SAW Components

SAW Rx Filter

GSM1800

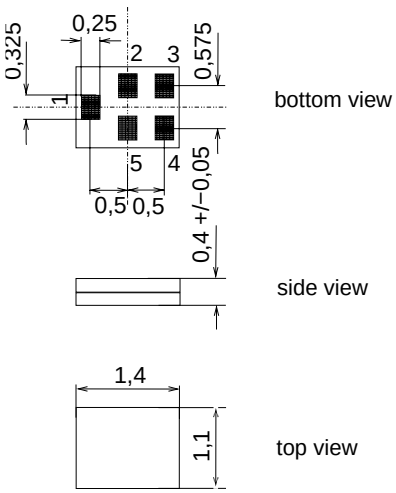
Series/type:	**B9448**
Ordering code:	**B39182B9448P810**
Date:	February 25, 2010
Version:	2.1

Application

- Low loss RF filter for mobile telephone GSM1800 systems, receive path (RX)
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 75 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 100 Ω
- Suitable for GPRS class 1 to 12

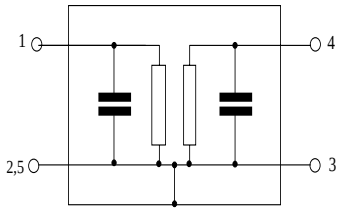
Features

- Package size 1.4x1.1x0.4 mm^3
- RoHS compatible
- Approx. weight 0.003g
- 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 3



Pin configuration

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



Data sheet SMD

Characteristics of Filter

Temperature range for specification: T = –15 °C to +80 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 100 Ω || 10 nH

		min.	typ. @ 25°C	max.	
Center frequency	f_C	—	1842.5	—	MHz
Maximum insertion attenuation	α_{max}				
1805.0 ... 1880.0 MHz		—	1.7	2.3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1805.0 ... 1880.0 MHz		—	0.6	1.2	dB
Input VSWR					
1805.0 ... 1880.0 MHz		—	1.7	2.1	
Output VSWR					
1805.0 ... 1880.0 MHz		—	1.8	2.1	
Common mode rejection ratio					
1805.0 ... 1880.0 MHz		19	24	—	dB
Attenuation	α				
10.0 ... 1705.0 MHz		30	38	—	dB
1705.0 ... 1785.0 MHz		12	14	—	dB
1920.0 ... 1980.0 MHz		12	25	—	dB
1980.0 ... 2400.0 MHz		25	31	—	dB
2400.0 ... 2500.0 MHz		35	39	—	dB
2500.0 ... 5150.0 MHz		30	35	—	dB
5150.0 ... 5825.0 MHz		35	45	—	dB

Maximum ratings

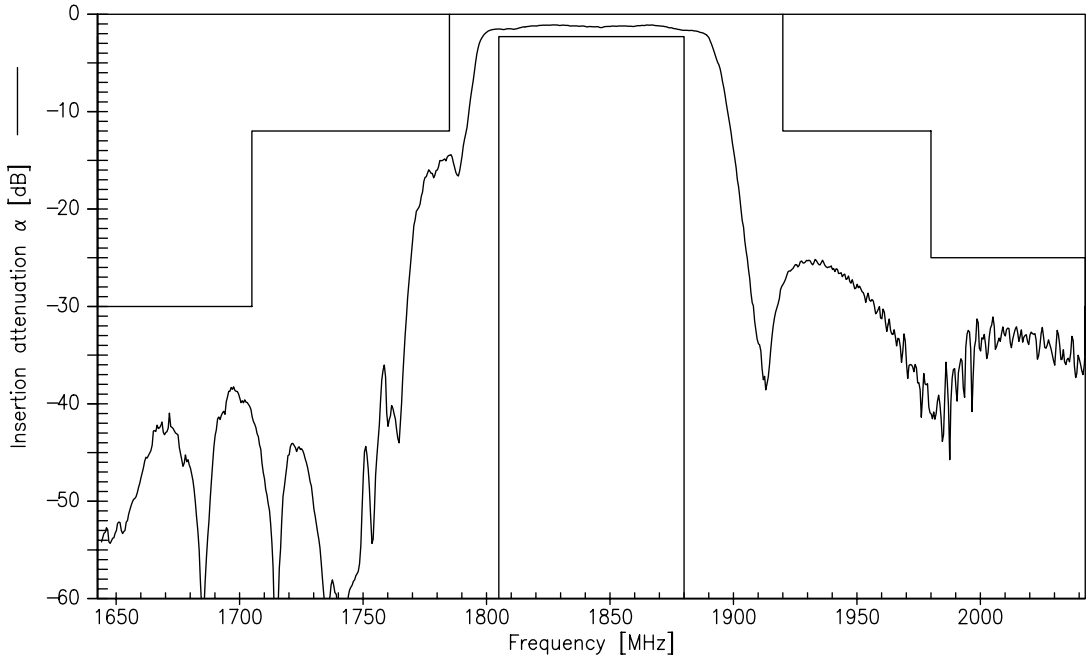
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 1 pulse
	V_{ESD}	175[2)]	V	human body model, 1 pulse
	V_{ESD}	500[3)]	V	charged device model, 3 pulses
Input Power at				
GSM850, GSM900	P_{IN}	15	dBm	effective power in the on-state,
GSM1800, GSM1900	P_{IN}	12	dBm	duty cycle 4:8
Tx bands				

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

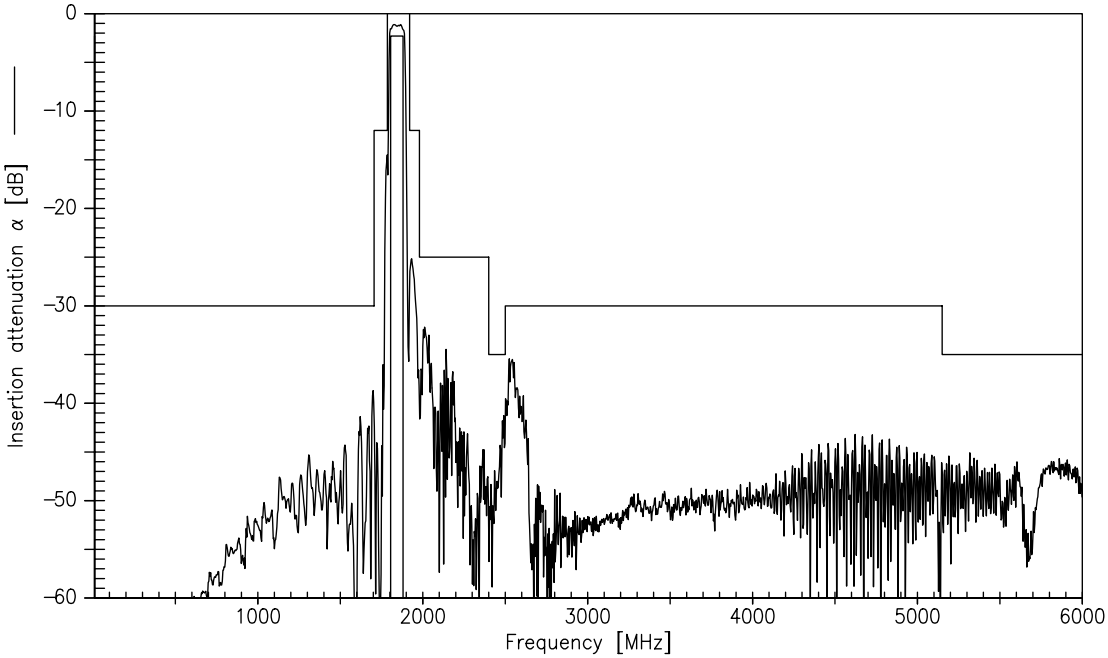
2) acc. to JESD22-A114E (human body model), 1 negative & 1 positive pulse.

3) acc. to JESD22-C101 (charged device model), 3 negative & 3 positive pulses.

Transfer function (narrowband)

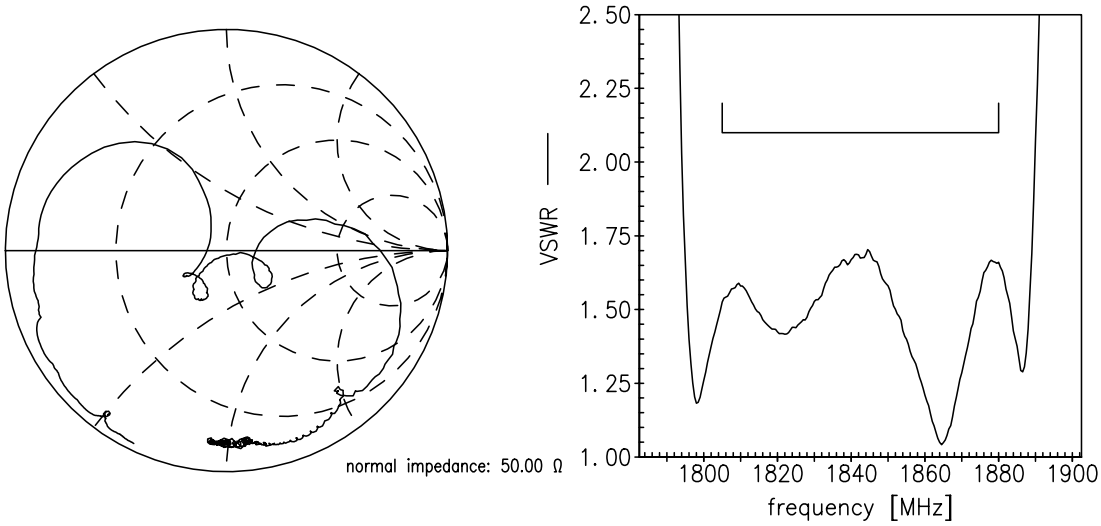


Transfer function (wideband)

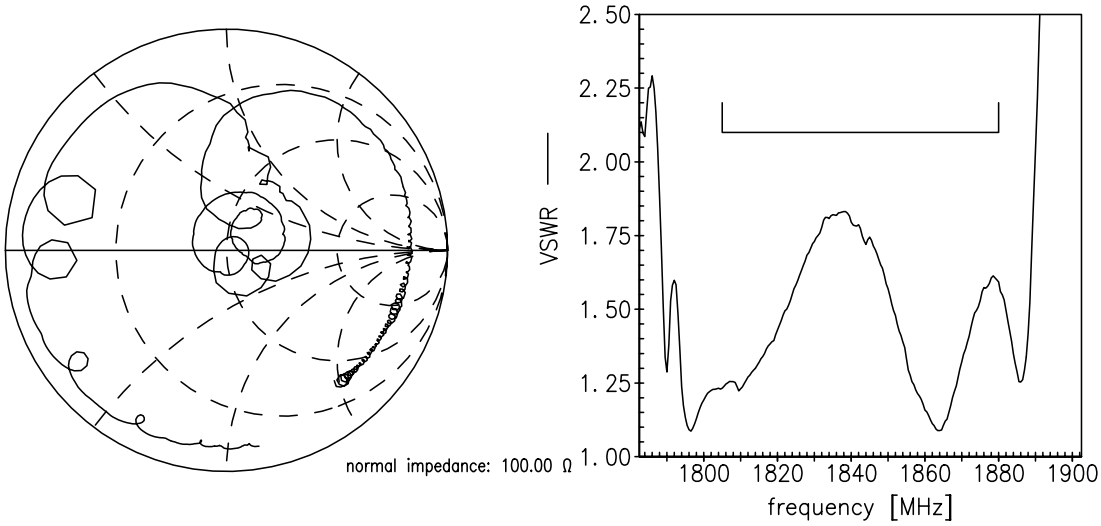


Smith chart

S_{11} function



S_{22} function



References

Type	B9448
Ordering code	B39182B9448P810
Marking and package	C61157-A8-A14
Packaging	F61074-V8237-Z000
Date codes	L_1126
S-parameters	B9448_NB.s3p B9448_WB.s3p 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."
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.

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