



# SAW Components

## SAW Rx filter

TD-SCDMA Band 38

<b>Series/Type:</b>	<b>B9891</b>
<b>Ordering code:</b>	<b>B39262B9891P810</b>
<b>Date:</b>	<b>March 6, 2013</b>
<b>Version:</b>	<b>2.0</b>

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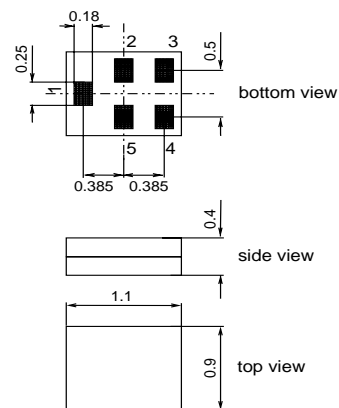
**Data Sheet**

**Application**

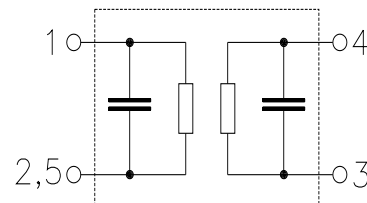
- Low-loss RF filter for mobile telephone TD-SCDMA systems
- Unbalanced to balanced operation
- Low amplitude ripple
- Usable passband 50 MHz
- Impedance transformation from 50 Ω to 150 Ω


**Features**

- Package size 1.1 x 0.9 x 0.4 mm<sup>3</sup>
- RoHS compatible
- Approx. weight 0.001g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 3**


**Pin configuration**

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



**Data Sheet**

**Characteristics**

Temperature range for specification:	$T = -30\text{ °C to }+85\text{ °C}$
Terminating source impedance:	$Z_S = 50\ \Omega$
Terminating load impedance:	$Z_L = 150\ \Omega \parallel 56\text{ nH (balanced)}$

		min.	typ. @ 25°C	max.	
<b>Center frequency</b>	$f_C$	—	2595.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	1.6	2.6	dB
2570.0 ... 2620.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.5	1.6	dB
2570.0 ... 2620.0 MHz					
<b>Input VSWR</b>		—	1.5	2.0	
2570.0 ... 2620.0 MHz					
<b>Output VSWR</b>		—	1.5	2.0	
2570.0 ... 2620.0 MHz					
<b>CMRR (<math> S_{21}-S_{31}  /  S_{21}+S_{31} </math>)</b>		19	23	—	dB
2570.0 ... 2620.0 MHz					
<b>Attenuation</b>	$\alpha$				
0.1 ... 2330.0 MHz		35	50	—	dB
2330.0 ... 2465.0 MHz		35	47	—	dB
2465.0 ... 2490.0 MHz		30	40	—	dB
2490.0 ... 2530.0 MHz		18	23	—	dB
2660.0 ... 2735.0 MHz		15	21	—	dB
2735.0 ... 6000.0 MHz		25	30	—	dB

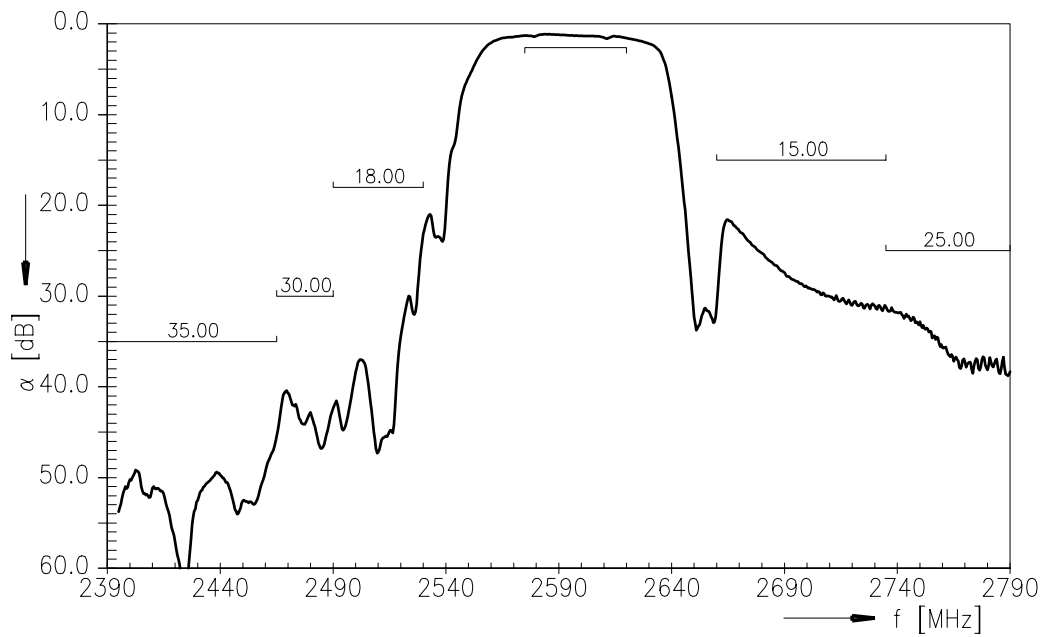

**Maximum ratings**

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 10 pulse
Input Power at 2570.0 ... 2620.0 MHz	P <sub>IN</sub>	8	dBm	effective power in the on-state duty cycle 4:8

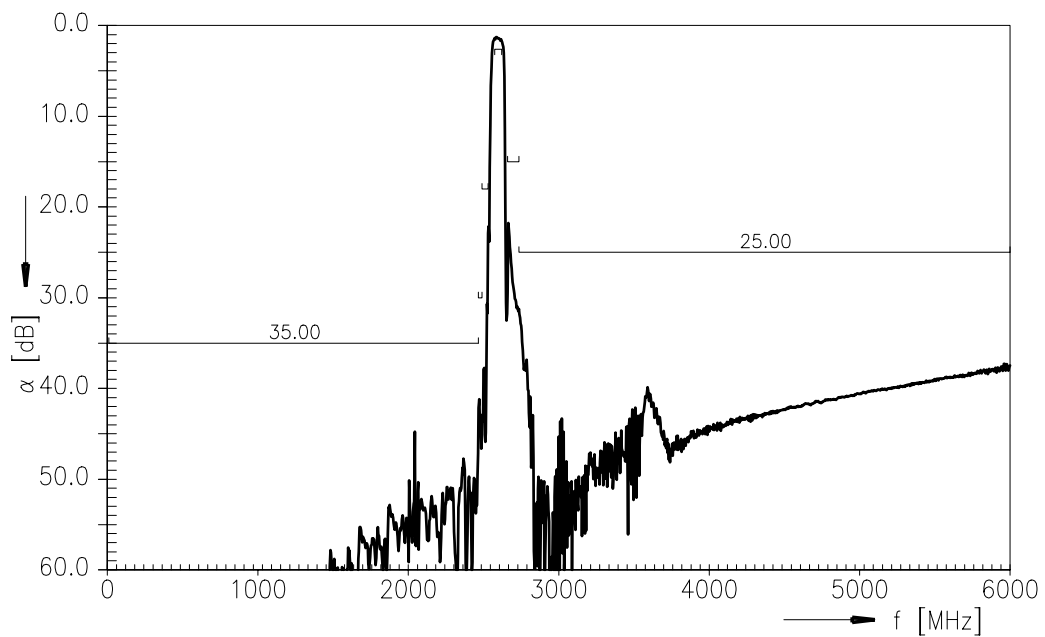
<sup>1)</sup> acc. to JESD22-A115B (machine model), 10 negative & 10 positive pulse.



Transfer function (narrowband)



Transfer function (wideband)

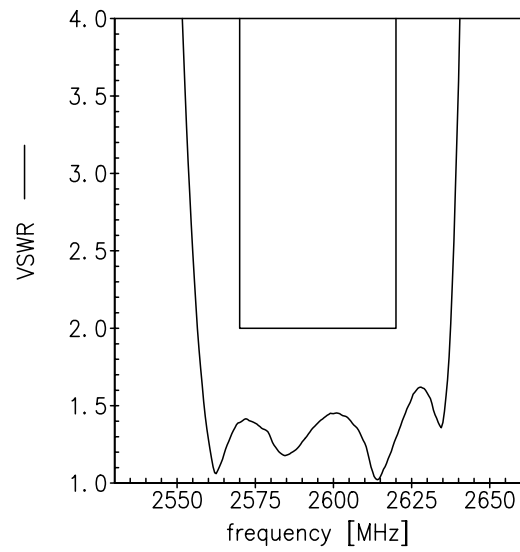
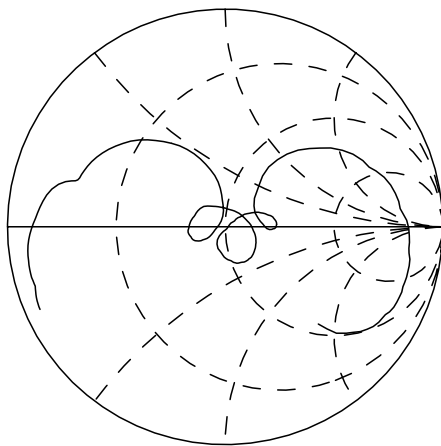


Data Sheet

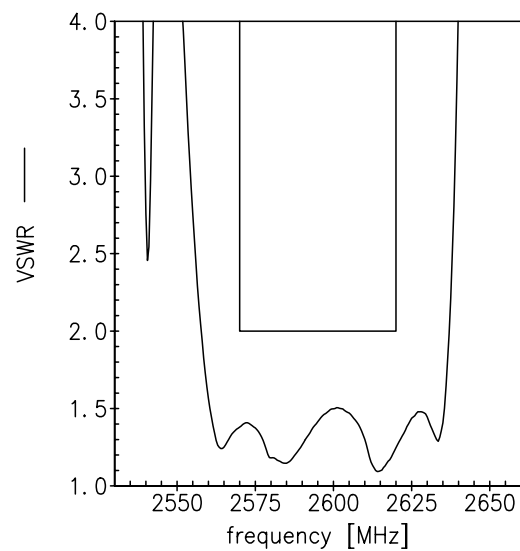
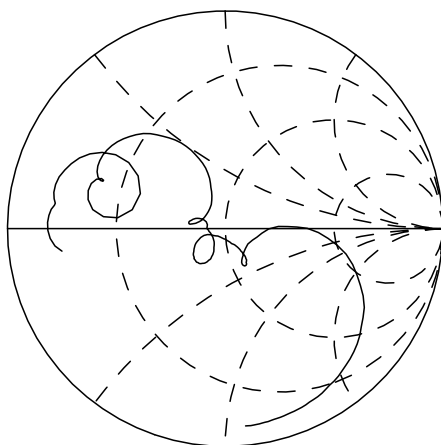


Smith charts

$S_{11}$  function



$S_{22}$  function





<b>Type</b>	B9891
<b>Ordering code</b>	B39262B9891P810
<b>Marking and package</b>	C61157-A8-A56
<b>Packaging</b>	F61074-V8255-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9891_NB.s3p, B9891_WB.s3p see file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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."
<b>Matching coils</b>	See Inductor pdf-catalog <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> and Data Library for circuit simulation <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a>

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