



SAW Components

SAW Rx Filter

Trunked Radio

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

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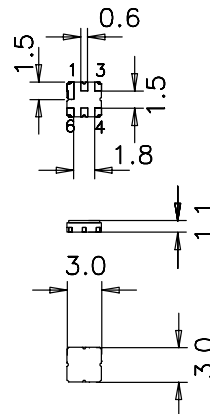
Application

- 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



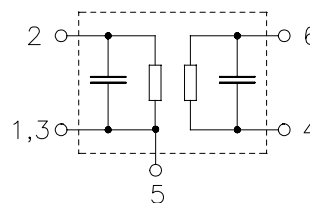
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6D
- Approx. weight 0.037 g
- Package for **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





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815.5 MHz

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.	
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	(S_{31}/S_{21})				
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.



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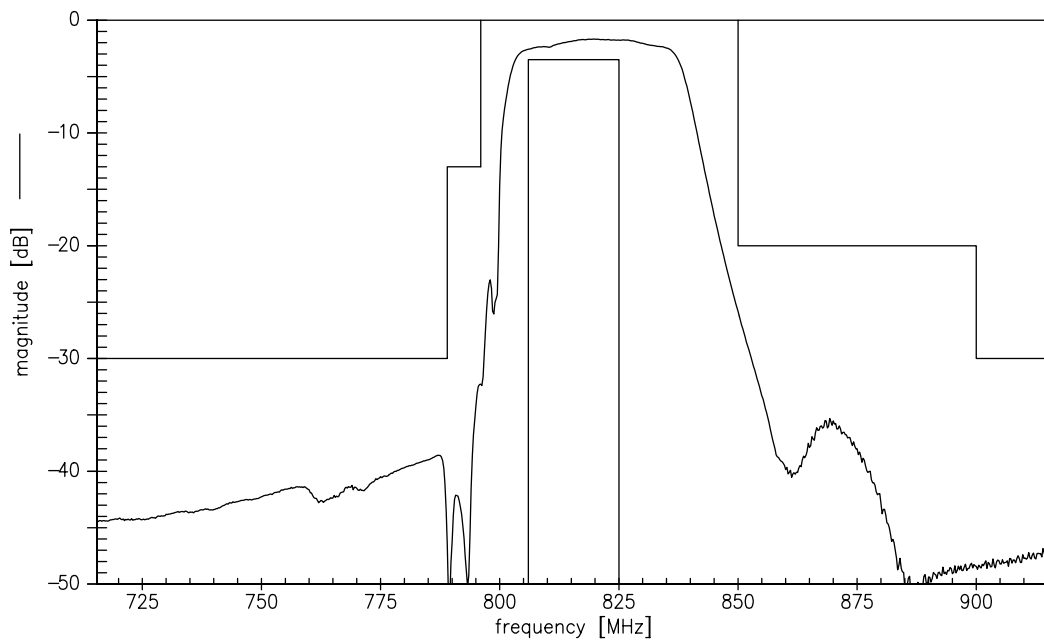
Maximum ratings

Operable temperature range	T	-40 / +85	°C	
Storage temperature range	T _{stg}	-40 / +85	°C	
DC voltage	V _{DC}	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

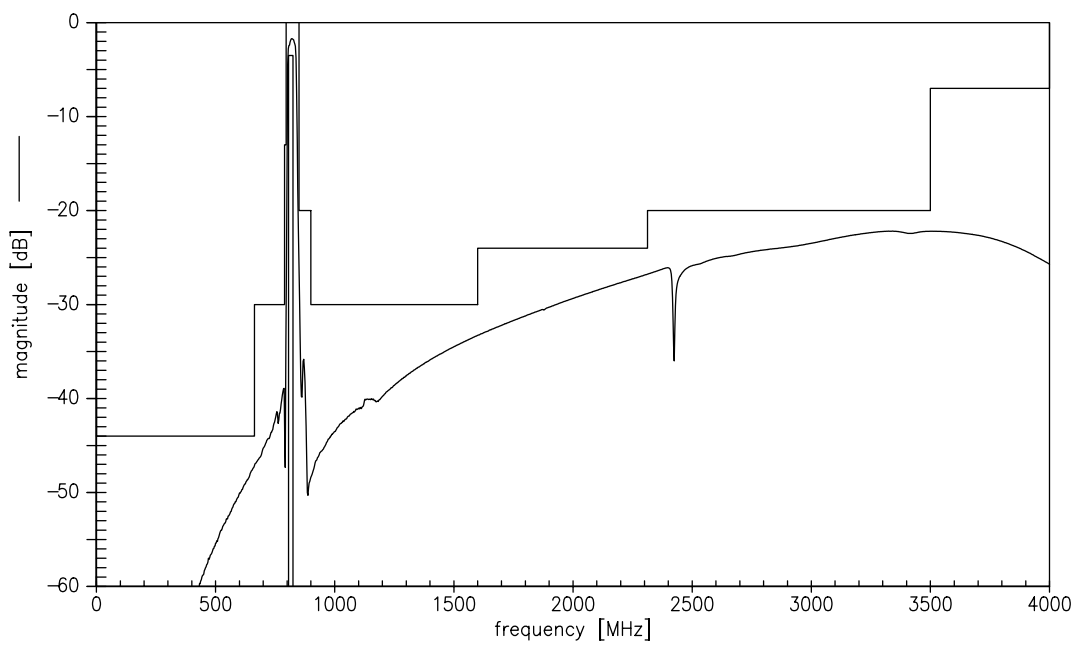
¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function (narrowband)



Transfer function (wideband)





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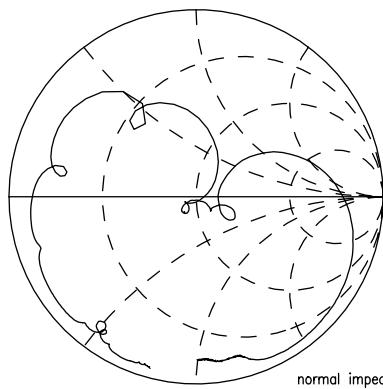
815.5 MHz

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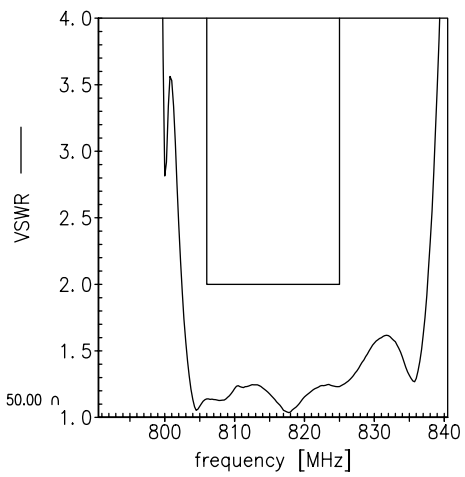


Smith chart

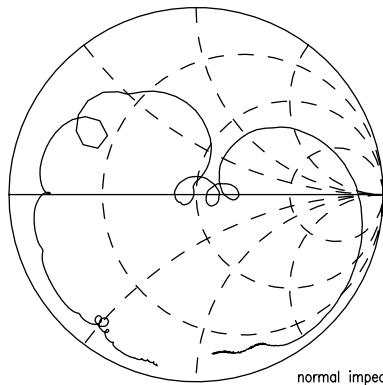
S_{11} function



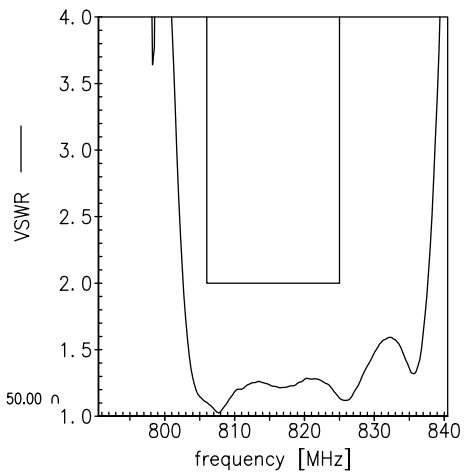
normal impedance: 50.00 Ω



S_{22} function

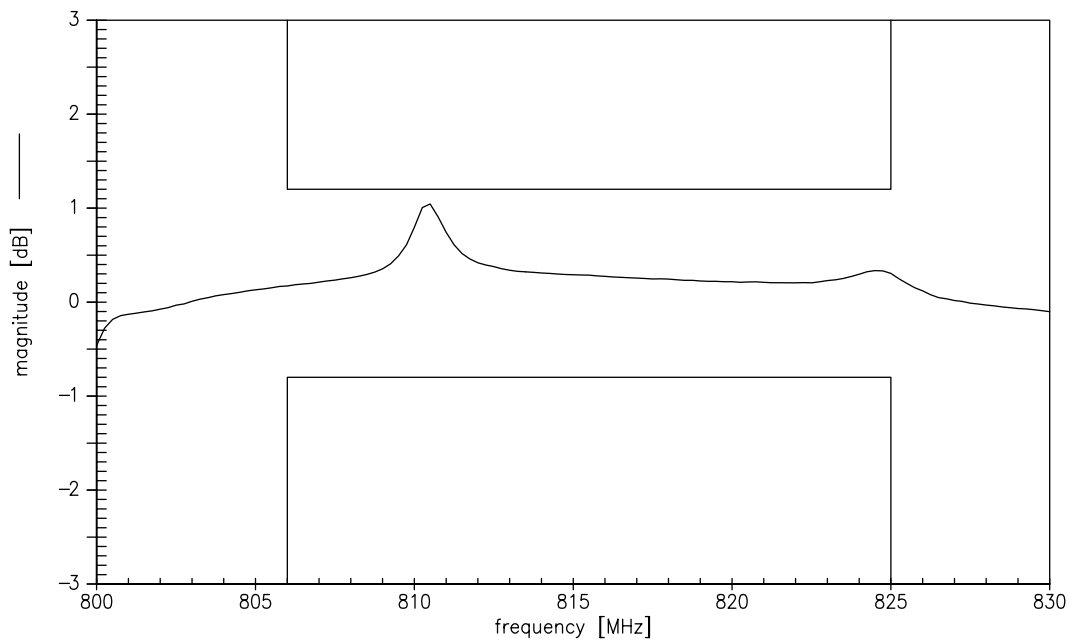


normal impedance: 50.00 Ω

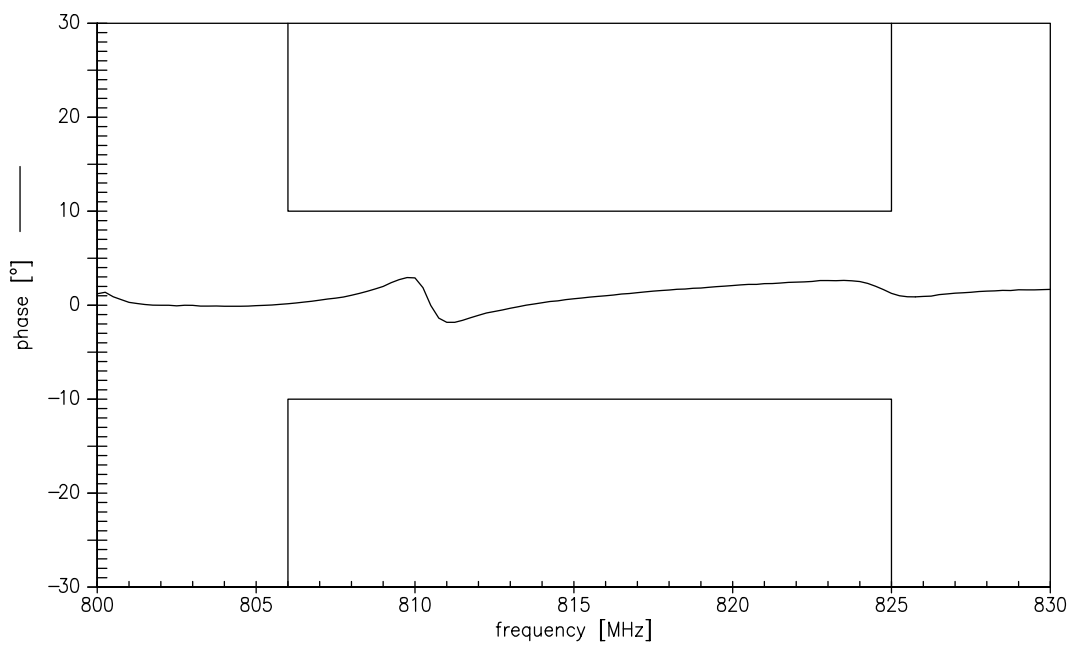




Amplitude balance



Phase balance





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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."

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