



## **SAW Components**

### **SAW RF filter**

Automotive telematics

<b>Series/type:</b>	<b>B3513</b>
<b>Ordering code:</b>	<b>B39202B3513U510</b>
<b>Date:</b>	<b>April 15, 2008</b>
<b>Version:</b>	<b>2.1</b>



Data sheet



**Application**

- Low-loss RF filter for mobile telephone PCS systems, receive path
- Unbalanced to balanced operation



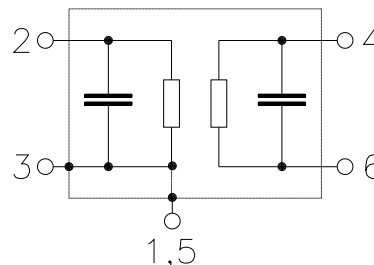
**Features**

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Package code DCC6D
- 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<sup>1)</sup>**

- 2 Input, unbalanced
- 4, 6 Output, balanced
- 1, 3, 5 Ground (case)



1) The recommended pin configuration usually offers best suppression of electrical crosstalk. The filter characteristics refer to this configuration.



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**B3513**

**SAW RF filter**

**1960.0 MHz**

Data sheet



**Characteristics**

Temperature range for specification:  $T_A = -40\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$  (unbalanced)  
 Terminating load impedance:  $Z_L = 100\ \Omega$  (balanced)

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$	—	1960.00	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	3.5	4.2	dB
1930.00 ... 1990.00 MHz					
<b>Amplitude ripple (p-p)</b>		—	1.8	2.7	
1930.00 ... 1990.00 MHz					
<b>VSWR</b>		—	2.0	2.5	
1930.00 ... 1990.00 MHz					
<b>Attenuation</b>	$\alpha$				
10.00 ... 1650.00 MHz		40	50	—	dB
1650.00 ... 1850.00 MHz		30	35	—	dB
1850.00 ... 1900.00 MHz		20	25	—	dB
2050.00 ... 2200.00 MHz		25	28	—	dB
2200.00 ... 2850.00 MHz		30	38	—	dB
2850.00 ... 4000.00 MHz		40	50	—	dB

**Maximum ratings**

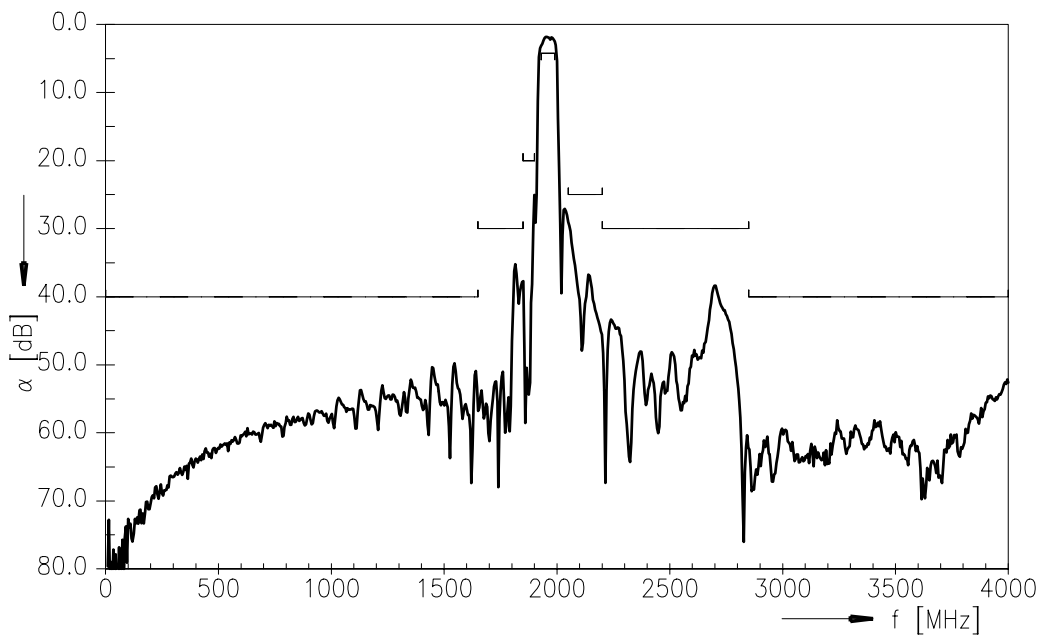
Operable temperature range	T	-45/+125	°C	source and load impedance 50 $\Omega$ peak of TDMA signal, duty cycle 1 : 3
Storage temperature range	T <sub>stg</sub>	-45/+125	°C	
DC voltage	V <sub>DC</sub>	5	V	
Input power max.	P <sub>S</sub>	10	dBm	



Transfer function (three port measurement)



Transfer function (wideband)





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**References**

<b>Type</b>	B3513
<b>Ordering code</b>	B39202B3513U510
<b>Marking and package</b>	C61157-A7-A68
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B3513_NB.s2p B3513_WB.s2p
<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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