



## **SAW Components**

### **SAW Rx Filter**

Trunked Radio

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



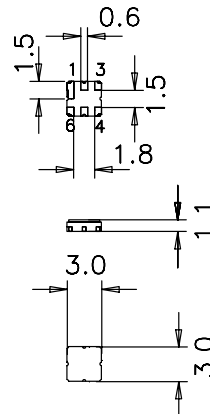
**Application**

- 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



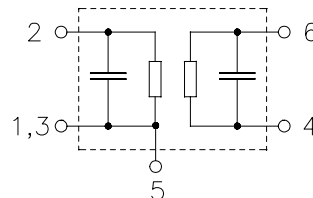
**Features**

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Package code DCC6D
- Approx. weight 0.037 g
- Package for Surface Mount Technology (SMT)
- Hermetically sealed ceramic package
- RoHS compliant
- Ni, gold-plated
- Electrostatic Sensitive Device (ESD)



**Pin configuration**

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





Data Sheet



Characteristics

Temperature range for specification:  $T = -30$  to  $+70$  °C  
 Terminating source impedance:  $Z_S = 50 \Omega$   
 Terminating load impedance:  $Z_L = 50 \Omega$  (balanced)

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$	—	815.5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
806.0 ... 825.0 MHz		—	2.6	4.5 <sup>1)</sup>	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
806.0 ... 825.0 MHz		—	0.9	2.5 <sup>2)</sup>	dB
<b>Input VSWR</b>					
806.0 ... 825.0 MHz		—	1.3	2.0	
<b>Output VSWR</b>					
806.0 ... 825.0 MHz		—	1.3	2.0	
<b>Attenuation</b>	$\alpha$				
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
<b>Amplitude balance</b>	$( S_{31}/S_{21} )$				
806.0 ... 825.0 MHz		—	-0.1 / +1.0	-0.8 / +1.2	dB
<b>Phase balance</b>	$(\phi(S_{31})-\phi(S_{21})+180^\circ)$				
806.0 ... 825.0 MHz		—	-/+ 3	-/+ 10	°
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-36	—	ppm/K

<sup>1)</sup> 3.5 dB at +15 to +35 °C.  
<sup>2)</sup> 1.5 dB at +15 to +35 °C.



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815.5 MHz

Data Sheet



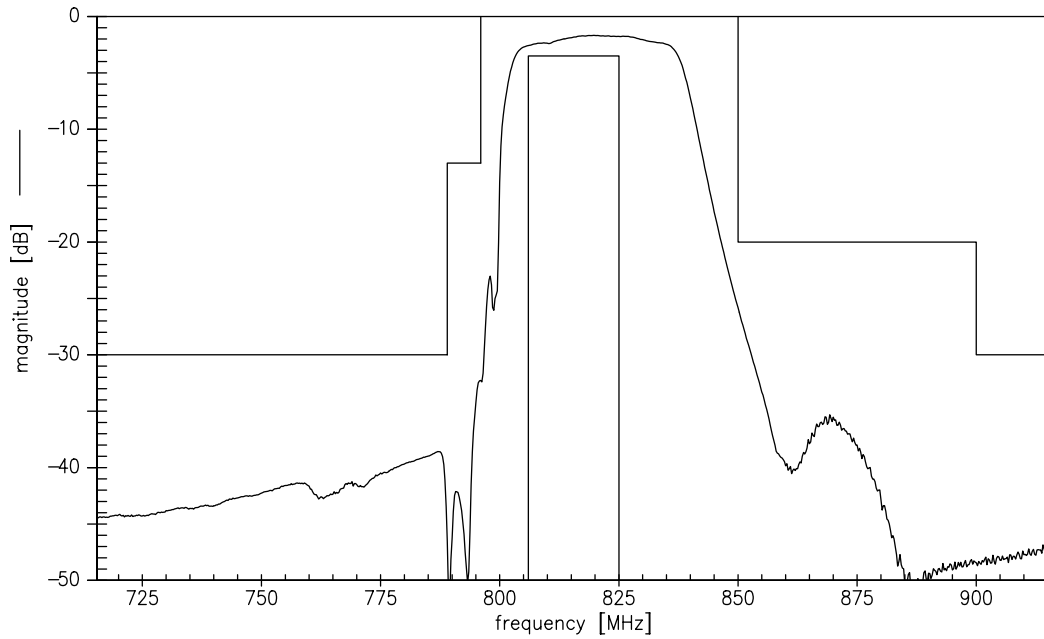
### Maximum ratings

Operable temperature range	T	-40 / +85	°C	
Storage temperature range	T <sub>stg</sub>	-40 / +85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	100 <sup>1)</sup>	V	machine model, 10 pulses
Input Power at 806.0 ... 825.0 MHz	P <sub>IN</sub>	15	dBm	continuous wave

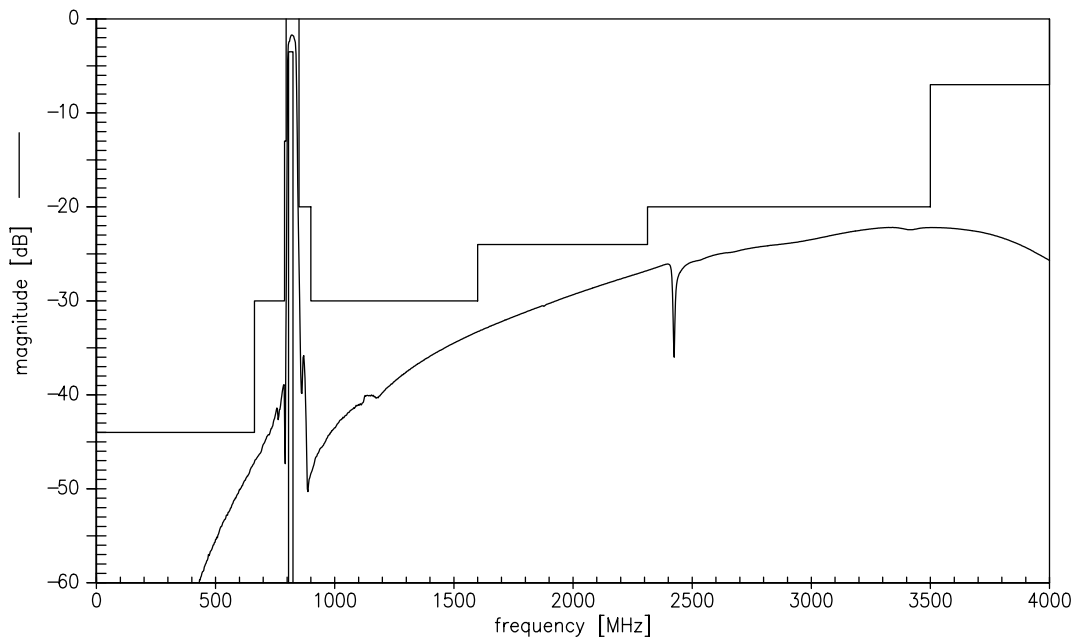
<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function (narrowband)



Transfer function (wideband)



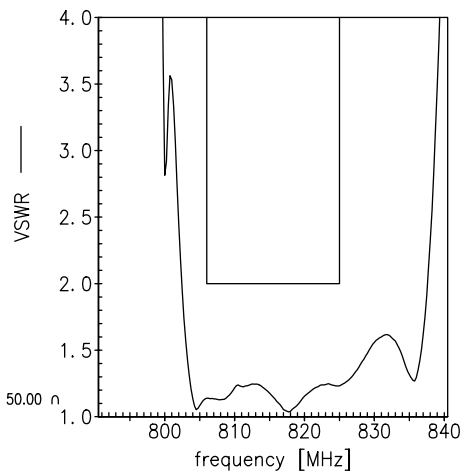
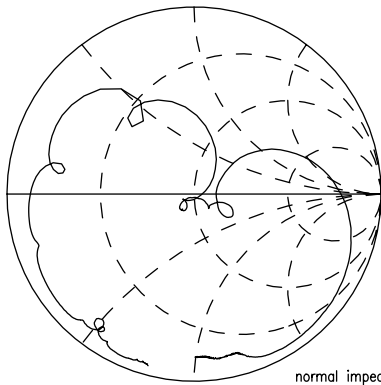


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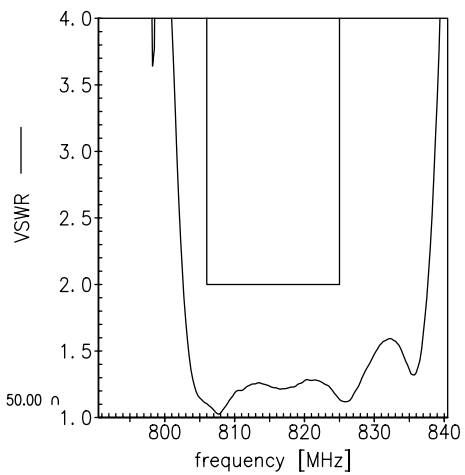
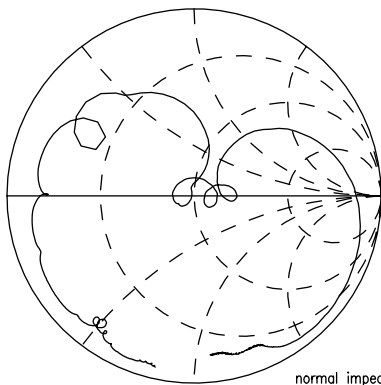


Smith chart

S<sub>11</sub> function

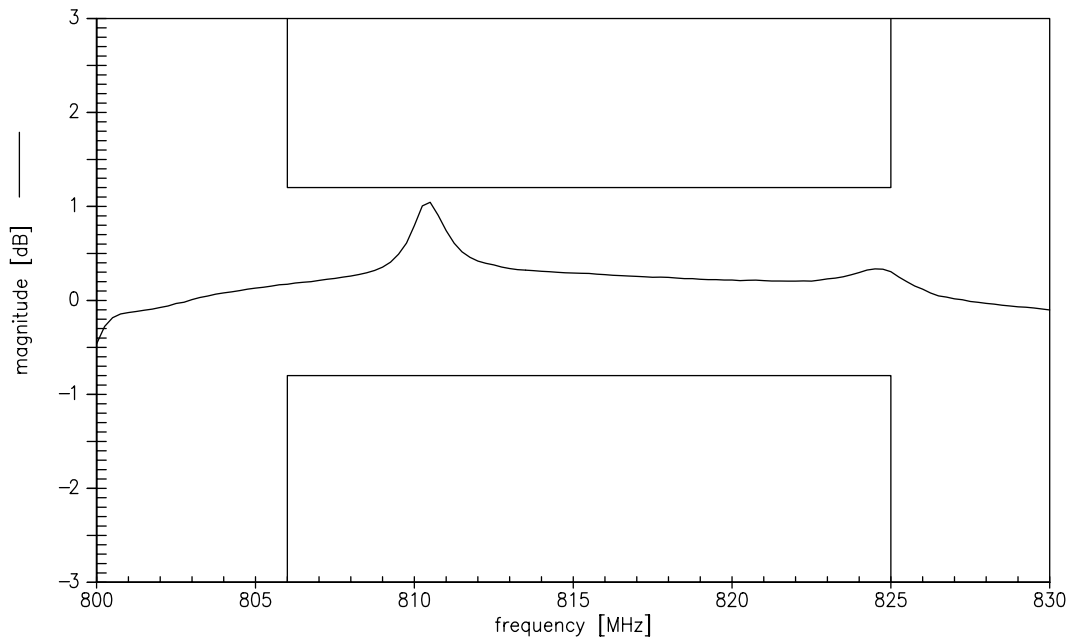


S<sub>22</sub> function

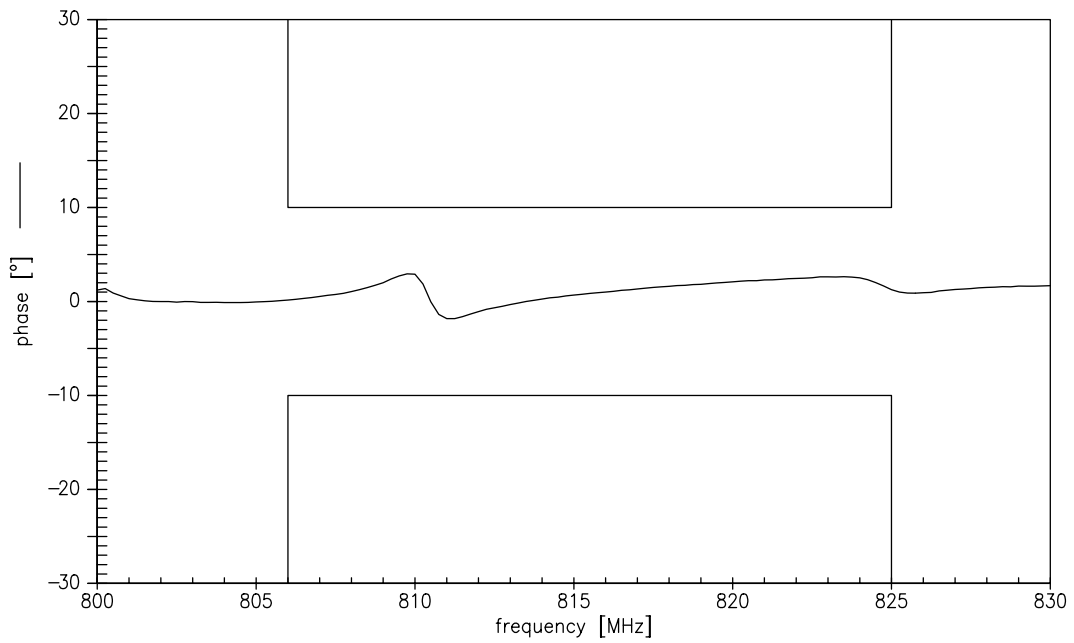




Amplitude balance



Phase balance





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815.5 MHz

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## 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."

For further information please contact your local EPCOS sales office or visit our webpage at [www.epcos.com](http://www.epcos.com).

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