SAW Components

SAW Rx filter

WCDMA/LTE Diversity
Band XI Rx

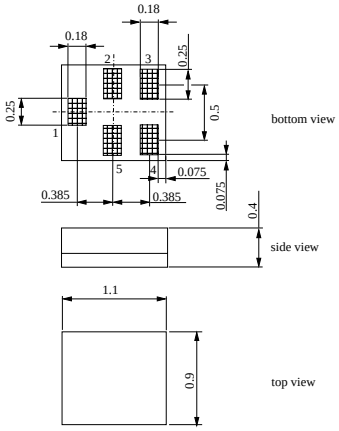
Series/Type:	**B9873**
Ordering code:	**B39142B9873P810**
Date:	August 17, 2012
Version:	2.0

Application

- Low-loss RF filter for mobile telephone WCDMA/LTE Band XI systems (diversity) receive path (Rx)
- Unbalanced to balanced operation
- Low amplitude ripple
- Usable passband: 20 MHz
- Impedance transformation from 50ohm to 100ohm

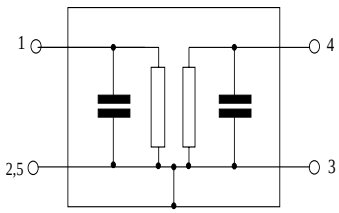
Features

- Package size 1.1 x 0.9 x 0.4 mm^3
- RoHS compatible
- Approx. weight 0.001g
- 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 (**MSL**) 3



Pin configuration

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



Data Sheet SMD

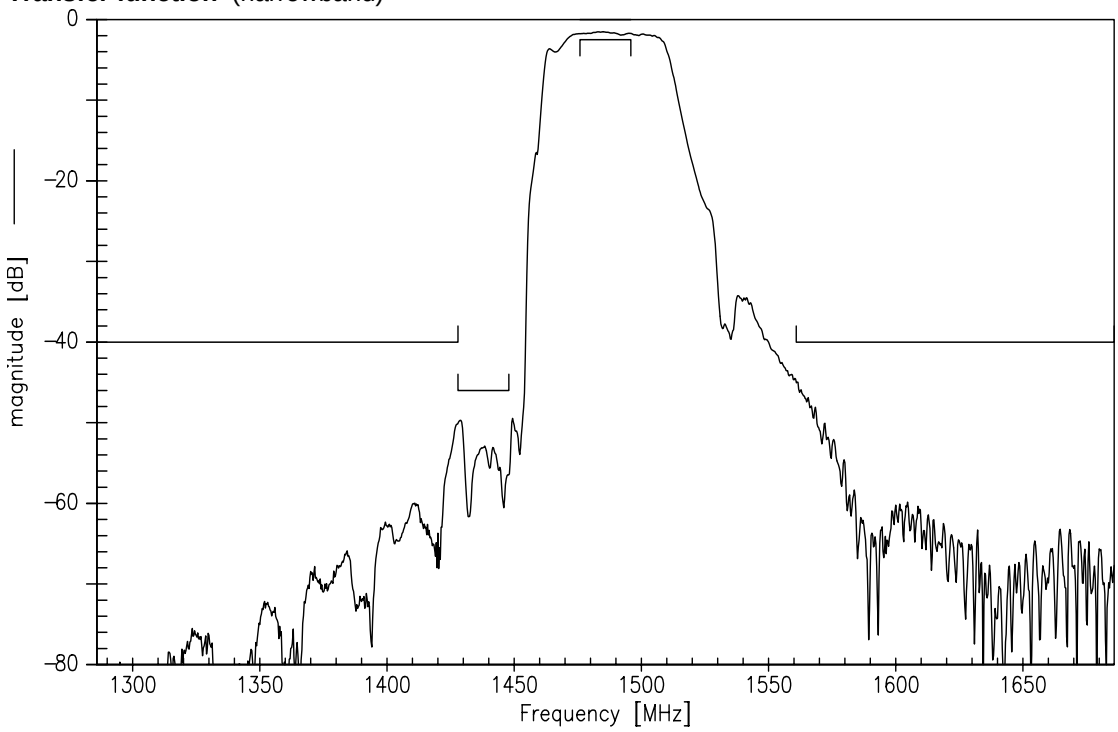
Characteristics

Temperature range for specification: T = –20 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 100 Ω (Balanced)

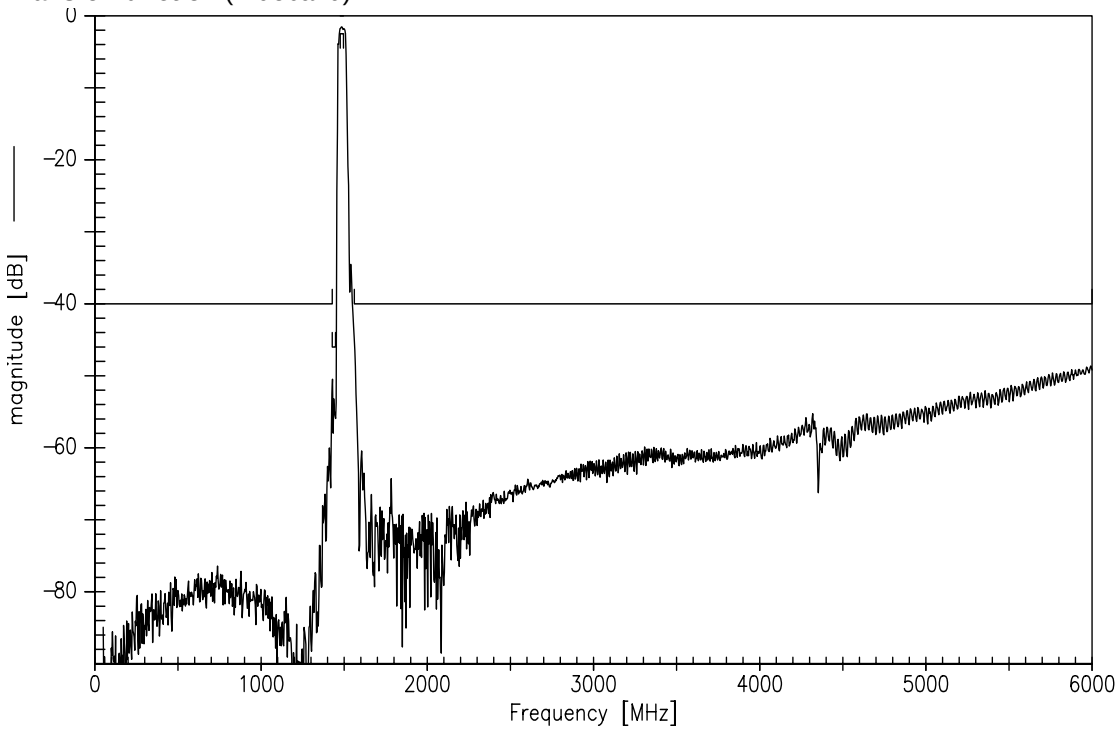
		min.	typ. @ 25˚C	max.	
Center frequency	f_C	—	1485.9	—	MHz
Maximum insertion attenuation					
1475.9 ... 1495.9 MHz			1.9	2.4	dB
Amplitude ripple (p-p)					
1475.9 ... 1495.9 MHz			0.4	1.0	dB
Input VSWR					
1475.9 ... 1495.9 MHz			1.4	2.0	
Output VSWR					
1475.9 ... 1495.9 MHz			1.4	2.0	
Common Mode Rejection Ratio CMRR					
1475.9 ... 1495.9 MHz		23 [1)]	29		dB
Attenuation	α				
10.0 ... 1427.9 MHz		40	50		dB
1427.9 ... 1447.9 MHz		46	50		dB
1560.9 ... 6000.0 MHz		40	45		dB

1) A combination of 10° phase balance and 1dB amplitude balance corresponds to 19.6 dB CMRR.

Transfer function (narrowband)

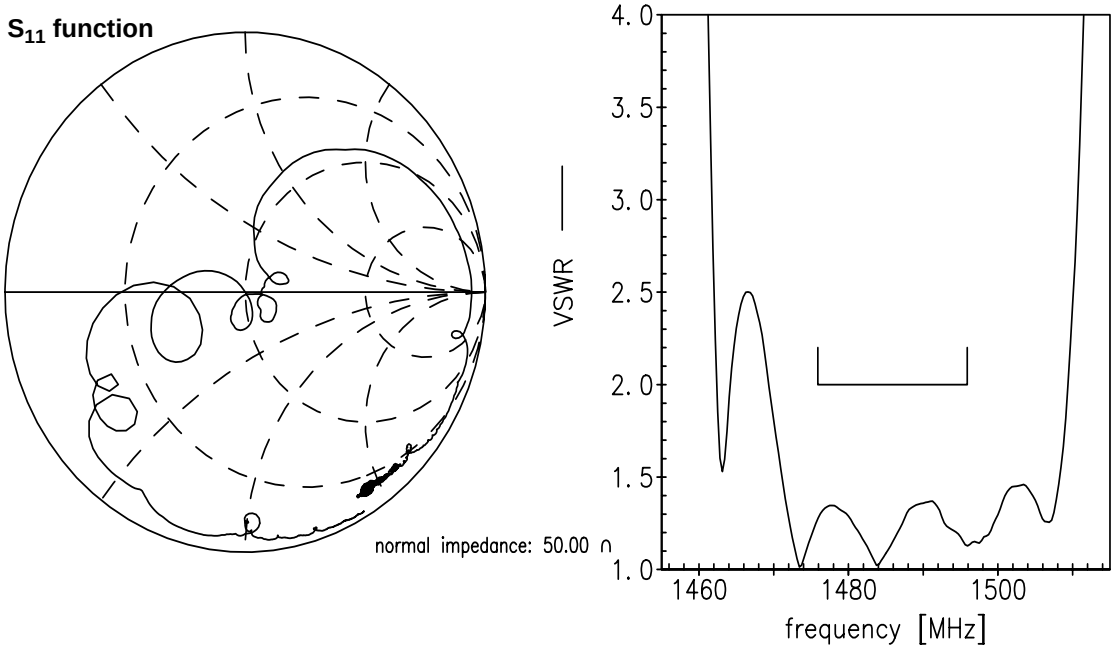


Transfer function (wideband)

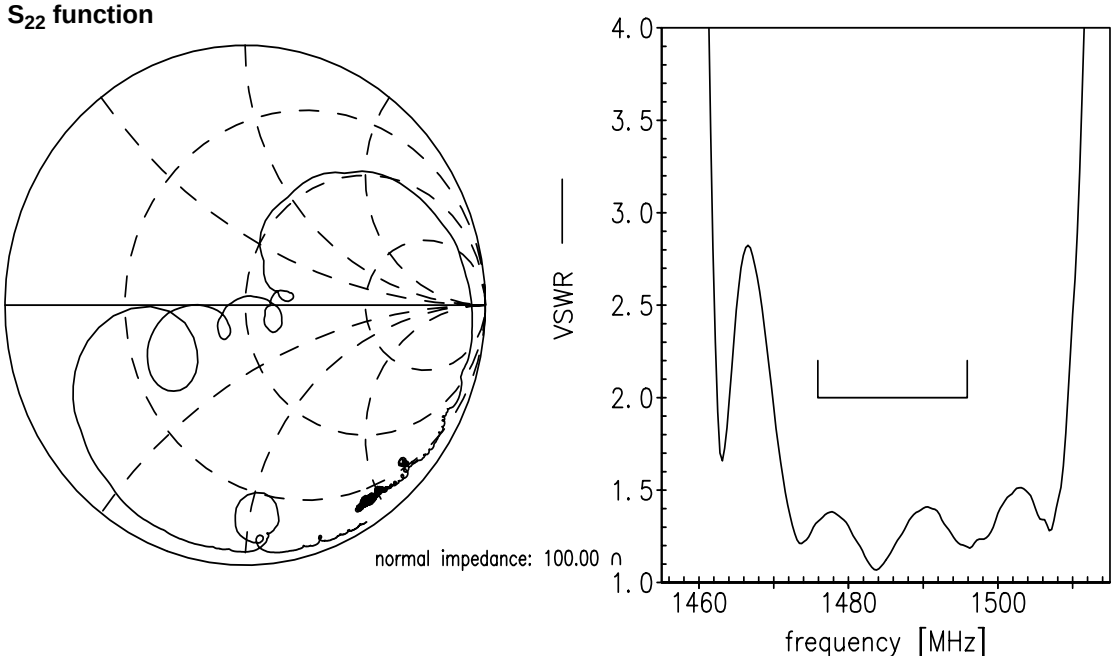


Smith Charts

S_{11} function



S_{22} function



Maximum ratings

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
Input Power at 1427.9 - 1447.9 MHz Tx band	P_{IN}	15	dBm	continuous wave T=50 ˚C, 2000 hours

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

References

Type	B9873
Ordering code	B39142B9873P810
Marking and package	C61157-A8-A30
Packaging	F61074-V8255-Z000
Date codes	L_1126
S-parameters	B9873_NB_UN.s3p, B9873_WB_UN.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.
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

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

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