



## **SAW Components**

### **SAW filter**

Satellite radio

<b>Series/type:</b>	<b>B1647</b>
<b>Ordering code:</b>	<b>B39152-B1647-U510</b>
<b>Date:</b>	<b>May 11, 2010</b>
<b>Version:</b>	<b>2.0</b>



SAW Components

B1647

SAW filter

1472.00 MHz

Datasheet

**SMD**

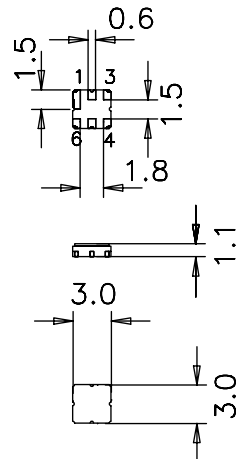
### Application

- Low-loss RF filter for satellite radio
- Impedance transformation from 50  $\Omega$  to 100  $\Omega$
- Unbalanced to balanced operation
- Usable passband 40 MHz



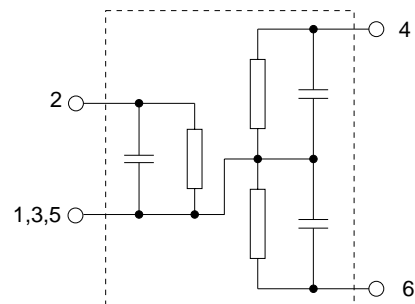
### Features

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Package code DCC6D
- Maximum package height of 1.225 mm
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- AEC-Q200 qualified component family
- **Electrostatic Sensitive Device (ESD)**



### Pin configuration

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



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



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**Characteristics**

Temperature range for specification: T = -10 °C to +70 °C  
 Terminating source impedance: Z<sub>S</sub> = 50 Ω  
 Terminating load impedance: Z<sub>L</sub> = 100 Ω (balanced)

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	f <sub>N</sub>	—	1472.00	—	MHz
<b>Maximum insertion attenuation</b>	α <sub>max</sub>	—	3.0	3.5	dB
1452.0 ... 1492.0 MHz					
<b>Amplitude ripple (p-p)</b>	Δα	—	0.7	1.8	dB
1452.0 ... 1492.0 MHz					
<b>Input return loss</b>		10	13	—	dB
<b>Output return loss</b>		9	12	—	dB
<b>Attenuation</b>	α				
880.0 ... 915.0 MHz		47	51	—	dB
1410.0 MHz		30	38	—	dB
1530.0 ... 1570.0 MHz		30	36	—	dB
1575.0 MHz		34	38	—	dB
1710.0 ... 1785.0 MHz		34	38	—	dB
1920.0 ... 1980.0 MHz		34	38	—	dB
2400.0 ... 2500.0 MHz		30	34	—	dB
<b>Group delay ripple (p-p)</b>		—	12	25	ns
1452.0 ... 1492.0 MHz					



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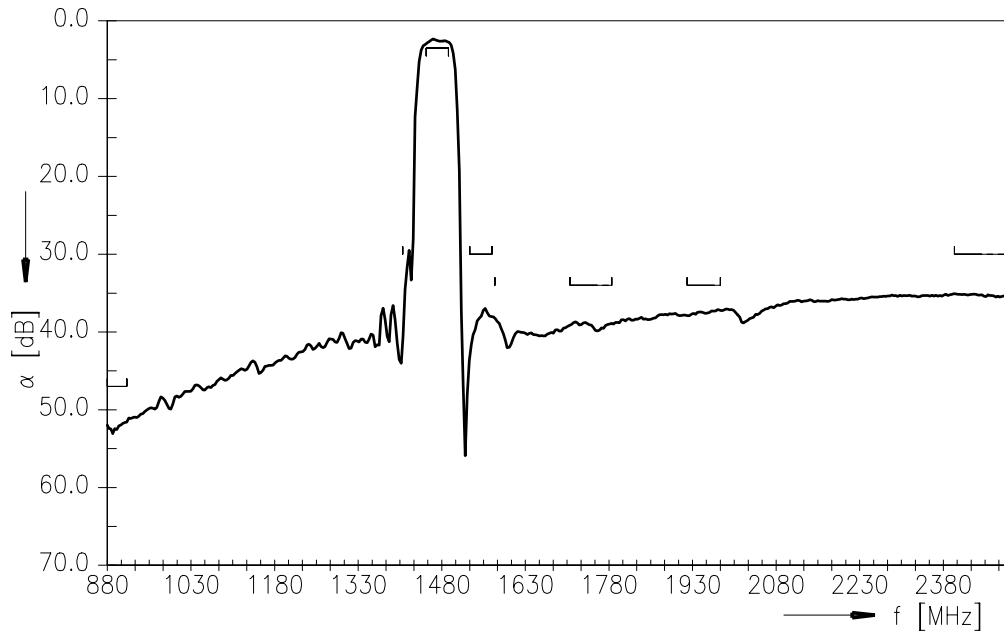
### Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	4	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input power at 1452 MHz ... 1492 MHz	P <sub>IN</sub>	0	dBm	source impedance 50 Ω

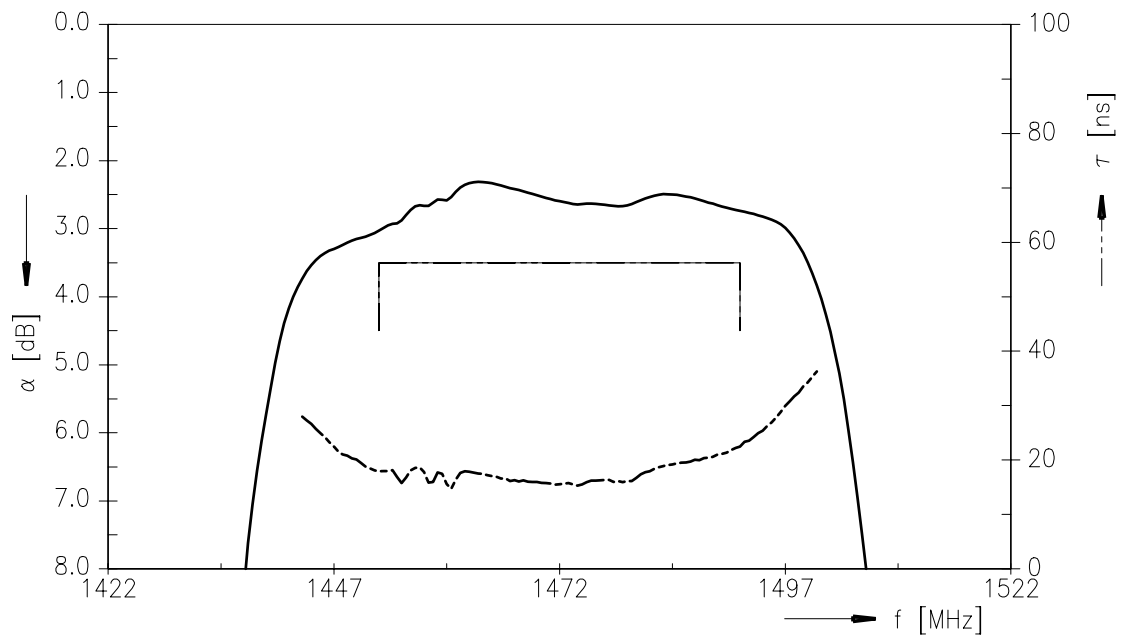
<sup>1)</sup> acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function (wideband)



Transfer function (narrowband)





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## References

<b>Type</b>	B1647
<b>Ordering code</b>	B39152-B1647-U510
<b>Marking and package</b>	C61157-A7-A68
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B1647_NB.s3p B1647_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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**Published by EPCOS AG**  
**Surface Acoustic Wave Components Division**  
**P.O. Box 80 17 09, 81617 Munich, GERMANY**

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