



## SAW Components

SAW RF filter

GPS

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

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Data sheet



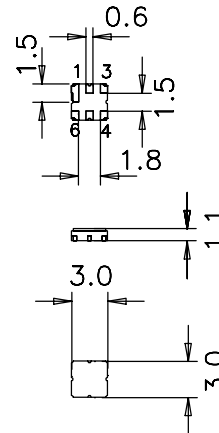
**Application**

- Low-loss RF filter for GPS receivers
- No matching network required for operation at 50 Ω



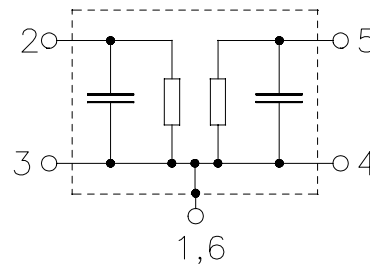
**Features**

- 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.



**SAW Components**

**B3523**

**SAW RF filter**

**1575.42 MHz**

Data sheet



**Characteristics**

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

		min.	typ.	max.	
<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	
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

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**Characteristics**

Temperature range for specification:  $T = -40\text{ °C to }+100\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

		min.	typ. @25 °C	max.	
<b>Center frequency</b>	$f_C$	—	1575.42	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2.1	3.4	dB
1574.397 ... 1576.443 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.2	1.5	dB
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>	$\alpha$				
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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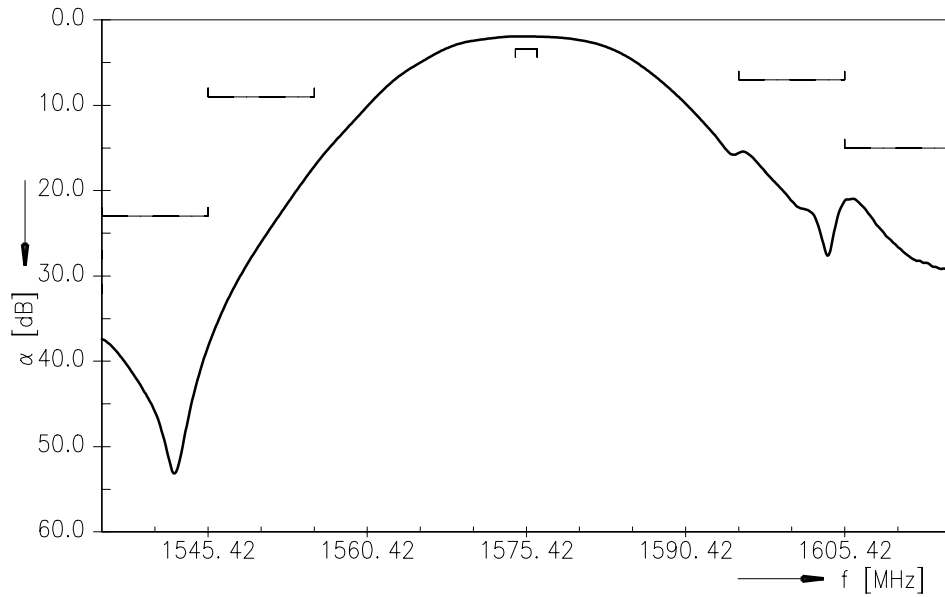
SAW RF filter

1575.42 MHz

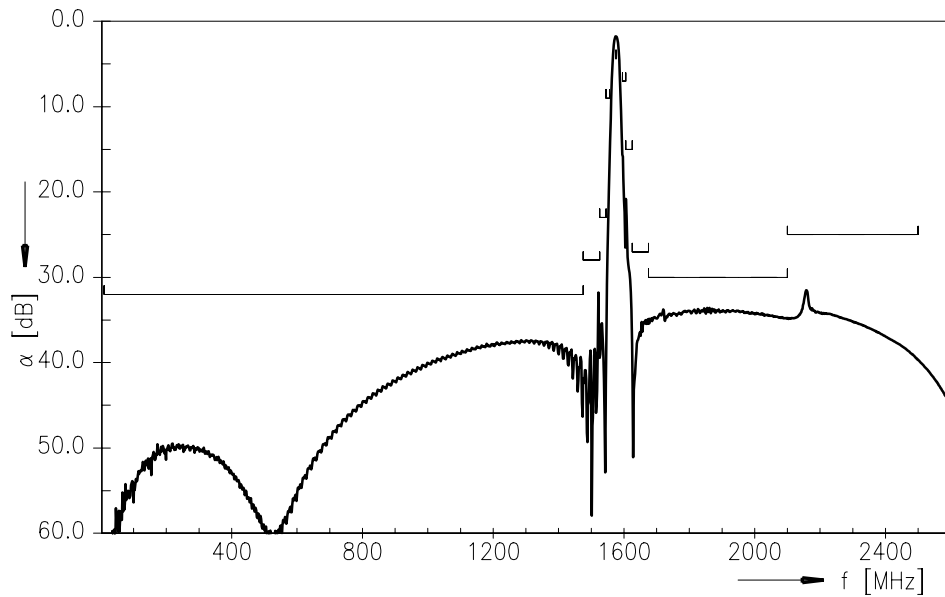
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### Transfer function



### Transfer function (wideband)



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**SAW RF filter** **1575.42 MHz**

Data sheet



## References

<b>Type</b>	B3523
<b>Ordering code</b>	B39162-B3523-U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B3523_NB.s2p B3523_WB.s2p 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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