



# SAW Components

## SAW Filter

TD-LTE Band 40

<b>Series/type:</b>	<b>B9498</b>
<b>Ordering code:</b>	<b>B39242B9498P810</b>
Date:	April 20, 2012
Version:	2.0

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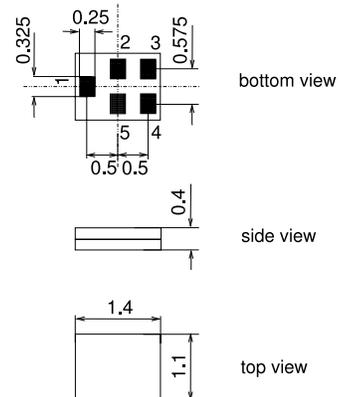
Data sheet


**Application**

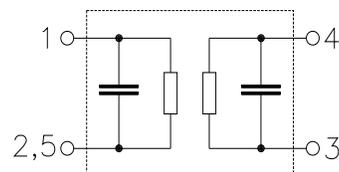
- Low-loss RF filter for mobile telephone TD-LTE Band 40 systems
- Unbalanced to balanced operation
- Low amplitude ripple
- Usable passband: 100 MHz
- Impedance transformation from 50 Ω to 150 Ω


**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



**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:  $Z_L = 150\ \Omega \parallel 8\text{nH}$

		min.	typ. @ 25°C	max.	
<b>Center frequency</b>	$f_C$	—	2350.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	1.8	3.5	dB
2300.0 ... 2400.0MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.6	2.2	dB
2300.0 ... 2400.0MHz					
<b>Input VSWR</b>		—	1.9	2.4	
2300.0 ... 2400.0MHz					
<b>Output VSWR</b>		—	1.9	2.3	
2300.0 ... 2400.0MHz					
<b>CMRR (<math> S_{21}-S_{31}  /  S_{21}+S_{31} </math>)</b>		18	21	—	dB
2300.0 ... 2400.0MHz					
<b>Attenuation</b>	$\alpha$				
10.0 ... 1570.0MHz		42	52	—	dB
1570.0 ... 1580.0MHz		42	54	—	dB
1580.0 ... 2000.0MHz		38	45	—	dB
2000.0 ... 2215.0MHz		26	30	—	dB
2215.0 ... 2240.0MHz		22	30	—	dB
2460.0 ... 2485.0MHz		25	30	—	dB
2485.0 ... 3000.0MHz		25	30	—	dB
3000.0 ... 4000.0MHz		28	35	—	dB
4000.0 ... 6000.0MHz		42	52	—	dB

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**B9498**

**SAW Filter**

**2350.0 MHz**

Data sheet



**Maximum ratings**

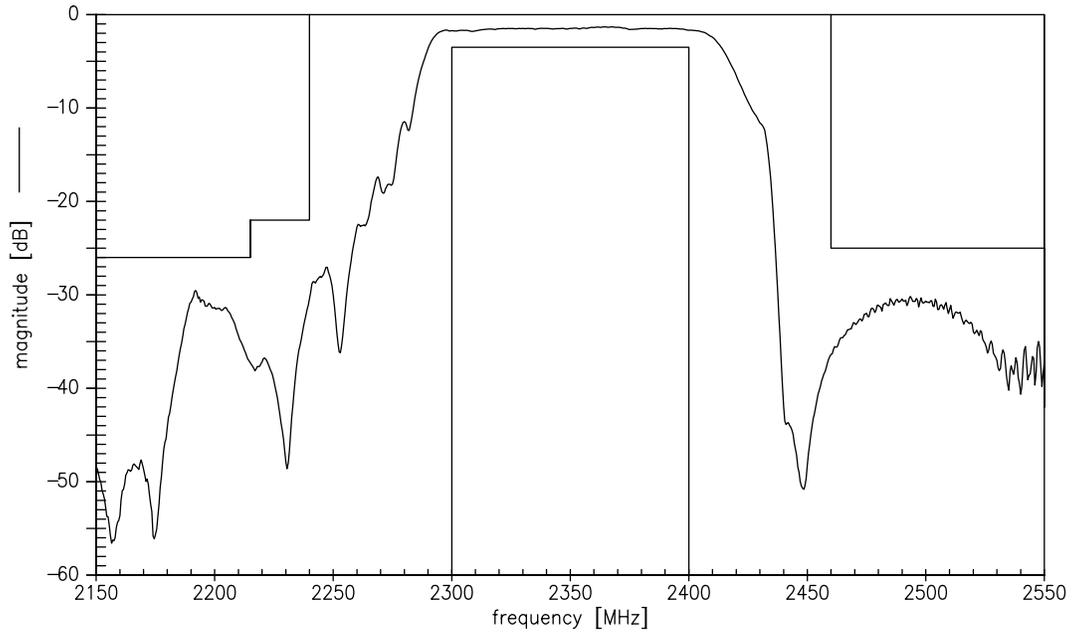
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input Power at 2300.0 ... 2400.0 MHz	P <sub>IN</sub>	17	dBm	effective power in the on-state duty cycle 4:8 for 2000h at T=55 °C

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

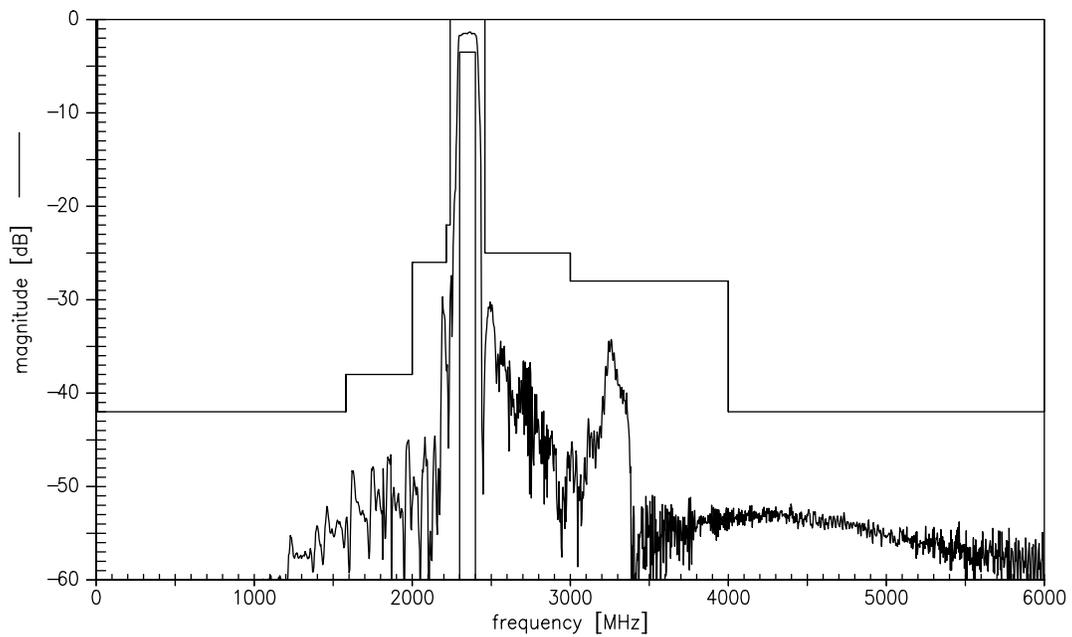
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Transfer function (narrowband)



Transfer function (wideband)

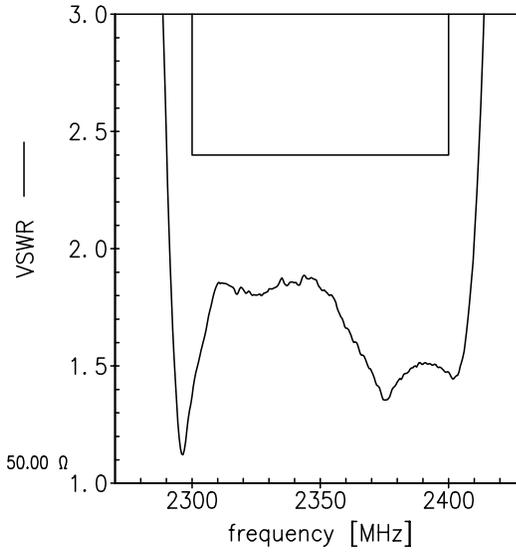
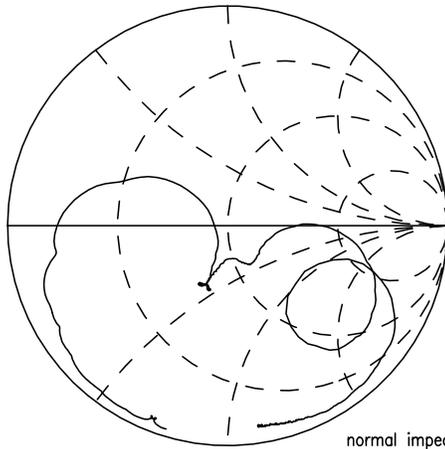


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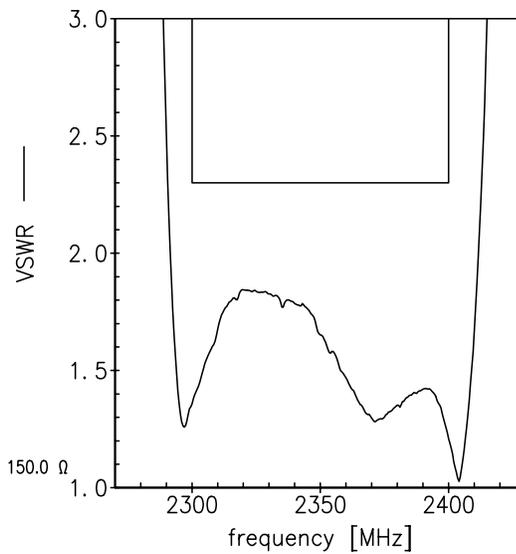
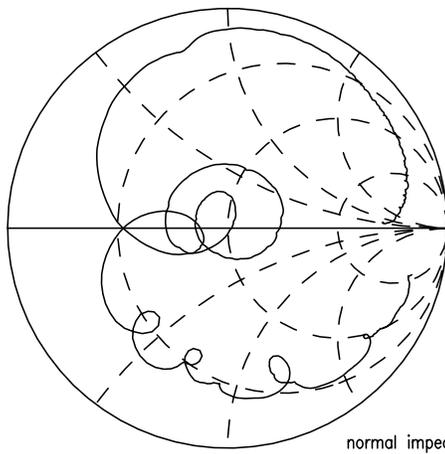


Smith Charts

$S_{11}$  function



$S_{22}$  function



<b>SAW Components</b>	<b>B9498</b>
<b>SAW Filter</b>	<b>2350.0 MHz</b>

Data sheet



References

<b>Type</b>	B9498
<b>Ordering code</b>	B39242B9498P810
<b>Marking and package</b>	C61157-A8-A14
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9498_NB_UN.s3p, B9498_WB_UN.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."
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<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.

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