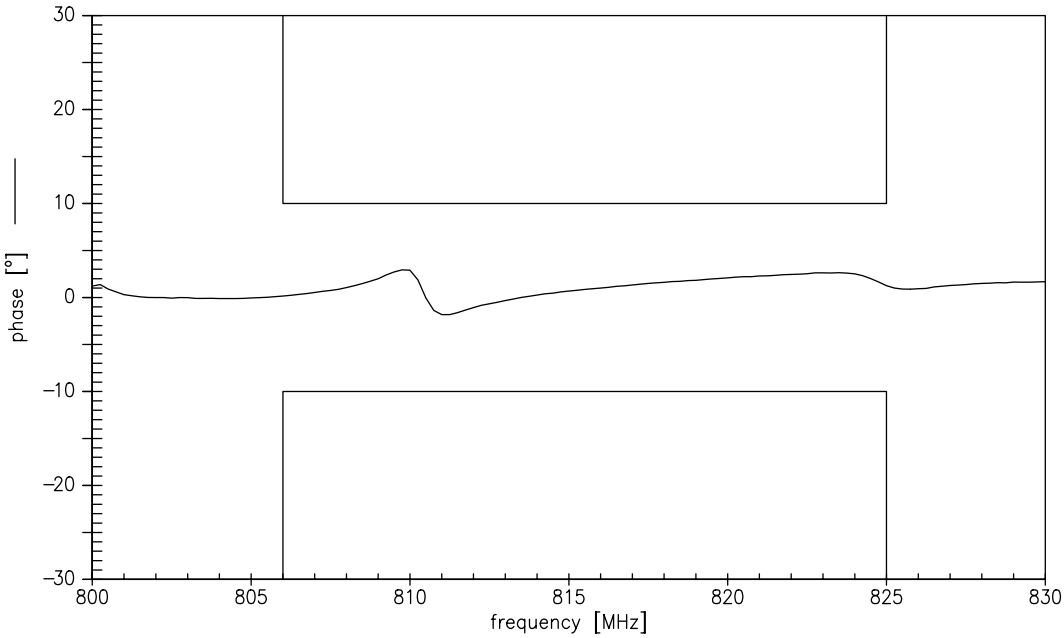
S_{22} function



Amplitude balance



Phase balance



References

Type	B5046
Ordering code	B39821B5046U510
Marking and package	C61157-A7-A68
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5046_NB.s3p B5046_WB.s3p
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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