SAW Components

SAW filter

GSM RF Filter

Series/type:	**B4125**
Ordering code:	**B39881B4125U410**
Date:	June 26, 2012
Version:	2.1

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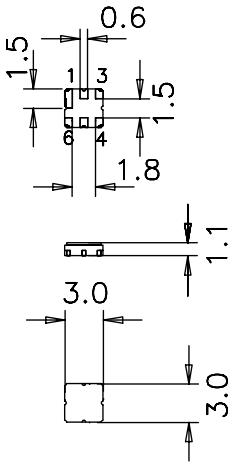
Application

- Low-loss RF filter for AMPS mobile telephone system, receive path
- Low amplitude ripple
- Usable passband of 25 MHz

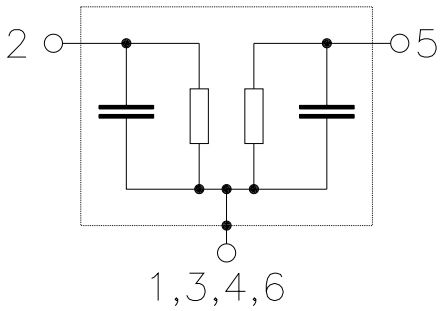
Features

- Package size 3.0 x 3.0 x 1.1 mm^3
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- **M**oisture **S**ensitive **L**evel 1
- Filter surface passivated



Pin configuration

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



Characteristics

Temperature range for specification: T = –40 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

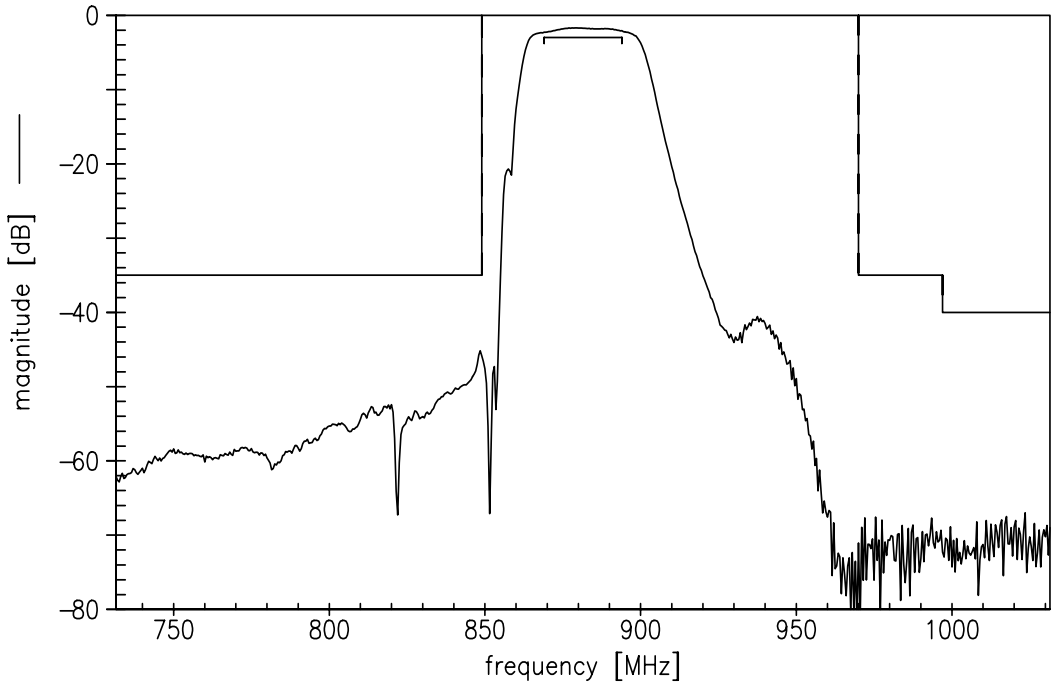
		min.	typ. @ 25 ˚C	max.	
Centre frequency	f_C	—	881.5	—	MHz
Maximum insertion attenuation	α_{max}				
869.0 ... 894.0 MHz		—	2.6	3.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869.0 ... 894.0 MHz		—	1.1	1.5	dB
VSWR					
Input 869.0 ... 894.0 MHz		—	1.4	1.6	
Output 869.0 ... 894.0 MHz		—	1.4	1.6	
Attenuation	α				
0.0 ... 824.0 MHz		35.0	50.0	—	dB
824.0 ... 849.0 MHz		35.0	45.0	—	dB
970.0 ... 997.0 MHz		35.0	60.0	—	dB
997.0 ... 1150.0 MHz		40.0	60.0	—	dB
1150.0 ... 1500.0 MHz		30.0	50.0	—	dB
1500.0 ... 2000.0 MHz		25.0	38.0	—	dB
2000.0 ... 6000.0 MHz		20.0	25.0	—	dB

Maximum ratings

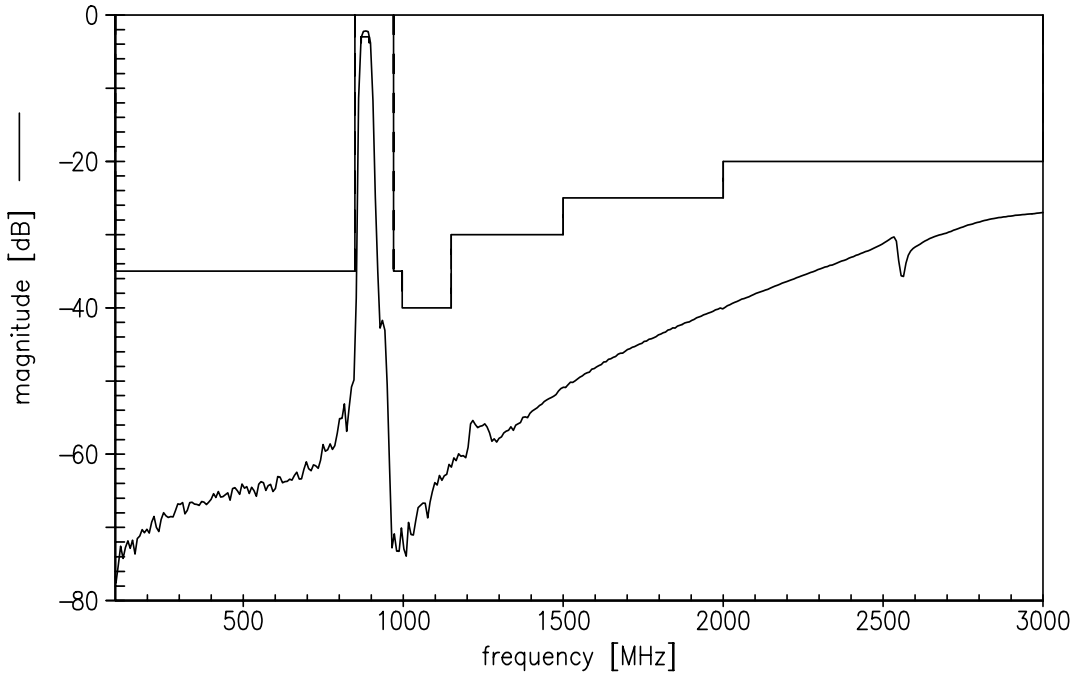
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	3	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 1 pulse
Input power				
869.0 ... 894.0 MHz	P_{IN}	13	dBm	Continuous Wave, 100000hrs, 85˚C

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

Transfer function

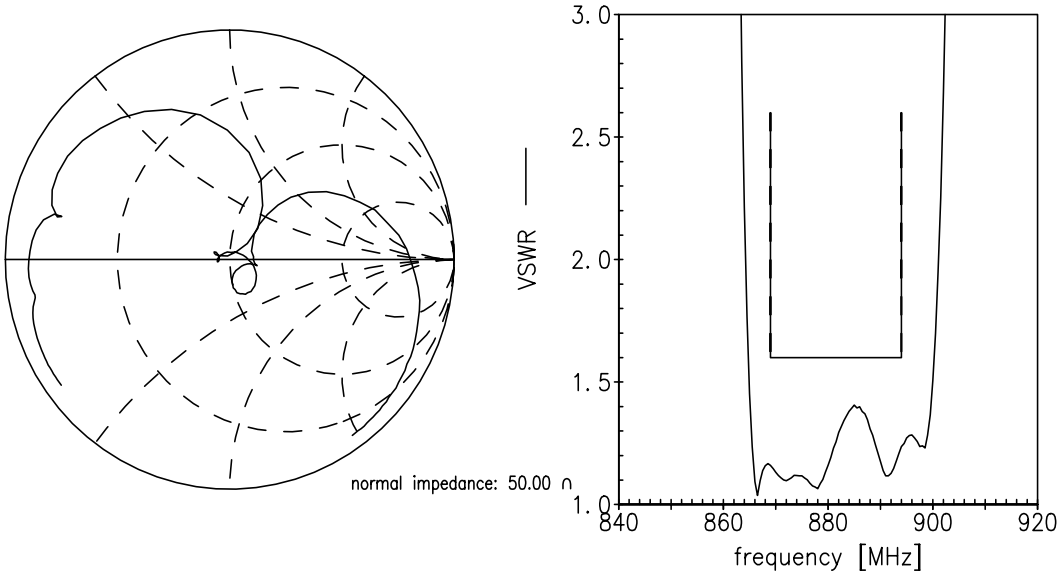


Transfer function (wideband)

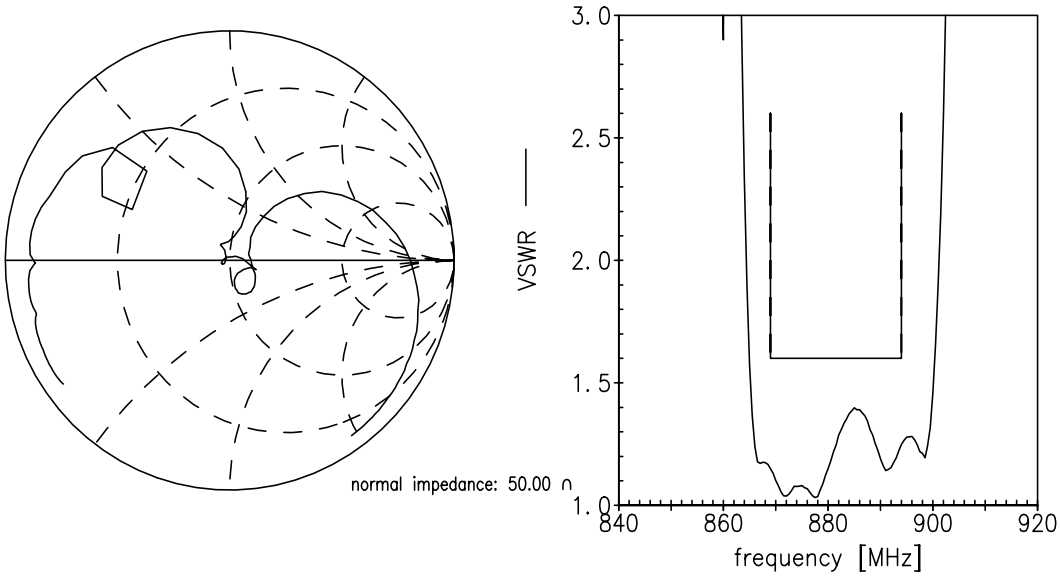


Smith charts

S_{11} function



S_{22} function



References

Type	B4125
Ordering code	B39881B4125U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B4125_NB.s2p, B4125_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."
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm for a large variety of matching coils.

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