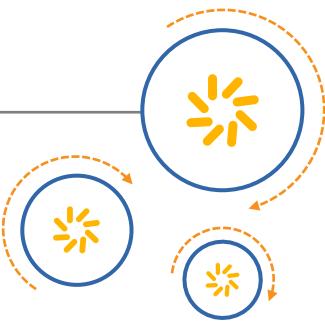




RF360 Europe GmbH

A Qualcomm – TDK Joint Venture



## SAW Components

### SAW RF filter for base stations

UMTS Band VII RF Tx

Series/type: B5122  
Ordering code: B39272B5122U410

Date: Apr 12, 2016  
Version: 2.3

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# SAW Components

## SAW RF filter for base stations

UMTS Band VII RF Tx

**Series/type:** B5122

**Ordering code:** B39272B5122U410

**Date:** Apr 12, 2016

**Version:** 2.3

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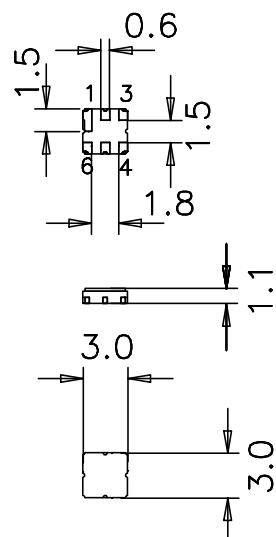
EPCOS AG is a TDK Group Company.

**Application**

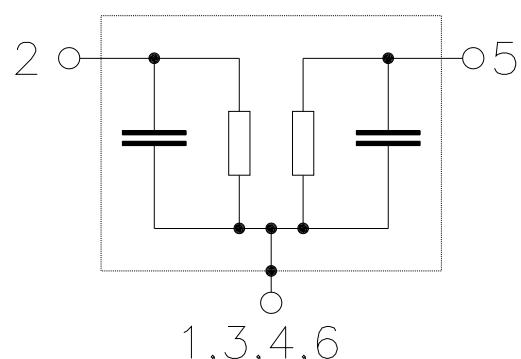
- Low-loss base-station UMTS band VII RF Tx filter
- Low amplitude ripple
- No matching required for operation at 50  $\Omega$
- Usable passband 70 MHz
- Unbalanced to unbalanced operation

**Features**

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)
- Moisture Sensitivity Level 1
- Filter surface passivated

**Pin configuration**

- 2              Input
- 5              Output
- 1, 3, 4, 6    To be grounded



**SAW Components**
**B5122**
**SAW RF filter**
**2655.0 MHz**
**Data sheet**

**Characteristics**

 Temperature range for specification:  $T = -40 \text{ }^{\circ}\text{C} \text{ to } +85 \text{ }^{\circ}\text{C}$ 

 Terminating source impedance:  $Z_S = 50 \Omega$ 

 Terminating load impedance:  $Z_L = 50 \Omega$ 

			min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$		—	2655.0	—	MHz
<b>Maximum insertion attenuation</b> 2620.0 ... 2690.0 MHz	$\alpha_{\max}$		—	2.1	3.5	dB
<b>Passband width</b> $\alpha_{\text{ref}} \leq 1.8 \text{ dB}$	$B_{1.8\text{dB}}$		70	99	—	MHz
<b>Amplitude ripple (p-p)</b> 2620.0 ... 2690.0 MHz	$\Delta\alpha$		—	0.7	1.8	dB
<b>Input VSWR</b> 2620.0 ... 2690.0 MHz			—	1.8:1	2.5:1	
<b>Output VSWR</b> 2620.0 ... 2690.0 MHz			—	1.8:1	2.5:1	
<b>Absolute group delay (mean)</b> 2620.0 ... 2690.0 MHz	$\bar{\tau}$		—	7.6	—	ns
<b>Group delay ripple (p-p)</b> 2620.0 ... 2690.0 MHz	$\Delta\tau$		—	4	20	ns
<b>Absolute attenuation</b>	$\alpha_{\text{abs}}$					
10.0 ... 2350.0 MHz			20	39	—	dB
2350.0 ... 2500.0 MHz			25	35	—	dB
2500.0 ... 2570.0 MHz			16	31	—	dB
2570.0 ... 2593.0 MHz			2.5	8	—	dB
2725.0 ... 2750.0 MHz			6	24	—	dB
2750.0 ... 3000.0 MHz			23	28	—	dB
3000.0 ... 3830.0 MHz			20	28	—	dB

**SAW Components**
**B5122**
**SAW RF filter**
**2655.0 MHz**
**Data sheet**

**Characteristics**

Temperature range for specification:  $T = -40 \text{ }^{\circ}\text{C} \text{ to } +95 \text{ }^{\circ}\text{C}$ 

Terminating source impedance:  $Z_S = 50 \Omega$ 

Terminating load impedance:  $Z_L = 50 \Omega$ 

			min.	typ. @ 25 °C	max.	
<b>Center frequency</b>		$f_C$	—	2655.0	—	MHz
<b>Maximum insertion attenuation</b>	2620.0 ... 2690.0	$\alpha_{\max}$ MHz	—	2.1	4.0	dB
<b>Passband width</b>	$\alpha_{\text{ref}} \leq 1.8 \text{ dB}$	$B_{1.8\text{dB}}$	68	99	—	MHz
<b>Amplitude ripple (p-p)</b>	2620.0 ... 2690.0	$\Delta\alpha$ MHz	—	0.7	2.5	dB
<b>Input VSWR</b>	2620.0 ... 2690.0	MHz	—	1.8:1	3.0:1	
<b>Output VSWR</b>	2620.0 ... 2690.0	MHz	—	1.8:1	3.0:1	
<b>Absolute group delay (mean)</b>	2620.0 ... 2690.0	$\bar{\tau}$ MHz	—	7.6	—	ns
<b>Group delay ripple (p-p)</b>	2620.0 ... 2690.0	$\Delta\tau$ MHz	—	4	30	ns
<b>Absolute attenuation</b>		$\alpha_{\text{abs}}$				
10.0 ... 2350.0	MHz		20	39	—	dB
2350.0 ... 2500.0	MHz		25	35	—	dB
2500.0 ... 2570.0	MHz		16	31	—	dB
2570.0 ... 2593.0	MHz		2.5	8	—	dB
2725.0 ... 2750.0	MHz		6	24	—	dB
2750.0 ... 3000.0	MHz		23	28	—	dB
3000.0 ... 3830.0	MHz		20	28	—	dB

**SAW Components**
**B5122**
**SAW RF filter**
**2655.0 MHz**
**Data sheet**

**Characteristics**

Temperature range for specification:  $T = -40 \text{ }^{\circ}\text{C}$  to  $+105 \text{ }^{\circ}\text{C}$ 

Terminating source impedance:  $Z_S = 50 \Omega$ 

Terminating load impedance:  $Z_L = 50 \Omega$ 

			min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$		—	2655.0	—	MHz
<b>Maximum insertion attenuation</b> 2620.0 ... 2690.0 MHz	$\alpha_{\max}$		—	2.1	5.0	dB
<b>Passband width</b> $\alpha_{\text{ref}} \leq 1.8 \text{ dB}$	$B_{1.8\text{dB}}$		66	99	—	MHz
<b>Amplitude ripple (p-p)</b> 2620.0 ... 2690.0 MHz	$\Delta\alpha$		—	0.7	3.5	dB
<b>Input VSWR</b> 2620.0 ... 2690.0 MHz			—	1.8:1	3.5:1	
<b>Output VSWR</b> 2620.0 ... 2690.0 MHz			—	1.8:1	3.5:1	
<b>Absolute group delay (mean)</b> 2620.0 ... 2690.0 MHz	$\bar{\tau}$		—	7.6	—	ns
<b>Group delay ripple (p-p)</b> 2620.0 ... 2690.0 MHz	$\Delta\tau$		—	4	40	ns
<b>Absolute attenuation</b>	$\alpha_{\text{abs}}$					
10.0 ... 2350.0 MHz			20	39	—	dB
2350.0 ... 2500.0 MHz			25	35	—	dB
2500.0 ... 2570.0 MHz			12	31	—	dB
2570.0 ... 2593.0 MHz			2	8	—	dB
2725.0 ... 2750.0 MHz			6	24	—	dB
2750.0 ... 3000.0 MHz			23	28	—	dB
3000.0 ... 3830.0 MHz			20	28	—	dB

SAW Components

B5122

SAW RF filter

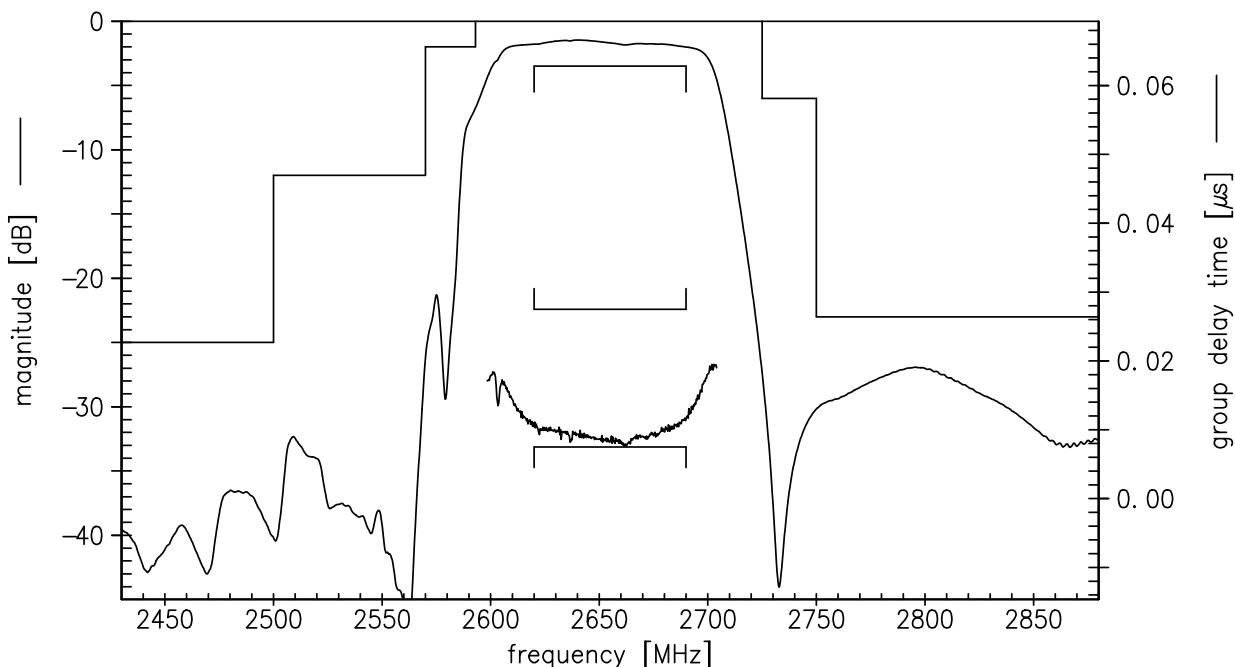
2655.0 MHz

Data sheet

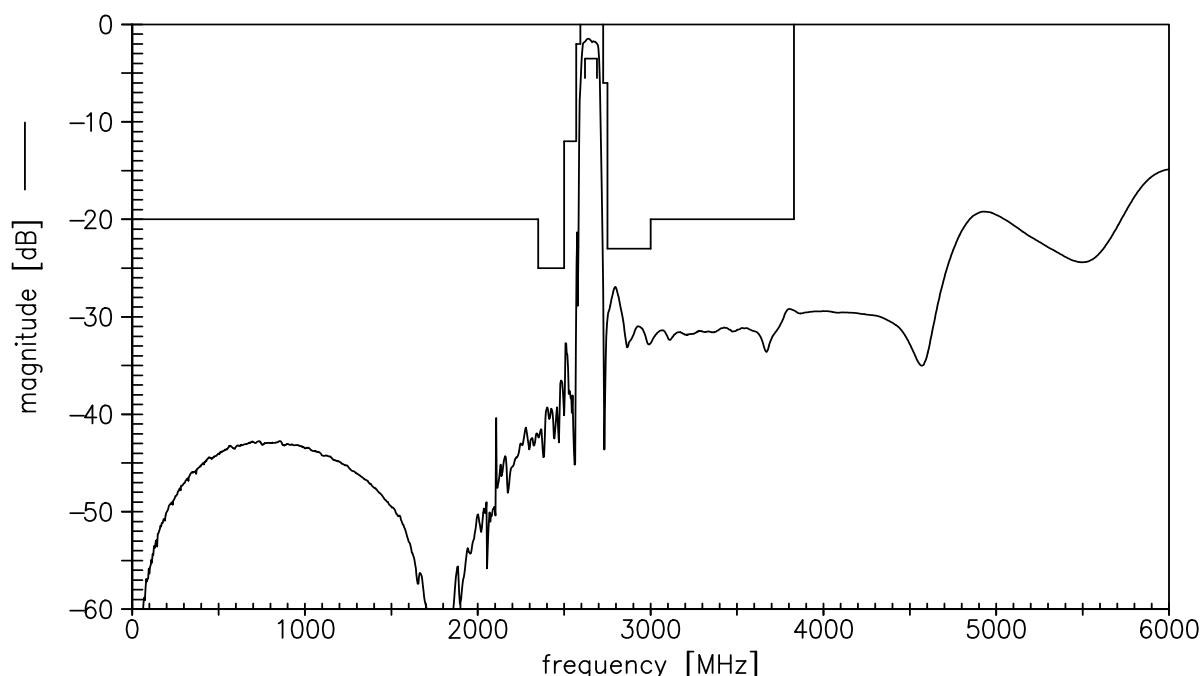
**Maximum ratings**

Operable temperature range	T	–45/+125	°C	
Storage temperature range	T <sub>stg</sub>	–45/+125	°C	
DC voltage	V <sub>DC</sub>	6	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup> 100 <sup>2)</sup>	V	Machine Model Human Body Model
Input power	P <sub>IN</sub>	10	dBm	cw, 1000 h, 85 °C
2620.0 ... 2690.0 MHz				

<sup>1)</sup> acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses<sup>2)</sup> acc. to JESD22-A114F (HBM - Human Body Model), 1 negative & 1 positive pulse



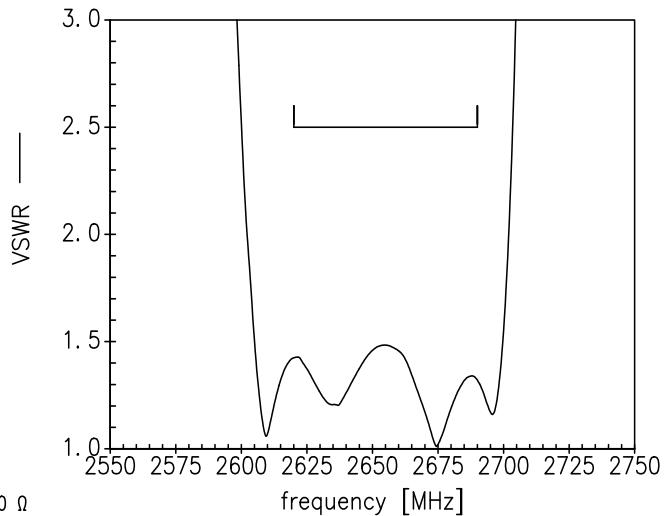
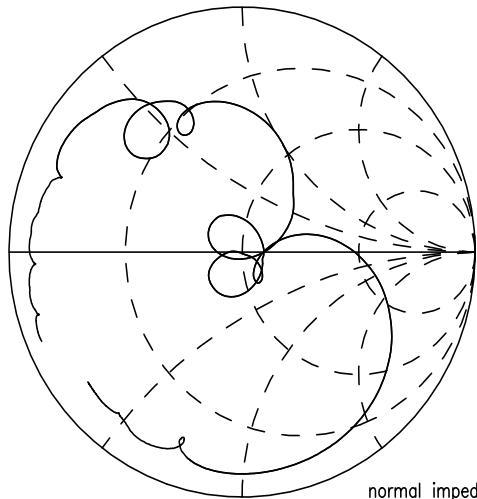
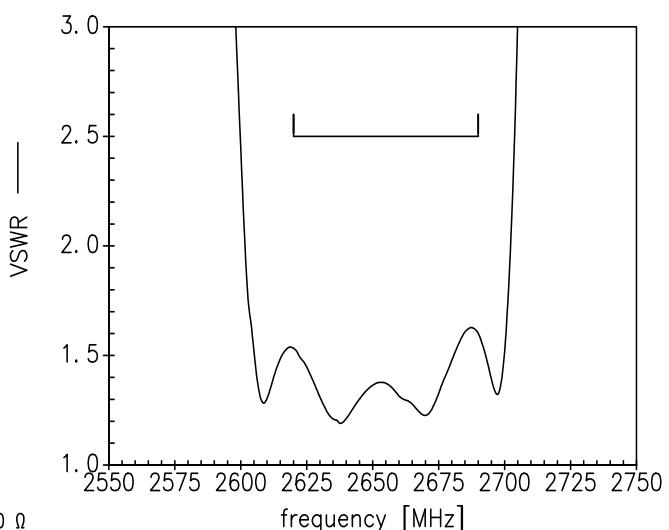
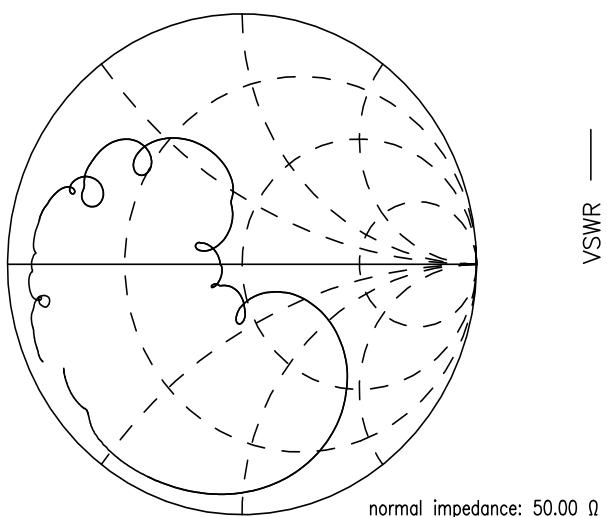
Transfer function (S21, narrowband)



Data sheet

SMD

Smith charts

 $S_{11}$  function $S_{22}$  function

<b>SAW Components</b>	<b>B5122</b>
<b>SAW RF filter</b>	<b>2655.0 MHz</b>
<b>Data sheet</b>	

## References

<b>Type</b>	B5122
<b>Ordering code</b>	B39272B5122U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5122_NB.s2p B5122_WB.s2p see file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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.
<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> for a large variety of matching coils.

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**Published by EPCOS AG**

**Systems, Acoustics, Waves Business Group**  
**P.O. Box 80 17 09, 81617 Munich, GERMANY**

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