



## **SAW Components**

**SAW RF filter**

GPS

<b>Series/type:</b>	<b>B3523</b>
<b>Ordering code:</b>	<b>B39162-B3523-U410</b>
<b>Date:</b>	<b>March 18, 2009</b>
<b>Version:</b>	<b>2.0</b>



SAW Components

B3523

SAW RF filter

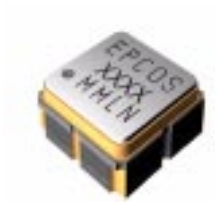
1575.42 MHz

Data sheet



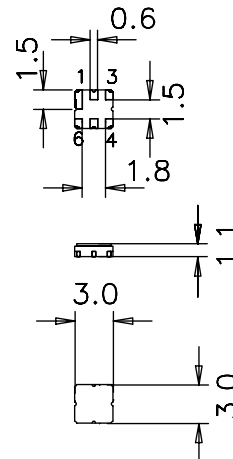
### Application

- Low-loss RF filter for GPS receivers
- No matching network required for operation at 50  $\Omega$



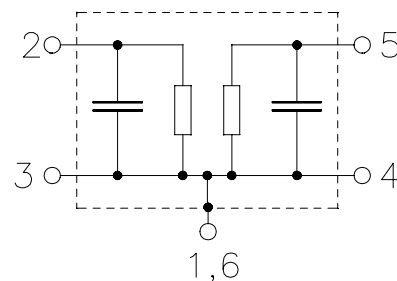
### Features

- 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
- Lead free soldering compatible with J - STD20C
- AEC-Q200 qualified component family
- **Electrostatic Sensitive Device (ESD)**



### Pin configuration

- 2 Input
- 5 Output
- 1, 3, 4, 6, Ground



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



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**Characteristics**

Temperature for specification:  $T = 25\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_C$	—	1575.42	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2.1	2.5	dB
	1574.397 ... 1576.443 MHz				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.2	0.6	dB
	1574.397 ... 1576.443 MHz				
<b>Input VSWR</b>		—	1.5	2.0	
	1574.397 ... 1576.443 MHz				
<b>Output VSWR</b>		—	1.5	2.0	
	1574.397 ... 1576.443 MHz				
<b>Attenuation</b>	$\alpha$				
	10.00 ... 1475.42 MHz	32	36	—	dB
	1475.42 ... 1525.42 MHz	28	33	—	dB
	1525.42 ... 1545.42 MHz	28	34	—	dB
	1545.42 ... 1555.42 MHz	13	17	—	dB
	1595.42 ... 1605.42 MHz	12	15	—	dB
	1605.42 ... 1625.42 MHz	18	21	—	dB
	1625.42 ... 1675.42 MHz	29	33	—	dB
	1675.42 ... 2100.00 MHz	30	32	—	dB
	2100.00 ... 2500.00 MHz	25	30	—	dB



<b>SAW Components</b>	<b>B3523</b>
<b>SAW RF filter</b>	<b>1575.42 MHz</b>

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**Characteristics**

Temperature range for specification: T = -40 °C to +100 °C  
 Terminating source impedance: Z<sub>S</sub> = 50 Ω  
 Terminating load impedance: Z<sub>L</sub> = 50 Ω

		min.	typ. @25 °C	max.	
<b>Center frequency</b>	f <sub>C</sub>	—	1575.42	—	MHz
<b>Maximum insertion attenuation</b>	α <sub>max</sub>	—	2.1	3.4	dB
1574.397 ... 1576.443 MHz					
<b>Amplitude ripple (p-p)</b>	Δα	—	0.2	1.5	
1574.397 ... 1576.443 MHz					
<b>Input VSWR</b>		—	1.5	2.8	
1574.397 ... 1576.443 MHz					
<b>Output VSWR</b>		—	1.5	2.7	
1574.397 ... 1576.443 MHz					
<b>Attenuation</b>	α				
10.00 ... 1475.42 MHz		32	36	—	dB
1475.42 ... 1525.42 MHz		28	33	—	dB
1525.42 ... 1545.42 MHz		23	34	—	dB
1545.42 ... 1555.42 MHz		9	17	—	dB
1595.42 ... 1605.42 MHz		7	15	—	dB
1605.42 ... 1625.42 MHz		15	21	—	dB
1625.42 ... 1675.42 MHz		27	33	—	dB
1675.42 ... 2100.00 MHz		30	32	—	dB
2100.00 ... 2500.00 MHz		25	30	—	dB

**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	
Source power	P <sub>S</sub>	10	dBm	source impedance 50 Ω
		20	dBm	824 MHz to 915 MHz, 1710 MHz to 1785 MHz

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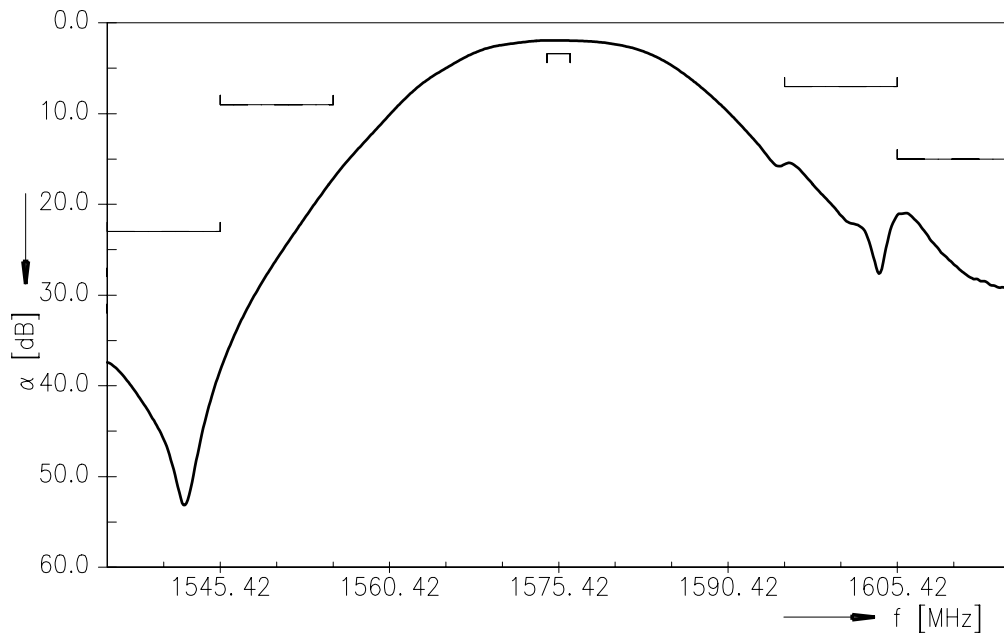
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1575.42 MHz

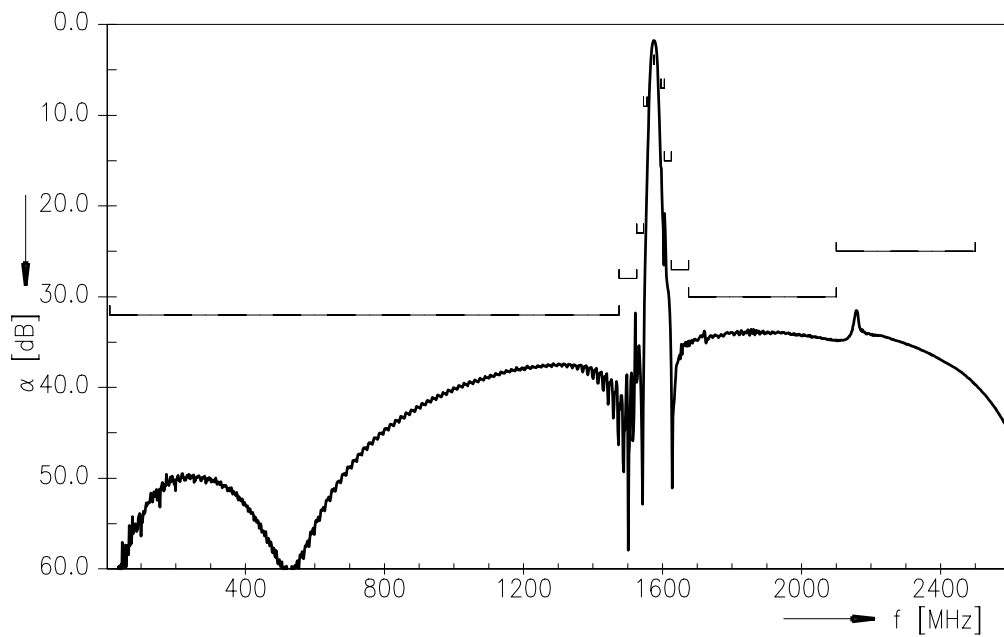
Data sheet



Transfer function



Transfer function (wideband)



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1575.42 MHz

Data sheet



## References

Type	B3523
Ordering code	B39162-B3523-U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B3523_NB.s2p B3523_WB.s2p See file header for port/pin assignment table.
Soldering profile	S_6001
RoHS compatible	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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Published by EPCOS AG  
Surface Acoustic Wave Components Division  
P.O. Box 80 17 09, 81617 Munich, GERMANY

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