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SAW Components

SAW Tx Filter

GSM 900

Series/Type:	B9431
Ordering code:	B39901B9431M410
Date:	Jan 25, 2007
Version:	2.0



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SAW Tx Filter

897.5 MHz

Data sheet



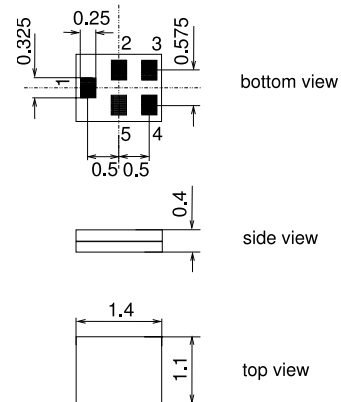
Application

- Low loss RF filter for mobile telephone GSM900 systems, transmit path (Tx)
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 35.0 MHz
- Unbalanced to unbalanced operation
- No matching network required for operation at 50 Ω



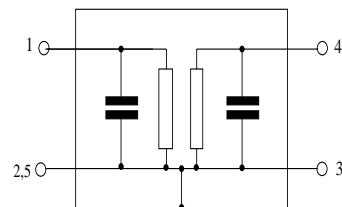
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- Package code QCS5I
- RoHS compatible
- Approx. weight 0.003g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

- 1 Input, unbalanced
- 4 Output, unbalanced
- 2,3,5 Case-ground





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Characteristics

Temperature range for specification: $T = -15\text{ °C to }+80\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ. @ 25°C	max.	
Center frequency	f_C	—	897.5	—	MHz
Maximum insertion attenuation	α_{max}	—	1.9	2.5 ¹⁾	dB
880.0 ... 915.0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0.8	1.5 ²⁾	dB
880.0 ... 915.0 MHz					
Input VSWR		—	1.75	2.0	
880.0 ... 915.0 MHz					
Output VSWR		—	1.7	2.0	
880.0 ... 915.0 MHz					
Attenuation	α				
10.0 ... 800.0 MHz		45	48	—	dB
800.0 ... 860.0 MHz		25	39	—	dB
860.0 ... 870.0 MHz		12	24	—	dB
925.0 ... 935.0 MHz		8	15	—	dB
935.0 ... 1805.0 MHz		25	36	—	dB
1805.0 ... 3660.0 MHz		30	46	—	dB
3660.0 ... 6000.0 MHz		15	48	—	dB

1) 3.0 dB max. at $-30\text{ °C to }+85\text{ °C}$
 2) 2.0 dB max. at $-30\text{ °C to }+85\text{ °C}$



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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				
GSM850, GSM900	P _{IN}	15	dBm	effective power in the on-state, duty cycle 4:8
GSM1800, GSM1900	P _{IN}	15	dBm	
Tx bands				

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



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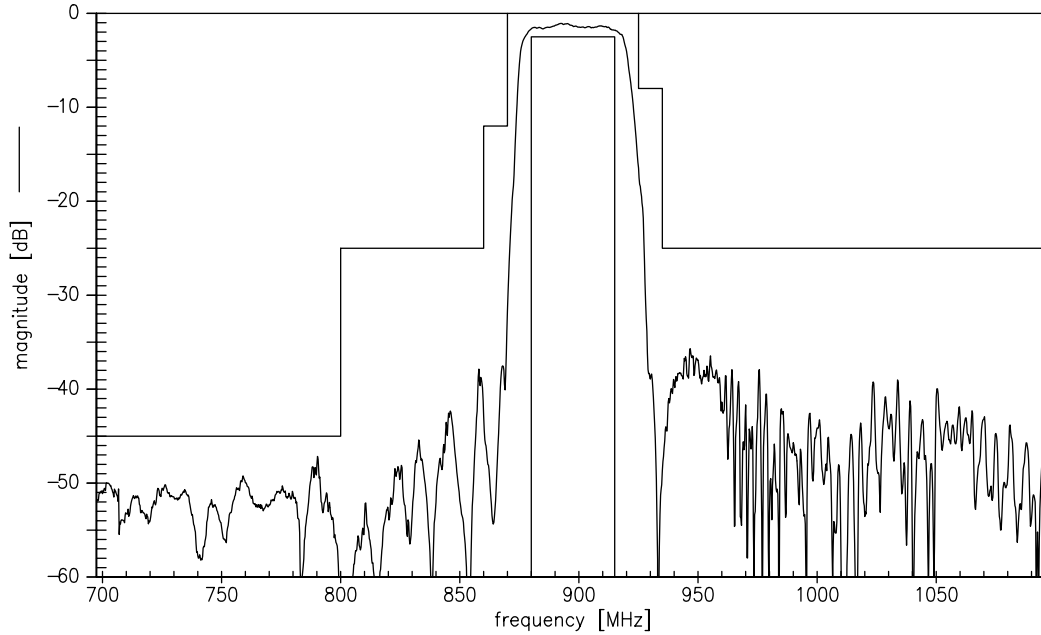
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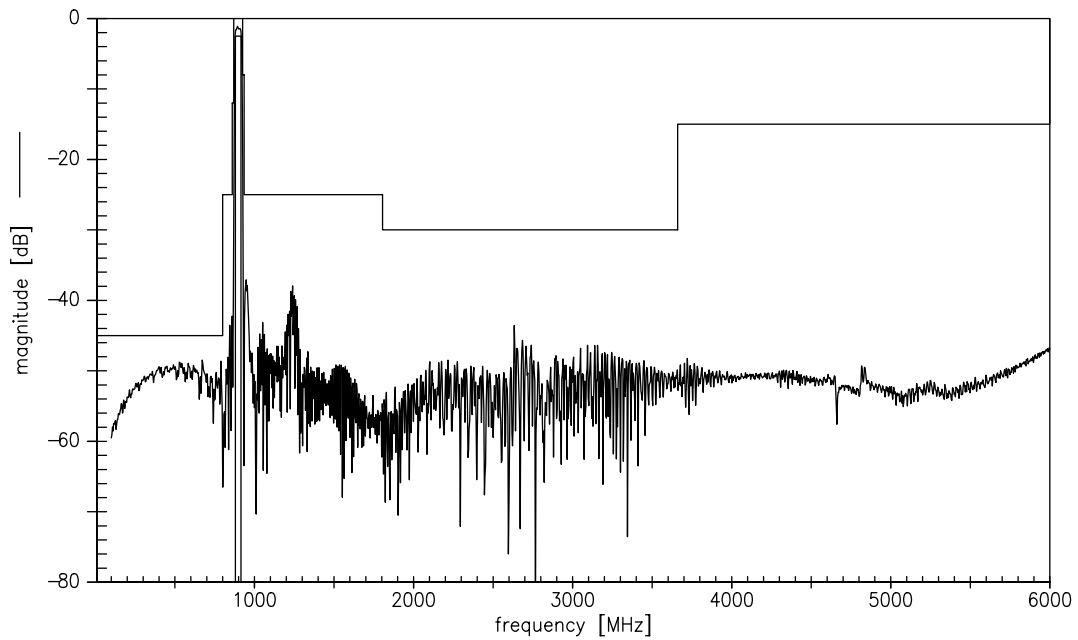
Data sheet



Transfer function (narrowband)



Transfer function (wideband)





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SAW Tx Filter

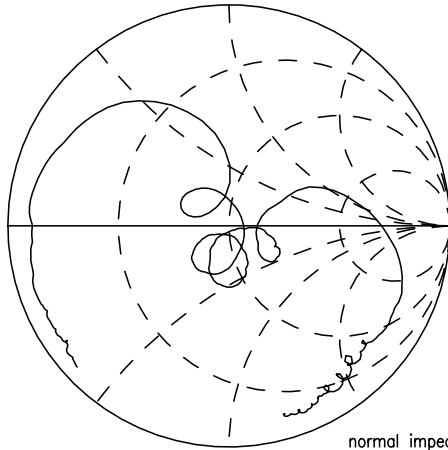
897.5 MHz

Data sheet

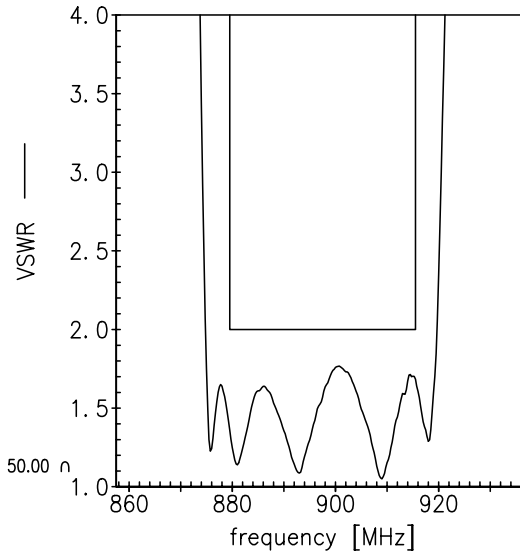


Smith chart

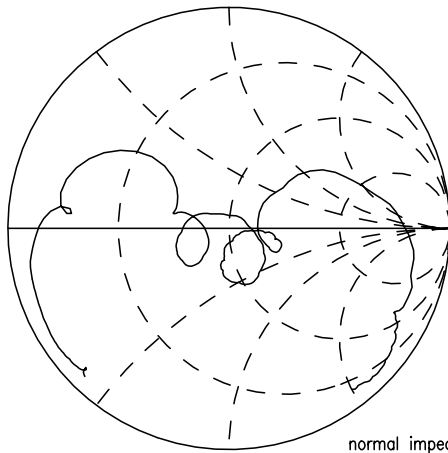
S_{11} function



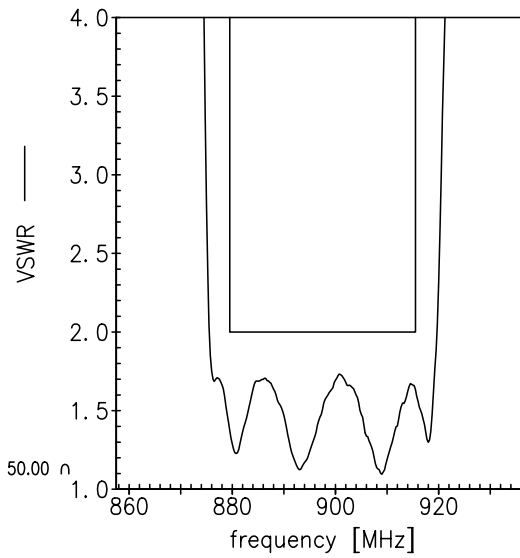
normal impedance: 50.00 Ω



S_{22} function



normal impedance: 50.00 Ω





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References

Type	B9431
Ordering code	B39901B9431M410
Marking and package	C61157-A7-A138
Packaging	F61074-V8152-Z000
Date codes	L_1126
S-parameters	B9431_NB.s2p B9431_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."
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

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