



# SAW Components

## SAW filter

TD-LTE Band 38

<b>Series/Type:</b>	<b>B9494</b>
<b>Ordering code:</b>	<b>B39252B9494P810</b>
<b>Date:</b>	<b>February 16, 2012</b>
<b>Version:</b>	<b>2.0</b>

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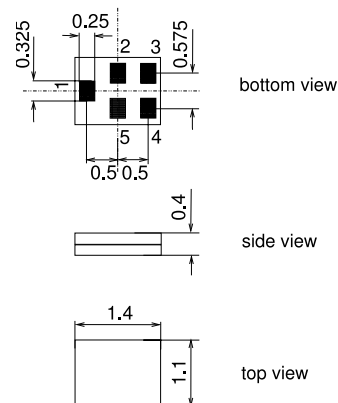
Data sheet


**Application**

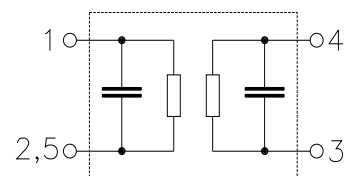
- Low-loss RF filter for mobile telephone TD-LTE Band 38 systems
- Low amplitude ripple
- Usable passband: 50 MHz
- Impedance transformation from 50  $\Omega$  to 100  $\Omega$
- Unbalanced to balanced operation


**Features**

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- RoHS compatible
- Approx. weight 0.003g
- 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


 Please read *cautions and warnings and important notes* at the end of this document.

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:  $Z_L = 100\ \Omega$

		min.	typ. @ 25°C	max.	
<b>Center frequency</b>	$f_C$	—	2595.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2.2	2.5	dB
2570.0 ... 2620.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.6	1.1	dB
2570.0 ... 2620.0 MHz					
<b>Input VSWR</b>		—	1.9	2.2	
2570.0 ... 2620.0 MHz					
<b>Output VSWR</b>		—	1.8	2.2	
2570.0 ... 2620.0 MHz					
<b>Common mode rejection ratio</b>		17	20	—	dB
2570.0 ... 2620.0 MHz					
<b>Attenuation</b>	$\alpha$				
0.1 ... 2400.0 MHz		45	52	—	dB
2400.0 ... 2485.0 MHz		30	40	—	dB
2485.0 ... 2510.0 MHz		20	37	—	dB
2510.0 ... 2555.0 MHz		1.3	2.0	—	dB
2635.0 ... 2680.0 MHz		1.3	1.8	—	dB
2680.0 ... 2705.0 MHz		20	36	—	dB
2705.0 ... 6000.0 MHz		30	37	—	dB


**Maximum ratings**

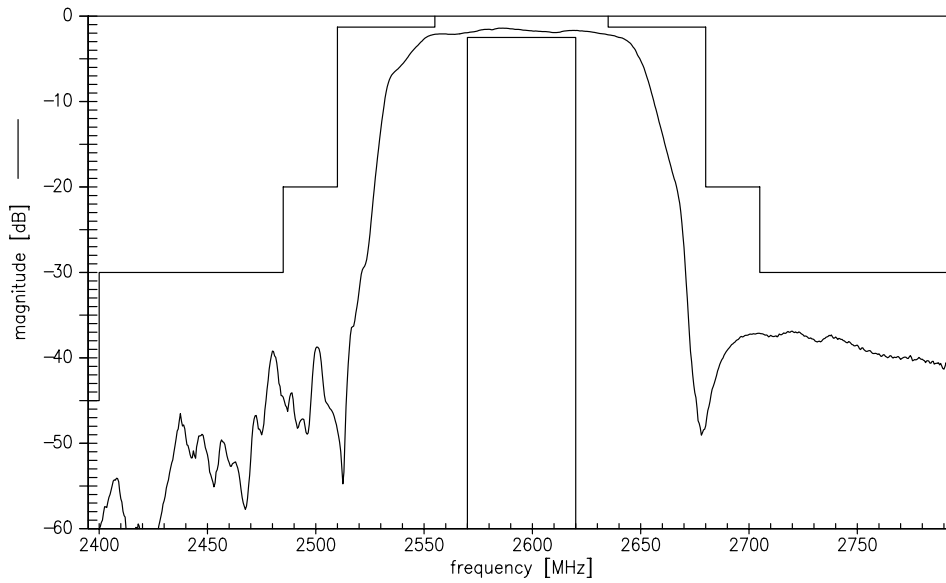
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input Power at 2570.0... 2620.0	P <sub>IN</sub>	10	dBm	duty cycle 4:8

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

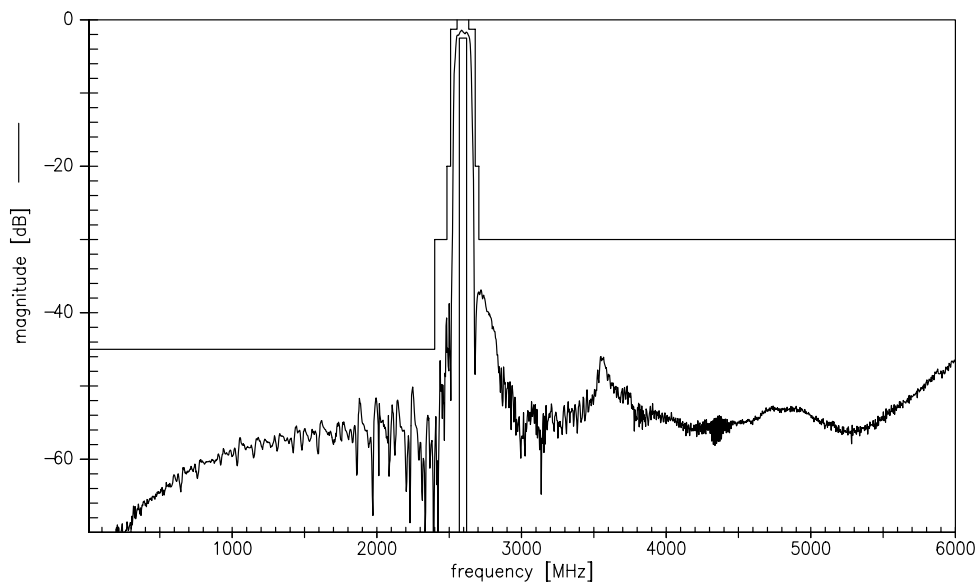
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Transfer function



Transfer function (wideband)



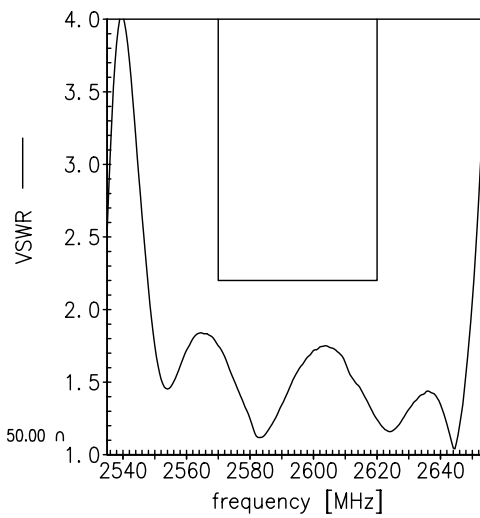
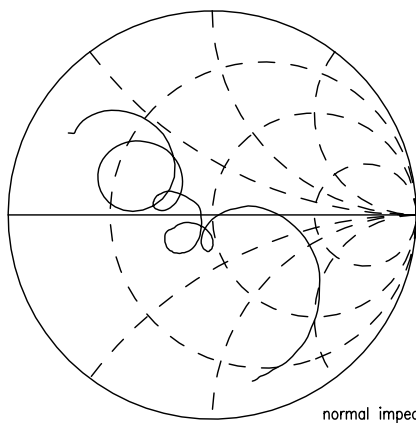
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Data sheet

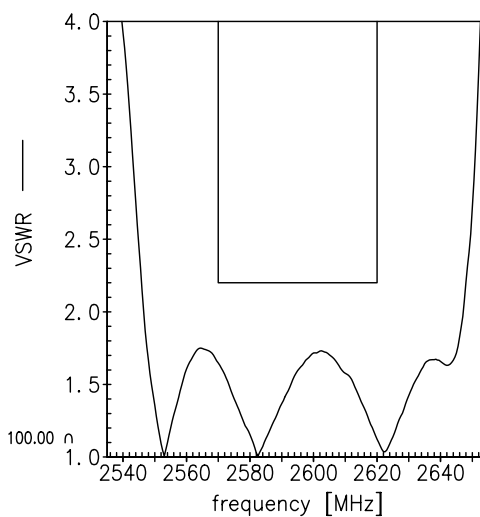
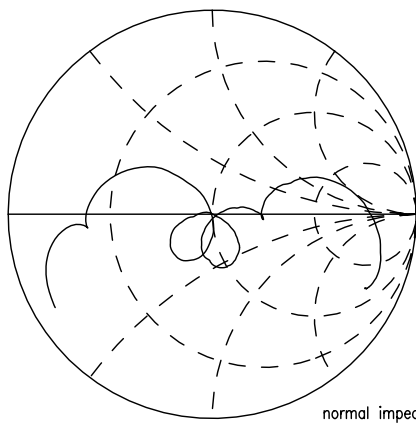


Smith charts

$S_{11}$  function



$S_{22}$  function



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<b>SAW Components</b>	<b>B9494</b>
<b>SAW Filter</b>	<b>2595.0 MHz</b>
Data sheet	

## References

<b>Type</b>	B9494
<b>Ordering code</b>	B39252B9494P810
<b>Marking and package</b>	C61157-A8-A14
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9494_NB.s3p, B9494_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>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office.
<b>Matching Coils</b>	See <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a> for a large variety of matching coils.

For further information please contact your local EPCOS sales office or visit our webpage at [www.epcos.com](http://www.epcos.com).

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7 February 16, 2012

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