SAW Components

SAW filter

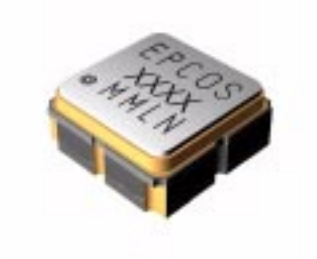
EGSM

Series/type:	**B4130**
Ordering code:	**B39901B4130U410**
Date:	November 04, 2009
Version:	2.0

EPCOS AG is a TDK Group Company.

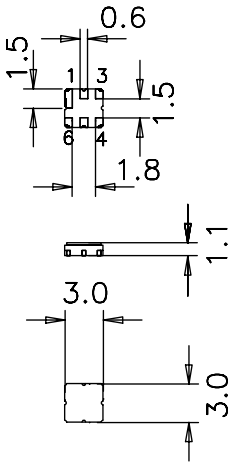
Application

- Low-loss RF filter for EGSM mobile systems
- Low amplitude ripple
- No matching required for operation at 50Ω
- Usable passband 35 MHz



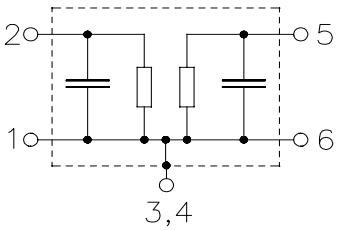
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- 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**)



Pin configuration

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



Data sheet SMD

Characteristics

Temperature range for specification: $T = 25 \pm 2\,^{\circ}C$
Terminating source impedance: $Z_S = 50\,\Omega$
Terminating load impedance: $Z_L = 50\,\Omega$

		min.	typ. @ 25 °C	max.	
Center frequency	f_c	—	897.50	—	MHz
Maximum insertion attenuation	α_{max}				
880.0 ... 915.0 MHz		—	2.0	2.3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
880.0 ... 915.0 MHz		—	0.8	1.1	dB
Input VSWR					
880.0 ... 915.0 MHz		—	1.7	2.0	
Output VSWR					
880.0 ... 915.0 MHz		—	1.7	2.0	
Attenuation	α				
0.0 ... 860.0 MHz		17	20	—	dB
925.0 ... 935.0 MHz		5.5	13	—	dB
935.0 ... 960.0 MHz		20	26	—	dB
960.0 ... 3660.0 MHz		20	26	—	dB

Data sheet SMD

Characteristics

Temperature range for specification: T = -10 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	—	897.50	—	MHz
Maximum insertion attenuation	α_{max}				
880.0 ... 915.0 MHz		—	2.0	2.5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
880.0 ... 915.0 MHz		—	0.8	1.3	dB
Input VSWR					
880.0 ... 915.0 MHz		—	1.7	2.0	
Output VSWR					
880.0 ... 915.0 MHz		—	1.7	2.0	
Attenuation	α				
0.0 ... 860.0 MHz		17	20	—	dB
925.0 ... 935.0 MHz		4	8	—	dB
935.0 ... 960.0 MHz		20	26	—	dB
960.0 ... 3660.0 MHz		20	26	—	dB

Characteristics

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

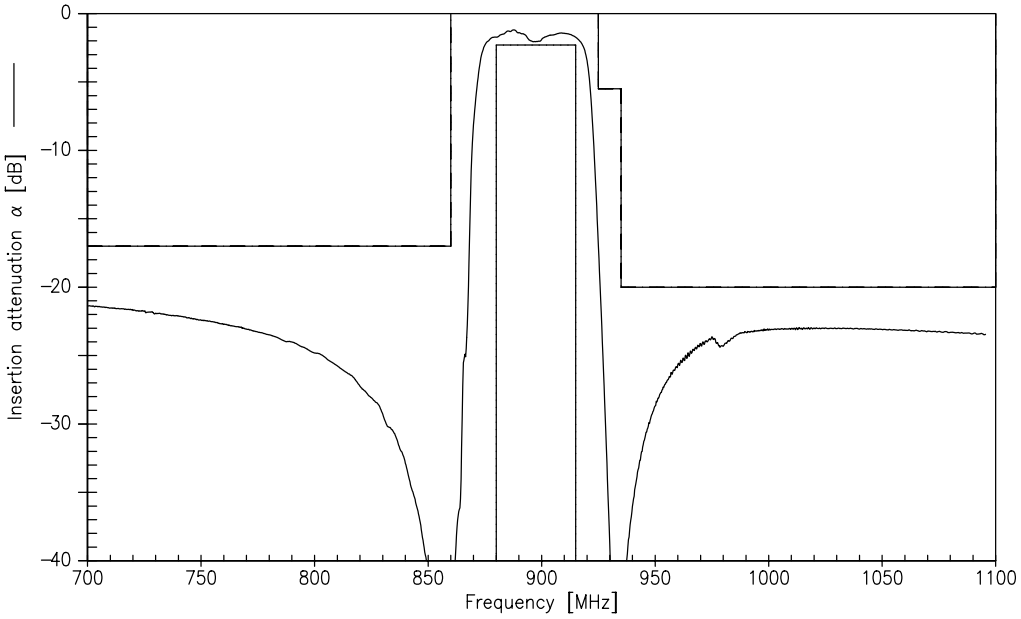
		min.	typ. @ 25 ˚C	max.	
Center frequency	f_c	—	897.50	—	MHz
Maximum insertion attenuation	α_{max}				
880.0 ... 915.0 MHz		—	2.0	2.5	dB
Amplitude ripple (p-p)	Δα				
880.0 ... 915.0 MHz		—	0.8	1.3	dB
Input VSWR					
880.0 ... 915.0 MHz		—	1.7	2.0	
Output VSWR					
880.0 ... 915.0 MHz		—	1.7	2.0	
Attenuation	α				
0.0 ... 860.0 MHz		17	20	—	dB
925.0 ... 935.0 MHz		3.2	7	—	dB
935.0 ... 960.0 MHz		20	26	—	dB
960.0 ... 3660.0 MHz		20	26	—	dB

Maximum ratings

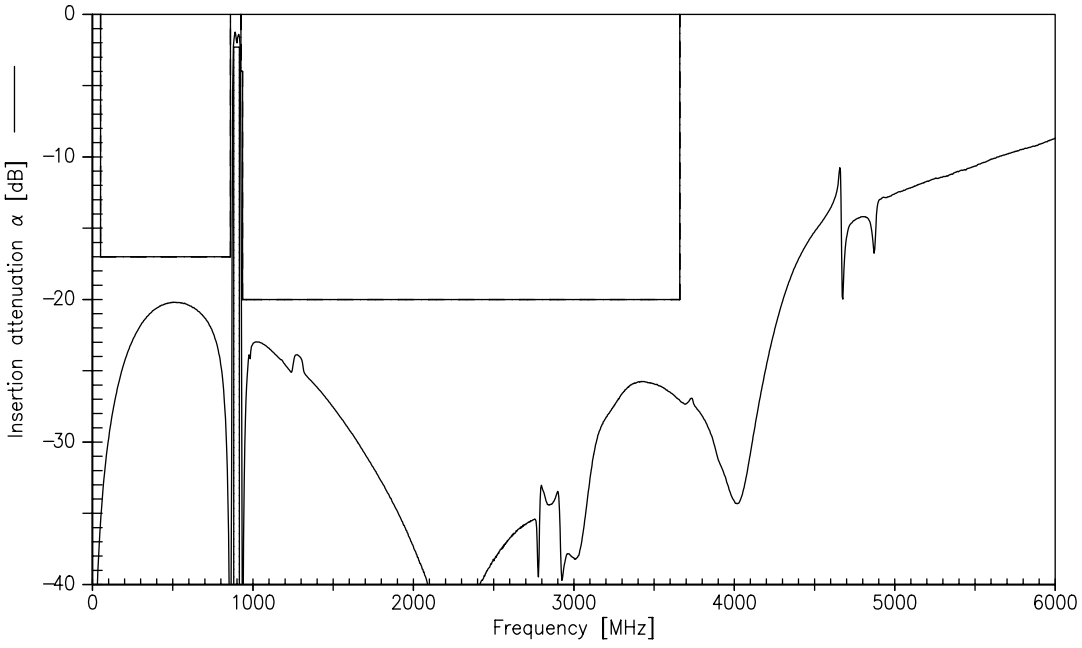
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	3	V	
ESD voltage	V_{ESD}	100[1)]	V	machine model, 1 pulse
Input power max				
925.0 ... 960.0 MHz	P_{IN}	12	dBm	continuous wave, 85 ˚C
	P_{IN}	15	dBm	continuous wave, 55 ˚C
880.0 ... 915.0 MHz	P_{IN}	17	dBm	continuous wave, 85 ˚C

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

Transfer function

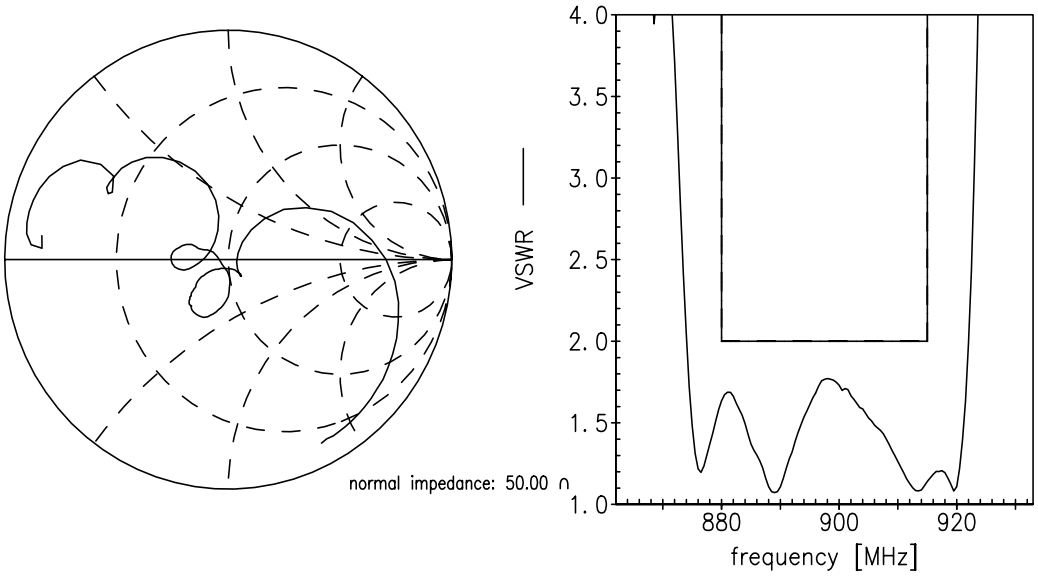


Transfer function (wideband)

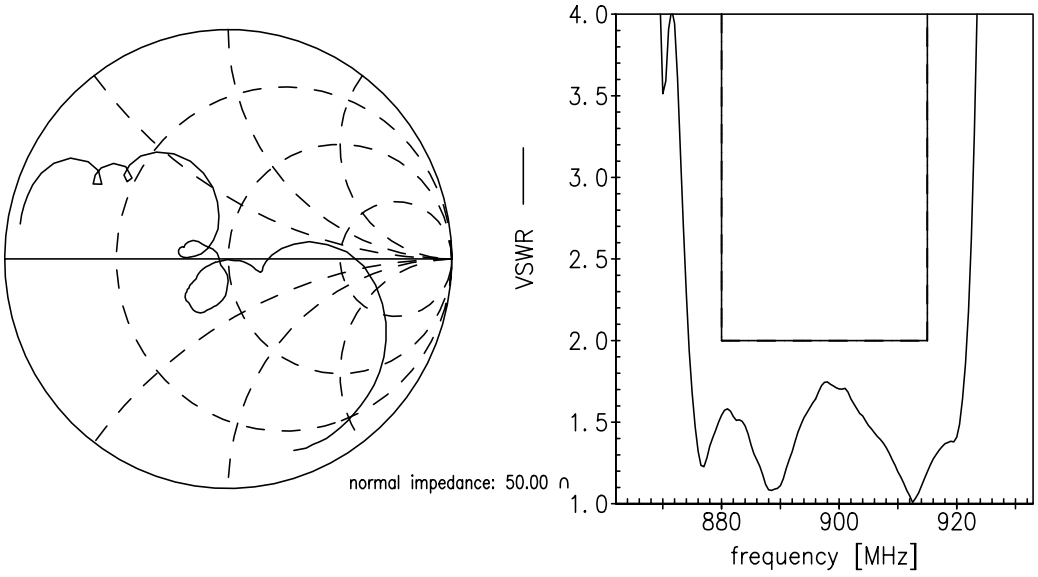


Smith charts

S_{11} function



S_{22} function



References

Type	B4130
Ordering code	B39901B4130U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B4130_NB.s2p B4130_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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