



## **SAW Components**

**SAW RF low loss filter**

SCR

<b>Series/type:</b>	<b>B1639</b>
<b>Ordering code:</b>	<b>B39202B1639U510</b>
<b>Date:</b>	<b>November 21, 2008</b>
<b>Version:</b>	<b>2.0</b>



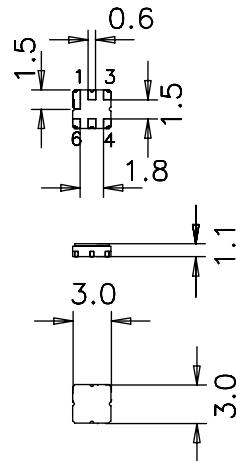
**Application**

- Low loss RF filter for satellite channel router
- Usable passband 40.5 MHz
- High rejection
- 200 Ω balanced to 75 Ω unbalanced operation



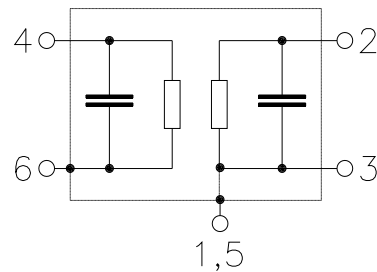
**Features**

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



**Pin configuration**

- 4 Input
- 6 Input
- 2 Output
- 1, 3, 5 Case ground




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**1980.0 MHz**
**Data Sheet**

**Characteristics**

Temperature range for specification:

$T = +25\text{ °C} \pm 2\text{ °C}$

Terminating source impedance:

$Z_S = 200\ \Omega \text{ and matching network}$

Terminating load impedance:

$Z_L = 75\ \Omega$

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	$f_N$	—	1980.0	—	MHz
<b>Insertion attenuation</b> at 1980.0 MHz	$\alpha_0$	—	2.9	3.2	dB
<b>Pass bandwidth</b> $\alpha_{rel} \leq 1.0\text{ dB}$	$B_{1\text{ dB}}$	—	67.4	—	MHz
<b>Amplitude ripple (p-p)</b> 1956.3 ... 2003.6 MHz	$\Delta\alpha$	—	0.6	1.0	dB
<b>Group delay ripple (p-p)</b> 1961.6 ... 1998.3 MHz	$\Delta\tau$	—	5.0	10.0	ns
<b>Relative attenuation (relative to <math>\alpha_0</math>)</b>	$\alpha_{rel}$				
0.3 ... 862.0 MHz		60.0	65.0	—	dB
862.0 ... 1771.3 MHz		45.0	50.0	—	dB
1771.3 ... 1887.4 MHz		33.0	45.0	—	dB
2072.1 ... 2140.0 MHz		33.0	37.0	—	dB
2140.0 ... 2500.0 MHz		40.0	46.0	—	dB
2500.0 ... 3500.0 MHz		30.0	38.0	—	dB
<b>Common Mode Rejection Ratio (CMRR)</b> 1956.3 ... 2003.6 MHz		20.0	33.0	—	dB
<b>Input VSWR</b> 1956.3 ... 2003.6 MHz		—	1.8	2.1	
<b>Output VSWR</b> 1956.3 ... 2003.6 MHz		—	2.0	2.1	



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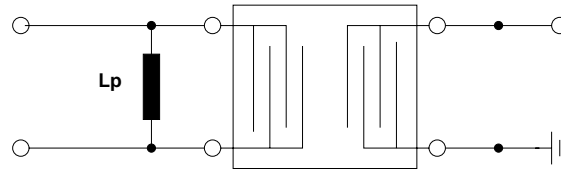
1980.0 MHz

Data Sheet



Matching network (element value depends on PCB layout)

$L_p = 12 \text{ nH}$



### Maximum ratings

Operable temperature range	T	-30/+80	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input power at 1956.3... 2003.6 MHz	P <sub>IN</sub>	0	dBm	source impedance 200 Ω

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



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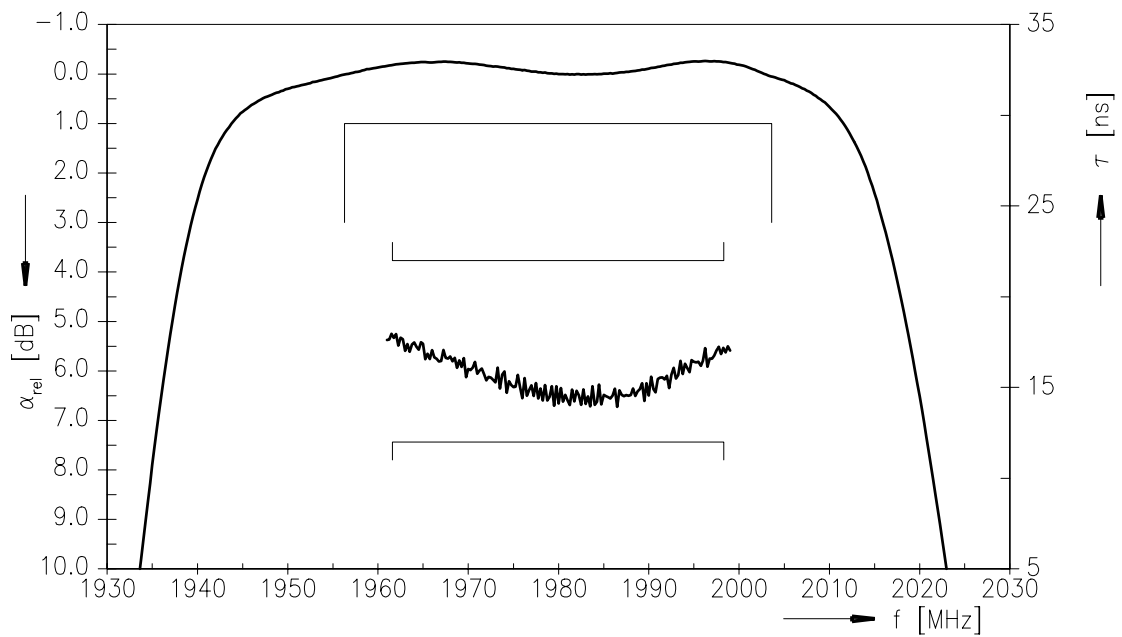
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Transfer function  $S_{21}$  with matching network



Transfer function  $S_{21}$ (passband) with matching network



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



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1980.0 MHz

Data Sheet



## References

Type	B1639
Ordering code	B39202B1639U510
Marking and package	C61157-A7-A68
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	LI21A_NB_UN.s3p
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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