SAW Components

SAW Rx filter

PCS / WCDMA band II

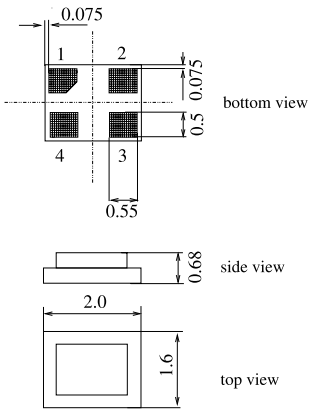
Series/type:	**B9034**
Ordering code:	**B39202B9034E210**
Date:	October 20, 2006
Version:	1.1

Application

- Low-loss RF filter for mobile telephone PCS systems, receive path (RX)
- Useable passband 60 MHz
- Useable for antenna diversity systems
- Suitable for GPRS class 1 to 12

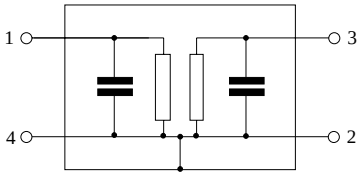
Features

- Package size 2.0 x1.6 x 0.68 mm^3
- Package code DCS4K
- RoHS compliant
- Approx. weight 0.009 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals



Pin configuration

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



Characteristics with parallel matching elements

Operating temperature range: T = –20 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω || 56 nH
Terminating load impedance: Z_L = 50 Ω ||12 nH

		B9034			
		min.	**typ. @ 25˚C**	**max.**	
Center frequency	f_C	—	1960.0	—	MHz
Maximum insertion attenuation	α_{max}				
1930.6 ... 1989.4 MHz		—	2.7	4.4	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930.6 ... 1989.4 MHz		—	1.2	2.9	dB
Input return loss					
1930.6 ... 1989.4 MHz		—	12	9	dB
Output return loss					
1930.6 ... 1989.4 MHz		—	11	8	dB
Attenuation	α				
DC ... 1850.6 MHz		40	48	—	dB
1850.6 ... 1909.4 MHz		46	48	—	dB
2040.0 ... 2070.0 MHz		35	47	—	dB
2070.0 ... 4500.0 MHz		35	46	—	dB
4500.0 ... 5200.0 MHz		28	35	—	dB
5200.0 ... 6000.0 MHz		18	24	—	dB

Characteristics with serial matching elements

Operating temperature range: T = –20 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω + 0.8 nH
Terminating load impedance: Z_L = 50 Ω + 0.8 nH

		B9034			
		min.	**typ. @ 25˚C**	**max.**	
Center frequency	f_C	—	1960.0	—	MHz
Maximum insertion attenuation	α_{max}				
1930.6 ... 1989.4 MHz		—	2.7	4.3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930.6 ... 1989.4 MHz		—	1.2	2.9	dB
Input return loss					
1930.6 ... 1989.4 MHz		—	11	9	dB
Output return loss					
1930.6 ... 1989.4 MHz		—	11	8	dB
Attenuation	α				
DC ... 1850.6 MHz		40	48	—	dB
1850.6 ... 1909.4 MHz		46	48	—	dB
2040.0 ... 2070.0 MHz		35	47	—	dB
2070.0 ... 4500.0 MHz		35	46	—	dB
4500.0 ... 5200.0 MHz		28	35	—	dB
5200.0 ... 6000.0 MHz		18	24	—	dB

Characteristics without matching elements

Operating temperature range: T = –30 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		B9034			
		min.	**typ. @ 25˚C**	**max.**	
Center frequency	f_C	—	1960.0	—	MHz
Maximum insertion attenuation	α_{max}				
1930.6 ... 1989.4 MHz		—	2.8	4.3 [1)]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930.6 ... 1989.4 MHz		—	1.3	2.8	dB
Input return loss					
1930.6 ... 1989.4 MHz		—	9	—	dB
Output return loss					
1930.6 ... 1989.4 MHz		—	8	—	dB
Attenuation	α				
DC ... 1850.6 MHz		40	49	—	dB
1850.6 ... 1909.4 MHz		46	49	—	dB
2040.0 ... 2070.0 MHz		35	48	—	dB
2070.0 ... 4500.0 MHz		35	46	—	dB
4500.0 ... 5200.0 MHz		28	35	—	dB
5200.0 ... 6000.0 MHz		18	24	—	dB

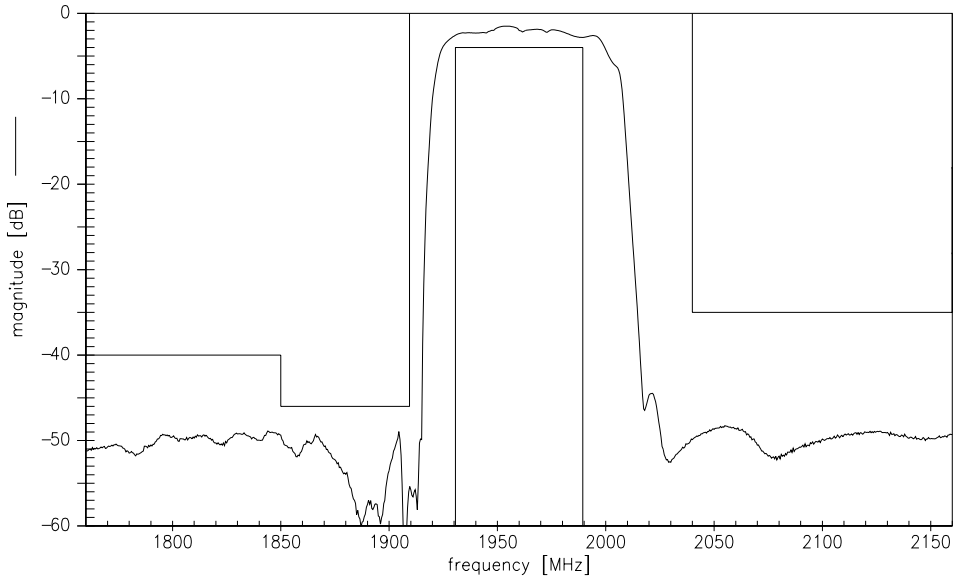
[1)] 4.0 dB max. for 0 ˚C to 85 ˚C (with pcb losses deembedded)

Maximum ratings

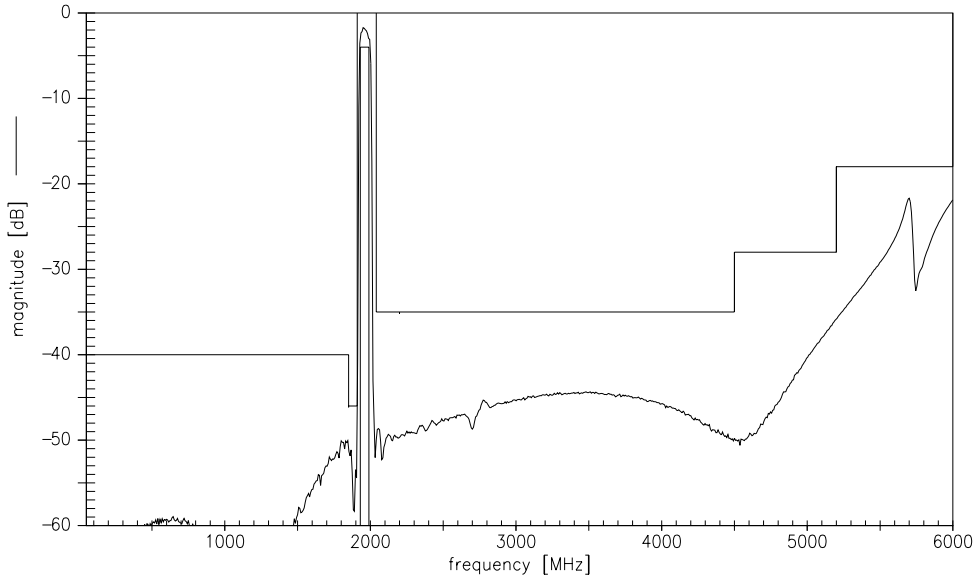
Operable temperature range	T	–30/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 10 pulses
Input Power at PCS Tx band	P_{IN}	15	dBm	CW signal for 2000h at T=50 ˚C

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

Transfer function



Transfer function (wideband)



References

Type	B9034
Ordering code	B39202B9034E210
Marking and package	C61157-A7-A144
Packaging	F61074-V8152-Z000
Date codes	L_1126
S-parameters	B9034_NB.s2p B9034_WB.s2p
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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