SAW Components

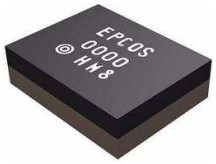
SAW Rx Filter

WCDMA Diversity Band I Rx

Series/type:	**B9869**
Ordering code:	**B39212B9869P810**
Date:	January 15, 2013
Version:	2.0

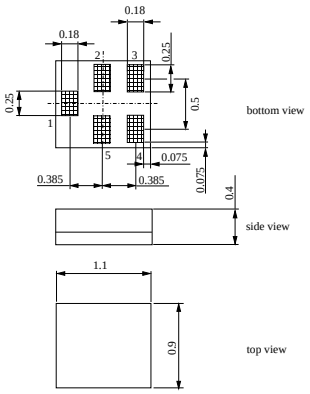
Application

- Low-loss RF filter for mobile telephone WCDMA Band I systems (diversity) receive path (RX)
- Low amplitude ripple
- Usable passband 60 MHz
- Impedance transform from 50 Ω to 100Ω
- Unbalanced to balanced operation



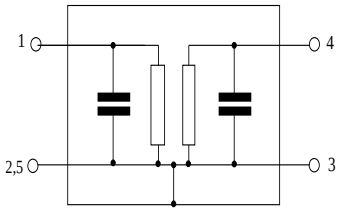
Features

- Package size 1.1 x 0.9 x 0.4 mm³
- 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



Characteristics

Temperature range for specification: T = –30 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 100 Ω || 15nH (balanced)

		min.	typ. @ 25˚C	max.	
Center frequency	f_C	—	2140.0	—	MHz
Maximum insertion attenuation	α_{max}				
2110.0 ... 2170.0 MHz		—	1.4	2.1	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2110.0 ... 2170.0 MHz		—	0.5	1.2	dB
Input VSWR					
2110.0 ... 2170.0 MHz		—	1.8	2.1	
Output VSWR					
2110.0 ... 2170.0 MHz		—	1.8	2.1	
CMRR ($\|S_{21}-S_{31}\| / \|S_{21}+S_{31}\|$)					
2110.0 ... 2170.0 MHz		20[1)]	26	—	dB
Attenuation					
100.0 ... 810.0 MHz		40	63	—	dB
810.0 ... 849.0 MHz		50	60	—	dB
849.0 ... 898.0 MHz		40	60	—	dB
898.0 ... 925.0 MHz		50	61	—	dB
925.0 ... 1620.0 MHz		40	52	—	dB
1620.0 ... 1710.0 MHz		40	53	—	dB
1710.0 ... 1755.0 MHz		46	53	—	dB
1755.0 ... 1920.0 MHz		40	54	—	dB
1920.0 ... 1980.0 MHz		50	58	—	dB
1980.0 ... 2050.0 MHz		25	40	—	dB
2400.0 ... 2484.0 MHz		30	42	—	dB
2484.0 ... 3000.0 MHz		32	42	—	dB
3000.0 ... 4600.0 MHz		34	51	—	dB
4600.0 ... 6000.0 MHz		34	56	—	dB

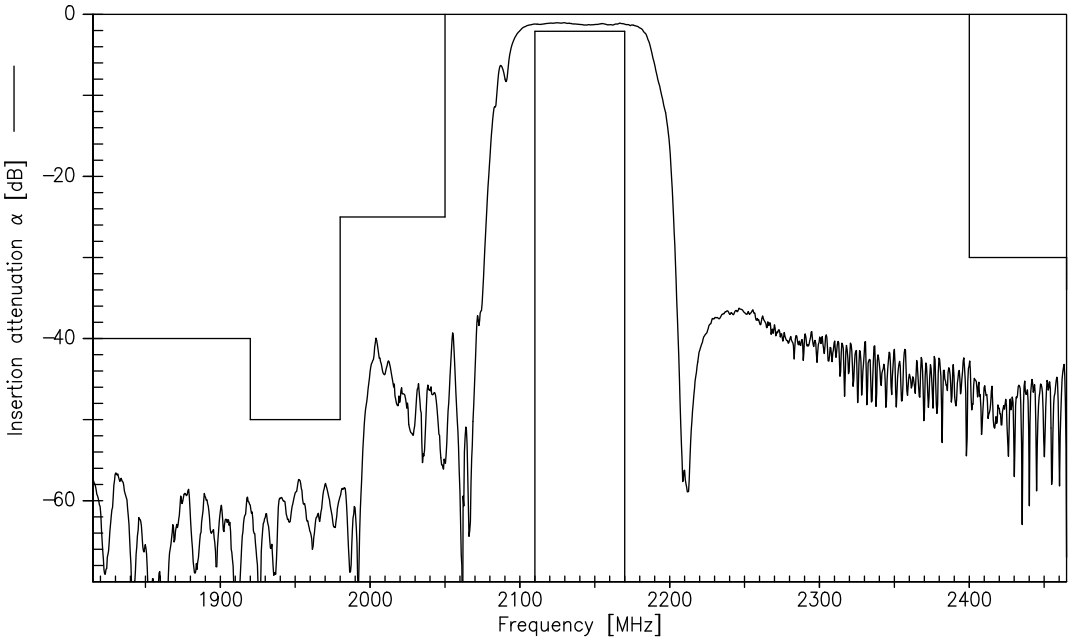
1) A CMRR of 19.6dB corresponds to a phase balance of 10˚ together with an amplitude balance of 1.0dB

Maximum ratings

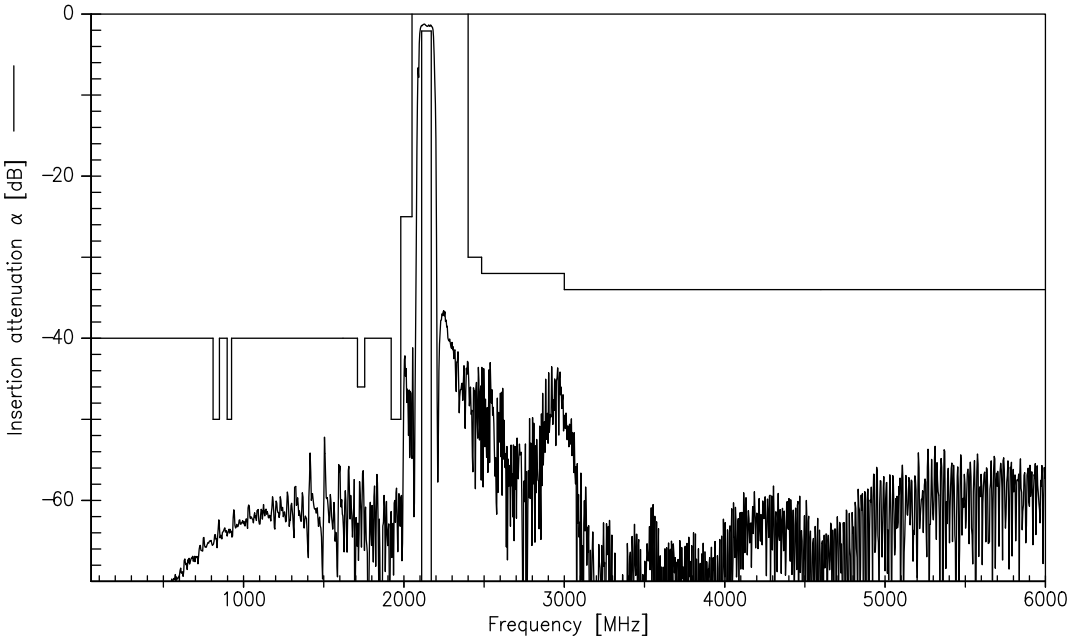
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 10 pulse
Input Power at 1920.0 .. .1980.0MHz Tx band	P_{IN}	17	dBm	CW

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

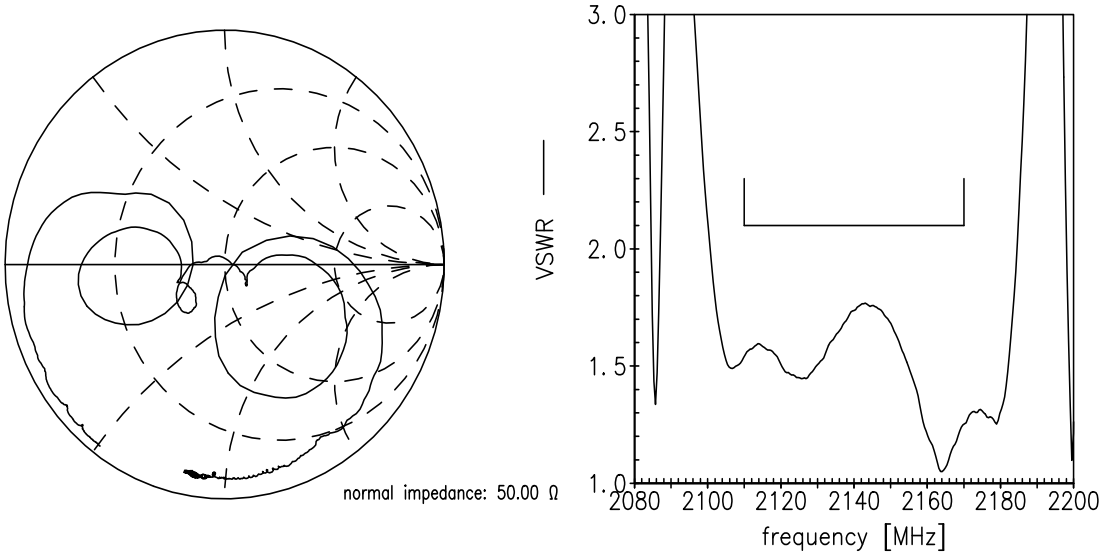
Transfer function (narrow band)



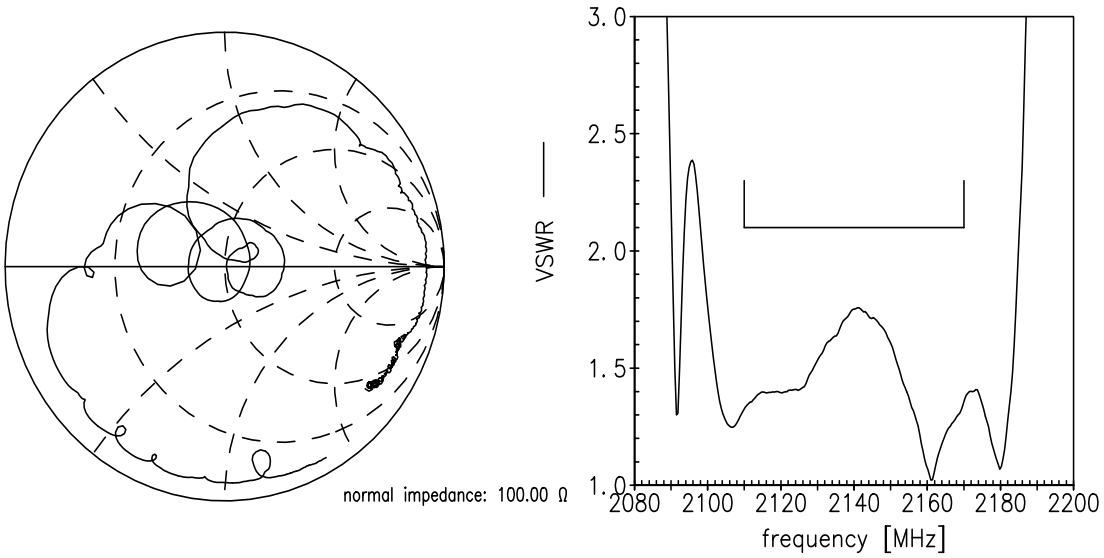
Transfer function (wide band)



S_{11} function



S_{22} function



References

Type	B9869
Ordering code	B39212B9869P810
Marking and package	C61157-A8-A56
Packaging	F61074-V8255-Z000
Date codes	L_1126
S-parameters	B9869_NB.s3p, B9869_WB.s3p See file header for port/pin assignment table.
Soldering profile	S_6001
RoHS compatible	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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