



# SAW Components

## SAW RF filter

Automotive telematics

<b>Series/type:</b>	<b>B3517</b>
<b>Ordering code:</b>	<b>B39162-B3517-U510</b>
<b>Date:</b>	<b>May 23, 2011</b>
<b>Version:</b>	<b>2.1</b>

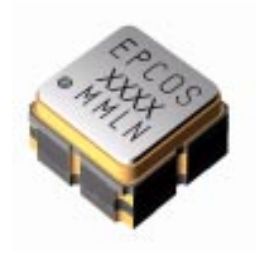
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Data sheet



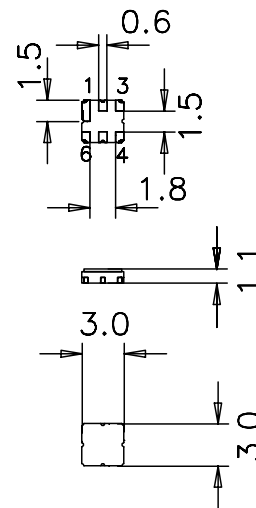
**Application**

- Low-loss RF filter for automotive telematics applications
- Unbalanced to balanced operation
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 42.0 MHz



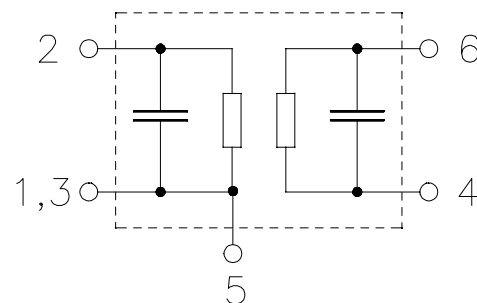
**Features**

- 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
- **Electrostatic Sensitive Device (ESD)**



**Pin configuration**

- 2 Input unbalanced
- 4,6 Output balanced
- 1,3,5 Case ground (to be grounded)



**Data sheet**

**Characteristics**

Temperature range for specification:	T = -40 °C to +85 °C
Terminating source impedance:	Z <sub>S</sub> = 50 Ω
Terminating load impedance:	Z <sub>L</sub> = 100 Ω   18nH (balanced)

		min.	typ.	max.	
<b>Center frequency</b>	f <sub>C</sub>	—	1586	—	MHz
<b>Maximum insertion attenuation</b>	α <sub>max</sub>				
1565.0 ... 1607.0 MHz		—	1.9	2.5	dB
<b>Amplitude ripple (p-p)</b>	Δα				
1565.0 ... 1607.0 MHz		—	0.7	1.4	dB
<b>Input VSWR</b>					
1565.0 ... 1607.0 MHz		—	1.7	2.4	
<b>Output VSWR</b>					
1565.0 ... 1607.0 MHz		—	1.7	2.3	
<b>Group delay ripple<sup>1)</sup> (p-p)</b>					
1565.0 ... 1607.0 MHz		—	9	20	ns
1597.0 ... 1607.0 MHz		—	7	14	ns
<b>Attenuation</b>	α				
10.0 ... 960.0 MHz		52	57	—	dB
960.0 ... 1463.0 MHz		47	52	—	dB
1710.0 ... 1785.0 MHz		39	43	—	dB
1785.0 ... 1850.0 MHz		42	47	—	dB
1850.0 ... 1910.0 MHz		45	50	—	dB
1910.0 ... 2050.0 MHz		50	53	—	dB
2050.0 ... 2300.0 MHz		38	41	—	dB
2300.0 ... 2400.0 MHz		45	55	—	dB
2400.0 ... 2500.0 MHz		53	57	—	dB

<sup>1)</sup> Averaged over 500 kHz

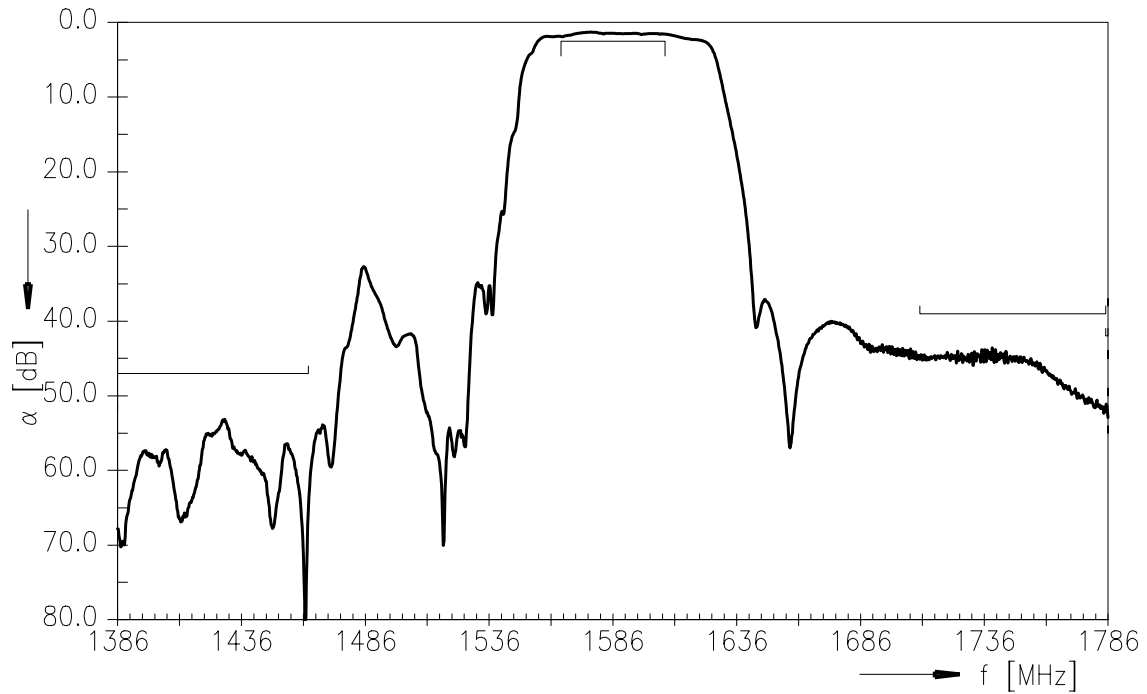

**Maximum ratings**

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>	V	machine model, 10 pulses
Input power at				source 50Ω, load 100Ω    18nH
1565.0 ... 1607.0 MHz	P <sub>IN</sub>	5	dBm	cw
2400 ... 2483.5 MHz	P <sub>IN</sub>	20	dBm	cw
824...960, 1710...2170 MHz	P <sub>IN</sub>	20	dBm	cw
960...1525 MHz	P <sub>IN</sub>	10	dBm	cw

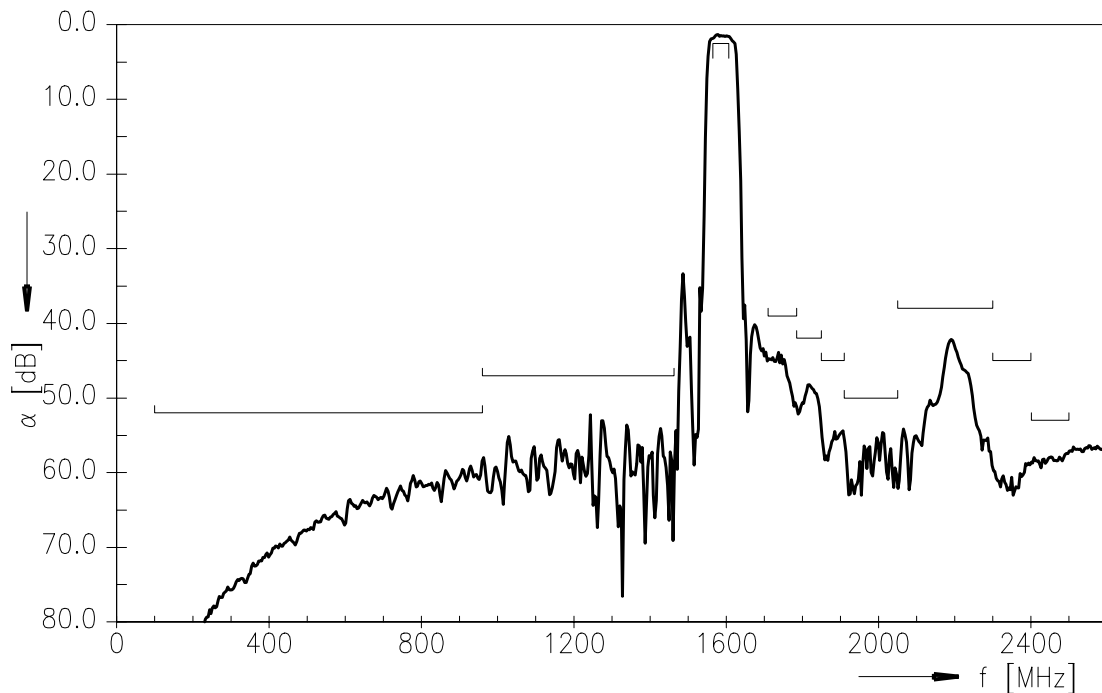
1) acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



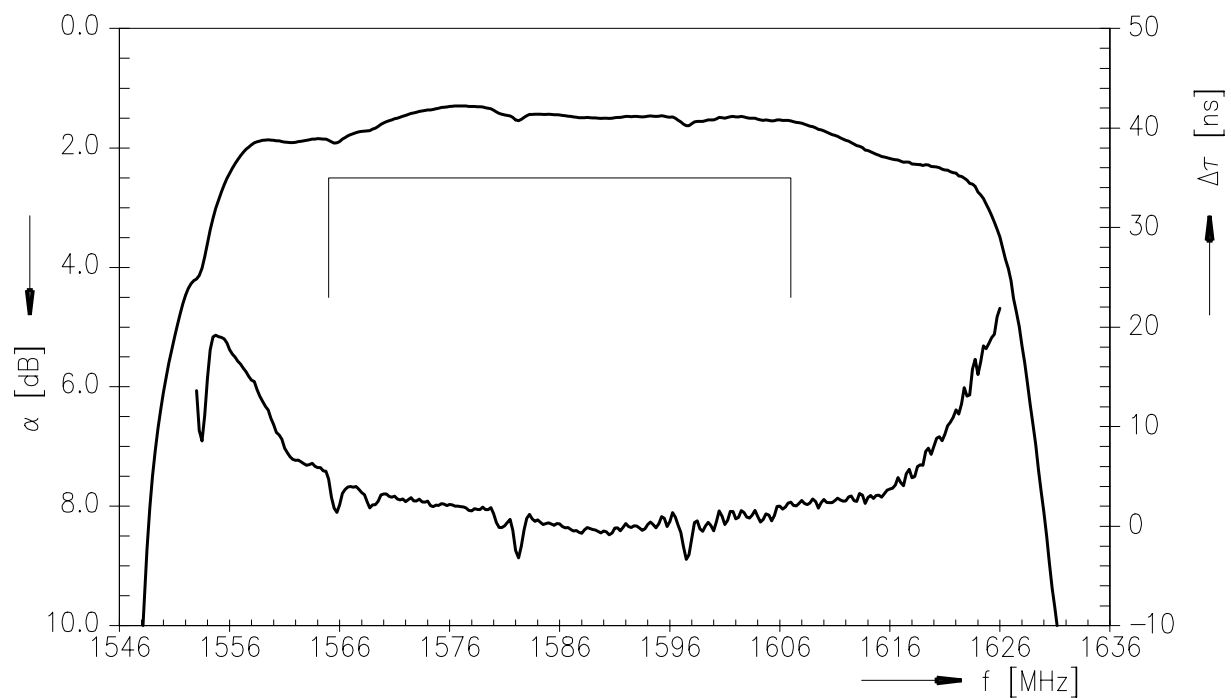
Transfer function



Transfer function (wideband)



Group delay time




**References**

<b>Type</b>	B3517
<b>Ordering code</b>	B39162-B3517-U510
<b>Marking and package</b>	C61157-A7-A68
<b>Packaging</b>	F61074-V8228-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B3517_NB.s3p, B3517_WB.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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