



SAW Components

SAW Rx Filter

GSM 850

Series/Type:	B9022
Ordering code:	B39881B9022E610
Date:	Apr 30, 2009
Version:	2.0



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B9022

SAW Rx Filter

881.5 MHz

Data sheet



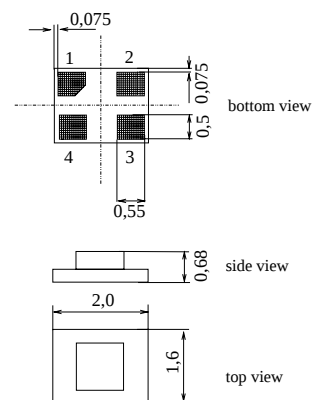
Application

- Low-loss RF filter for mobile telephone
Cellular systems, receive path
- Usable passband 25 MHz
- Unbalanced operation
- Impedance 50 Ω input and output
- Suitable for GPRS Class 1 to 12



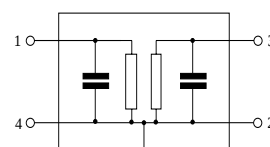
Features

- Package size 2.0 x 1.6 x 0.68 mm³
- Package code DCS4F
- RoHS compatible
- Approx. weight 0.007g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

- 1 Input, unbalanced
- 3 Output, unbalanced
- 2,4 Case-ground





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Characteristics

Temperature range for specification: $T = +25\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	881.5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	1.9	2.0	dB
869.0 ... 894.0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0.6	0.7	dB
869.0 ... 894.0 MHz					
Input VSWR		—	1.7	2.0	
869.0 ... 894.0 MHz					
Output VSWR		—	1.7	2.0	
869.0 ... 894.0 MHz					
Attenuation	α				
0.0 ... 780.0 MHz		50	54	—	dB
780.0 ... 840.0 MHz		42	50	—	dB
840.0 ... 849.0 MHz		39	39	—	dB
914.0 ... 950.0 MHz		28	30	—	dB
950.0 ... 1500.0 MHz		45	52	—	dB
1500.0 ... 2200.0 MHz		40	45	—	dB
2200.0 ... 3000.0 MHz		33	38	—	dB
3000.0 ... 4000.0 MHz		28	32	—	dB
4000.0 ... 6000.0 MHz		15	21	—	dB



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Characteristics

Temperature range for specification: $T = -30\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	881.5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2.0	2.3	dB
869.0 ... 894.0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0.7	1.0	dB
869.0 ... 894.0 MHz					
Input VSWR		—	1.7	2.0	
869.0 ... 894.0 MHz					
Output VSWR		—	1.7	2.0	
869.0 ... 894.0 MHz					
Attenuation	α				
0.0 ... 780.0 MHz		50	54	—	dB
780.0 ... 840.0 MHz		42	50	—	dB
840.0 ... 849.0 MHz		35	39	—	dB
914.0 ... 950.0 MHz		25	28	—	dB
950.0 ... 1500.0 MHz		45	52	—	dB
1500.0 ... 2200.0 MHz		40	45	—	dB
2200.0 ... 3000.0 MHz		33	38	—	dB
3000.0 ... 4000.0 MHz		28	32	—	dB
4000.0 ... 6000.0 MHz		15	21	—	dB



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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}	100 ¹⁾	V	machine model, 1 pulse
Input Power at GSM850, GSM900 GSM1800, GSM1900 Tx bands	P _{IN}	15	dBm	peak power of GSM signal, duty cycle 4:8

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



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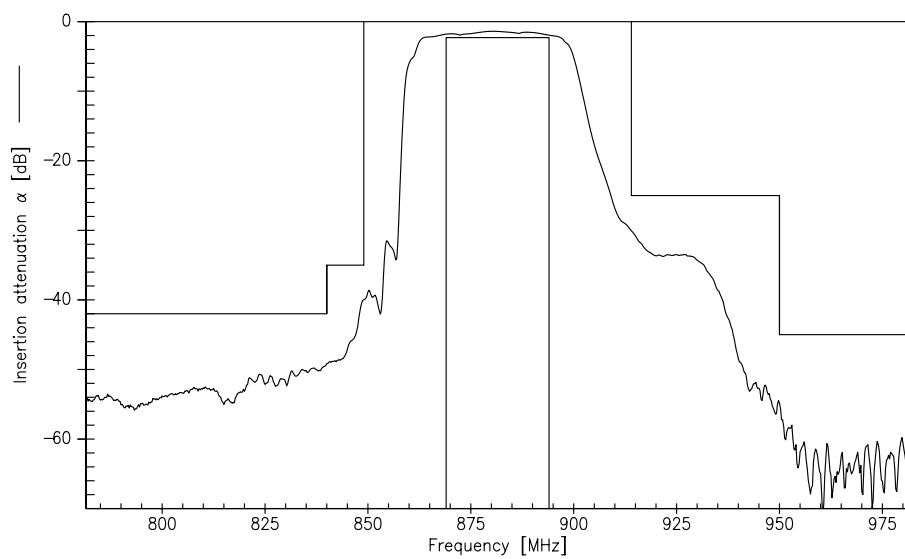
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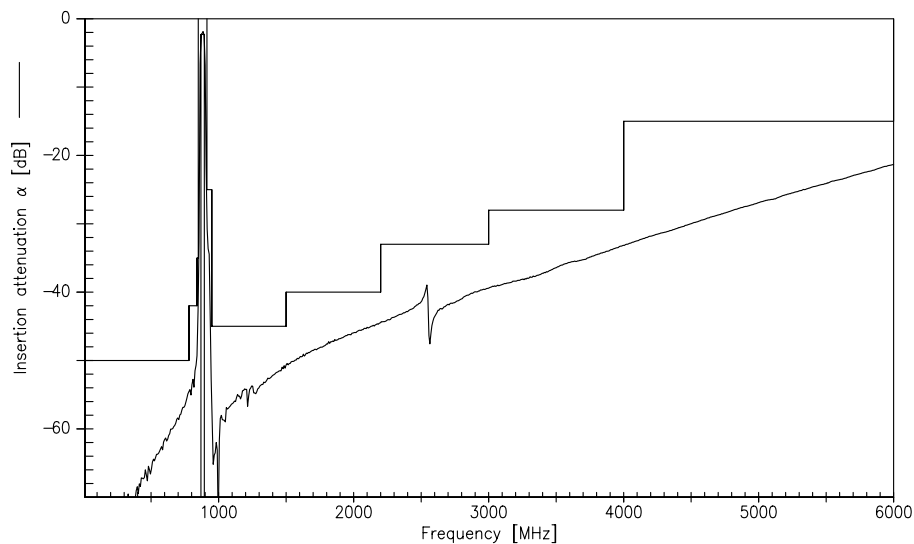
Data sheet



Transfer function (narrowband)



Transfer function (wideband)



Please read *cautions and warnings* and *important notes* at the end of this document.



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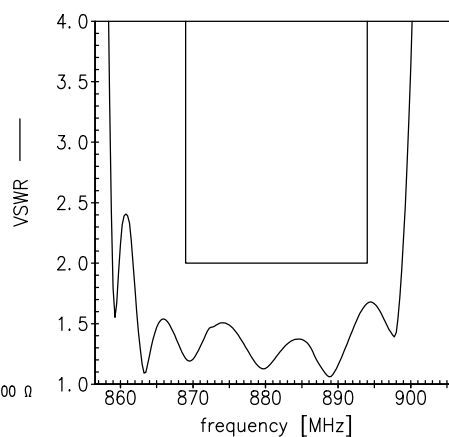
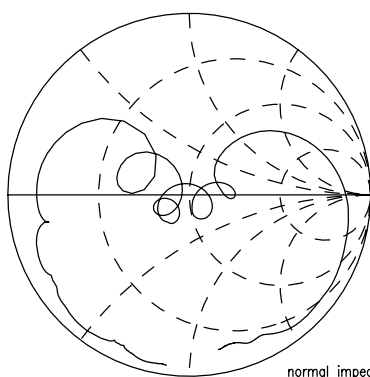
881.5 MHz

Data sheet

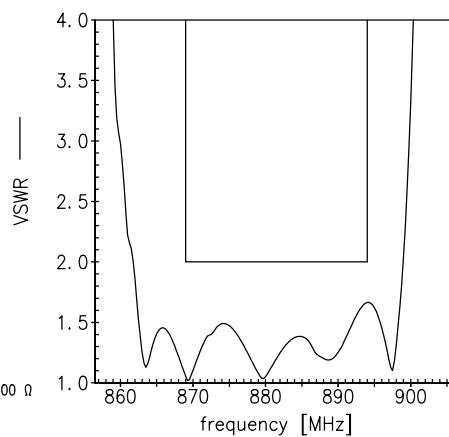
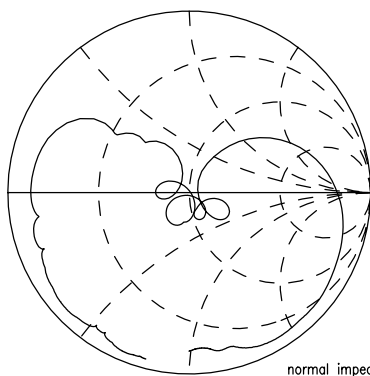


Smith charts

S_{11} function



S_{22} function





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References

Type	B9022
Ordering code	B39881B9022E610
Marking and package	C61157-A7-A113
Packaging	F61074-V8152-Z000
Date codes	L_1126
S-parameters	B9022_NB.s2p B9022_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 maxi- mum concentration values for certain hazardous substances in electrical and electronic equipment."

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