SAW Components

SAW Rx filter

WCDMA/LTE Diversity
Band XXVI

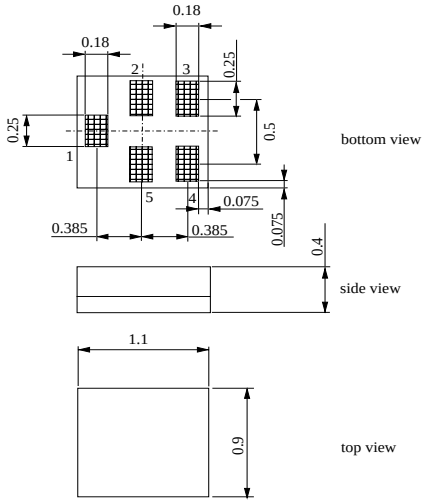
Series/Type:	**B9894**
Ordering code:	**B39871B9894P810**
Date:	March 1, 2013
Version:	2.0

Application

- Low-loss RF filter for mobile telephone WCDMA/LTE Band XXVI system (diversity) receive path (RX)
- Suitable for diversity applications
- High TX suppression
- Impedance transformation from 50 Ω to 100 Ω
- Unbalanced to balanced operation
- Usable passband: 35 MHz

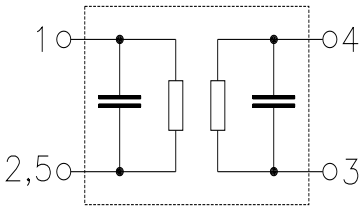
Features

- Package size 1.1 x 0.9 x 0.4 mm³
- 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 = –30 ˚C to +90 ˚C
Terminating source impedance: Z_S = 50 Ω (unbalanced)
Terminating load impedance: Z_L = 100 Ω (balanced)

		min.	typ. @ 25˚C	max.	
Center frequency	f_C	—	876.5	—	MHz
Average insertion attenuation					
859.0 ... 894.0 MHz	α_{cw}		1.5 [1]		dB
Maximum insertion attenuation					
859.0 ... 894.0 MHz			2.3	3.6	dB
859.0 ... 894.0 MHz	[2]		2.3	3.6	dB
Amplitude ripple (p-p)					
859.0 ... 894.0 MHz			1.2	2.4	dB
859.0 ... 894.0 MHz	[2]		1.2	2.4	dB
Input VSWR					
859.0 ... 894.0 MHz			2.0	2.2	
Output VSWR					
859.0 ... 894.0 MHz			2.2	2.5	
Common Mode Rejection Ratio (CMRR)					
859.0 ... 894.0 MHz			19 [3]	22		dB
Attenuation	α				
10.0 ... 814.0 MHz		40	54		dB
814.0 ... 849.0 MHz		44	49		dB
935.0 ... 979.0 MHz		30	39		dB
979.0 ... 6000.0 MHz		35	46		dB

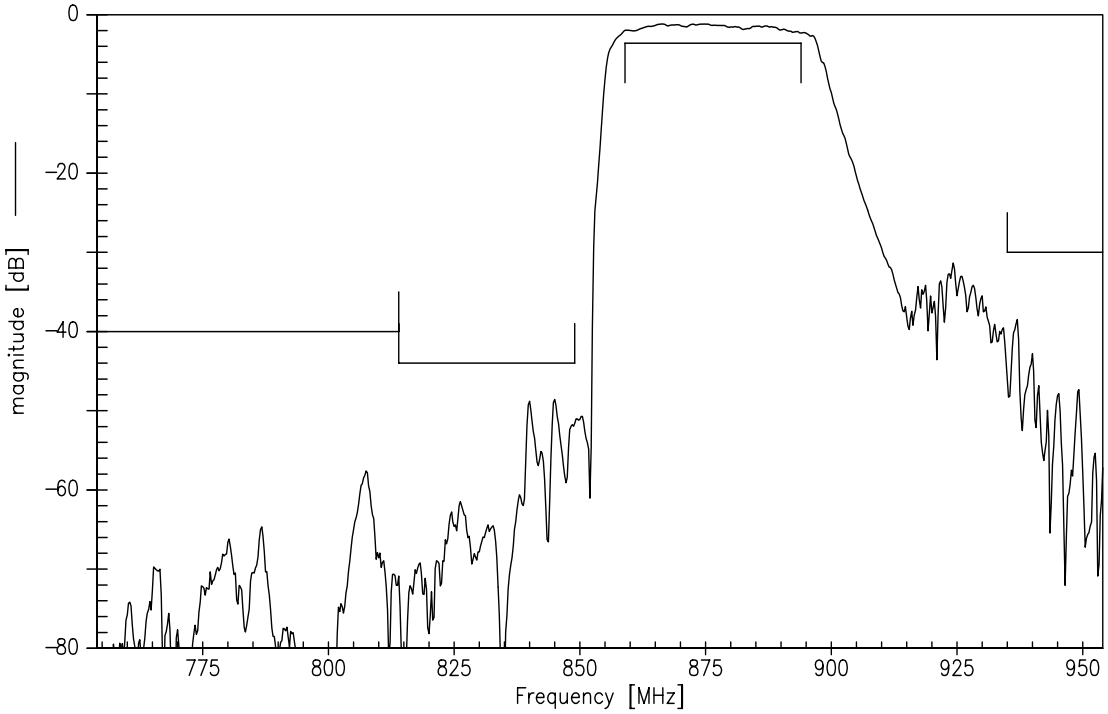
[1] Average value of the parameter over the indicated band. The average value may vary over time.
[2] Temperature range -20 ˚C to +85 ˚C
[3] A combination of 10º phase balance and 1dB amplitude balance corresponds to 19.6dB CMRR.

Maximum ratings

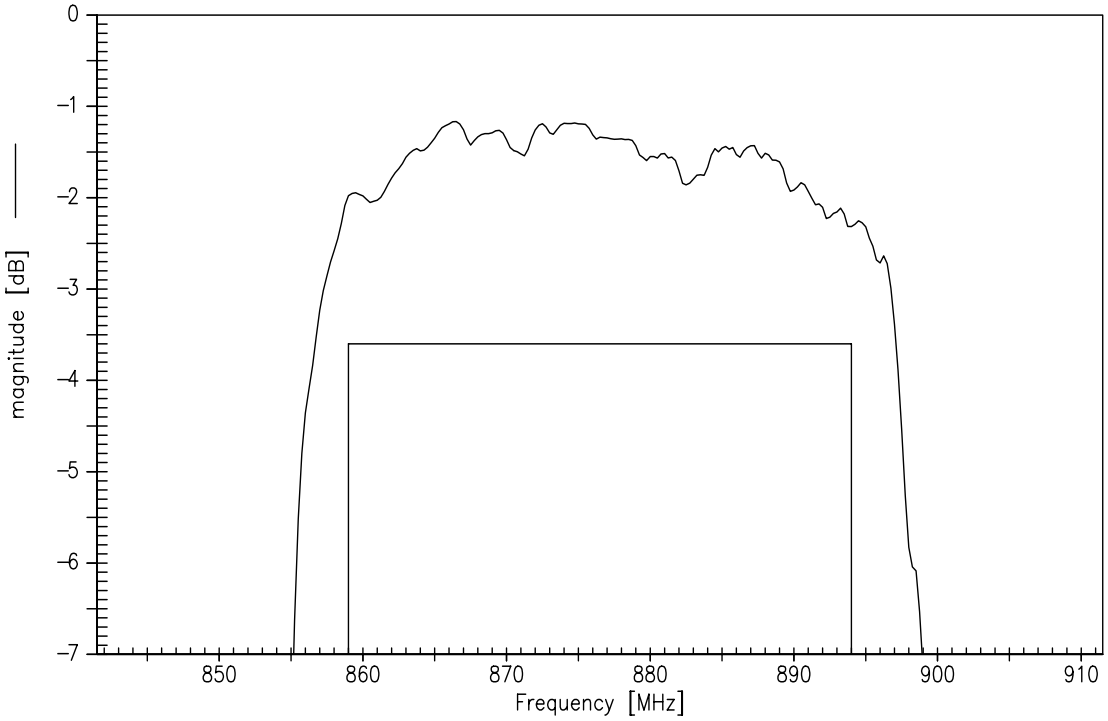
Operable temperature range	T	–30/+90	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100 [1)]	V	
Input power at				
814.0...849.0 MHz	$P_{IN(TX)}$	17	dBm	CW @55˚C
	P_{IN}	10	dBm	CW @55˚C, 2000h all other bands

1) acc. to JESD22-A115B (MM - machine model), 10 negative & 10 positive pulse.

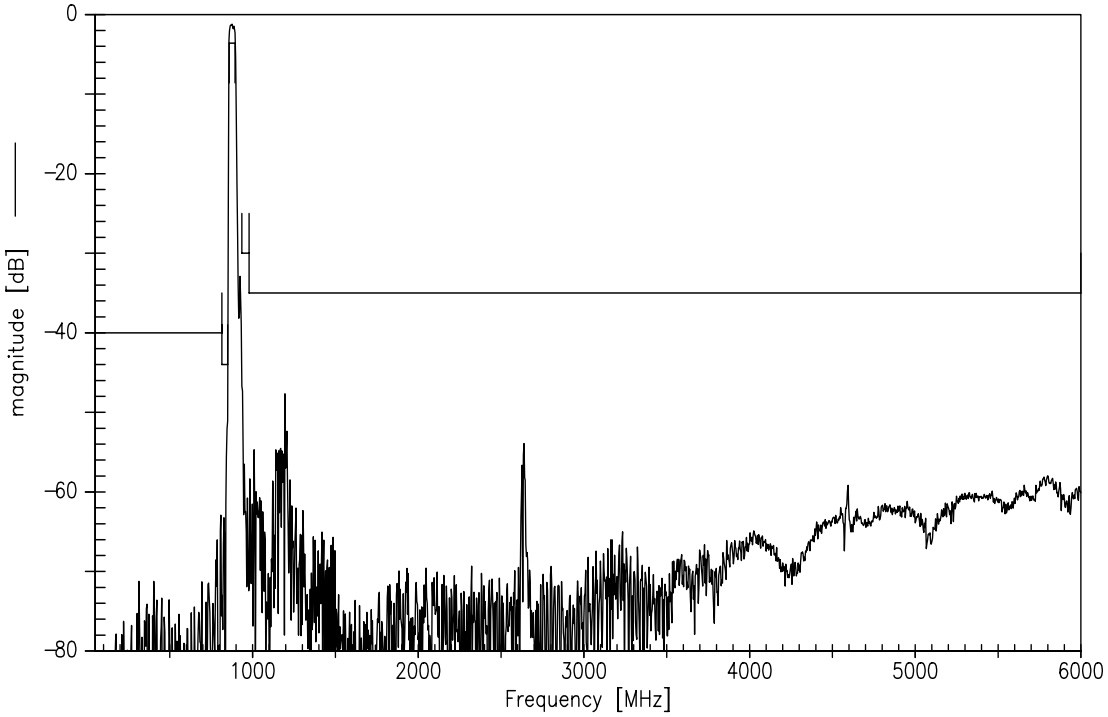
Transfer function



Transfer function

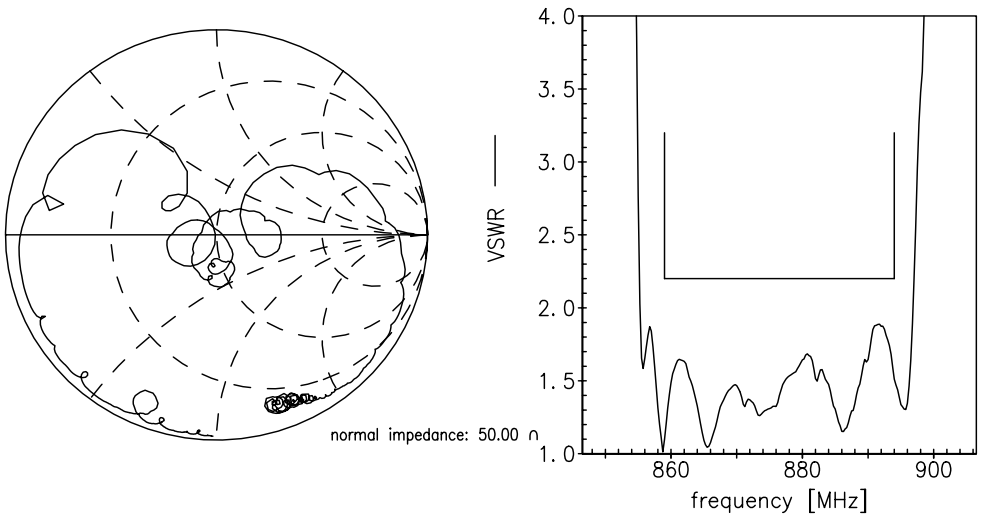


Transfer function (wideband)

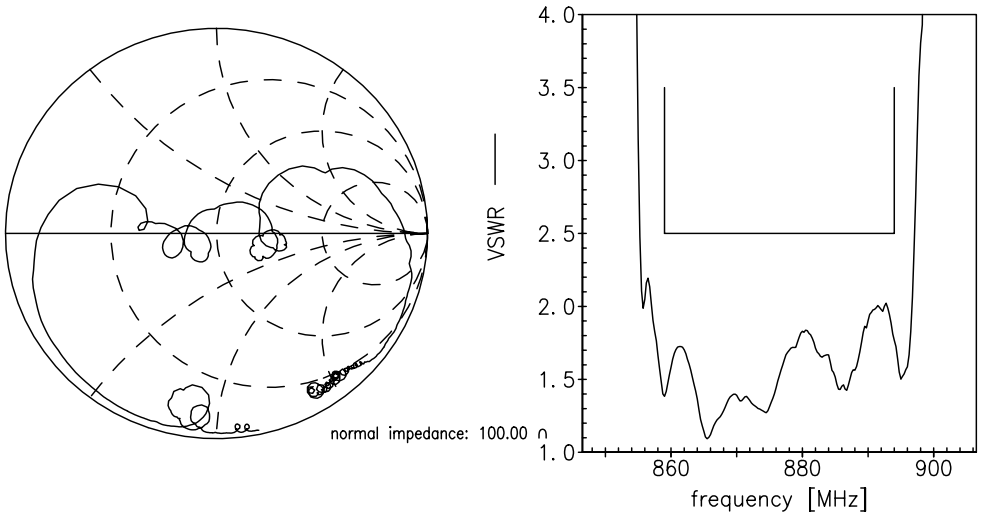


Smith charts

S_{11} function



S_{22} function



References

Type	B9894
Ordering code	B39871B9894P810
Marking and package	C61157-A8-A56
Packaging	F61074-V8255-Z000
Date codes	L_1126
S-parameters	B9894_NB_UN.s3p, B9894_WB_UN.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 http://www.tdk.co.jp/tefe02/coil.htm#aname1 http://www.tdk.co.jp/etvcl/index.htm for a large variety of matching coils.

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