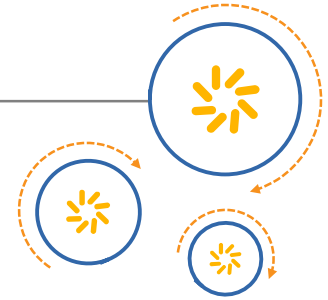




**THE DATASHEET OF  
B39132B1642U810**





RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

## SAW Components

### SAW RF low loss filter

Cable modem

Series/type:	B1642
Ordering code:	B39132-B1642-U810
Date:	June 25, 2008
Version:	2.2

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# SAW Components

## SAW RF low loss filter

Cable modem

<b>Series/type:</b>	<b>B1642</b>
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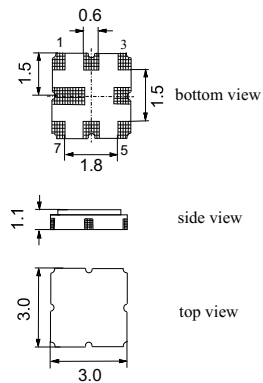
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**Application**

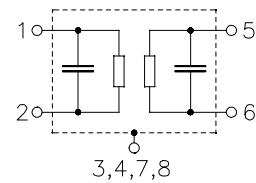
- Low-loss RF filter for cable modem
- Balanced to balanced operation
- Low insertion attenuation
- Low amplitude ripple
- Low group delay ripple
- Usable passband 96.0 MHz


**Features**

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Maximum height of 1.225 mm
- Package code QCC8D
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**


**Pin configuration**

- 1 Input
- 2 Input
- 5 Output
- 6 Output
- 3,7 To be grounded
- 4,8 Case ground, to be grounded

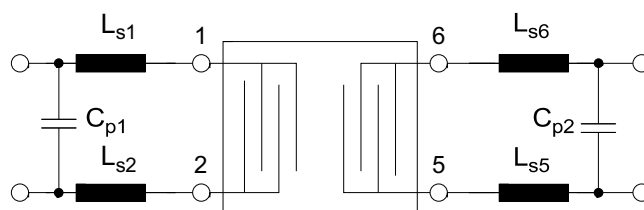


**Data Sheet**

**Characteristics**

Temperature range for specification:	T = 0 °C to +70 °C
Terminating source impedance:	Z <sub>Sd</sub> = 180 Ω (differential) Z <sub>Sc</sub> = 45 Ω (common) and matching network
Terminating load impedance:	Z <sub>Ld</sub> = 180 Ω (differential) Z <sub>Lc</sub> = 45 Ω (common) and matching network

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	f <sub>N</sub>	—	1250.0	—	MHz
<b>Maximum insertion attenuation</b>	α <sub>max</sub>	—	7.4	8.0	dB
1202.0 ... 1298.0 MHz					
<b>Amplitude ripple (p-p)</b>	Δα	—	1.0	1.5	dB
1202.0 ... 1298.0 MHz					
<b>Amplitude ripple in any 6MHz band(p-p)</b>	Δα	—	0.6	1.0	dB
1202.0 ... 1298.0 MHz					
<b>Amplitude ripple in any 8MHz band(p-p)</b>	Δα	—	0.7	1.1	dB
1202.0 ... 1298.0 MHz					
<b>Group delay ripple (p-p)</b>	Δτ	—	28.0	40.0	ns
1202.0 ... 1298.0 MHz					
<b>Group delay ripple in any 8MHz band (p-p)</b>	Δτ	—	13.0	25.0	ns
1202.0 ... 1298.0 MHz					
<b>Attenuation</b>	α				
54.0 ... 1052.0 MHz		50	58	—	dB
1052.0 ... 1152.0 MHz		48	55	—	dB
1152.0 ... 1170.0 MHz		38	50	—	dB
1450.0 ... 2429.6 MHz		40	47	—	dB
2429.6 ... 6000.0 MHz		65	70	—	dB

**Matching network** (element values depend on PCB layout)


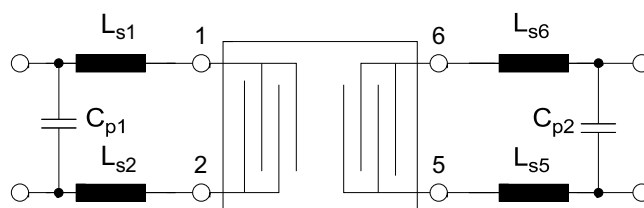
L<sub>s1</sub> = 10.0 nH  
 L<sub>s2</sub> = 11.0 nH  
 C<sub>p1</sub> = 1.6 pF  
 L<sub>s5</sub> = 9.1 nH  
 L<sub>s6</sub> = 10.0 nH  
 C<sub>p2</sub> = 1.1 pF

**Data Sheet**

**Characteristics**

Temperature range for specification:	T = -40 °C to +85 °C
Terminating source impedance:	Z <sub>Sd</sub> = 180 Ω (differential) Z <sub>Sc</sub> = 45 Ω (common) and matching network
Terminating load impedance:	Z <sub>Ld</sub> = 180 Ω (differential) Z <sub>Lc</sub> = 45 Ω (common) and matching network

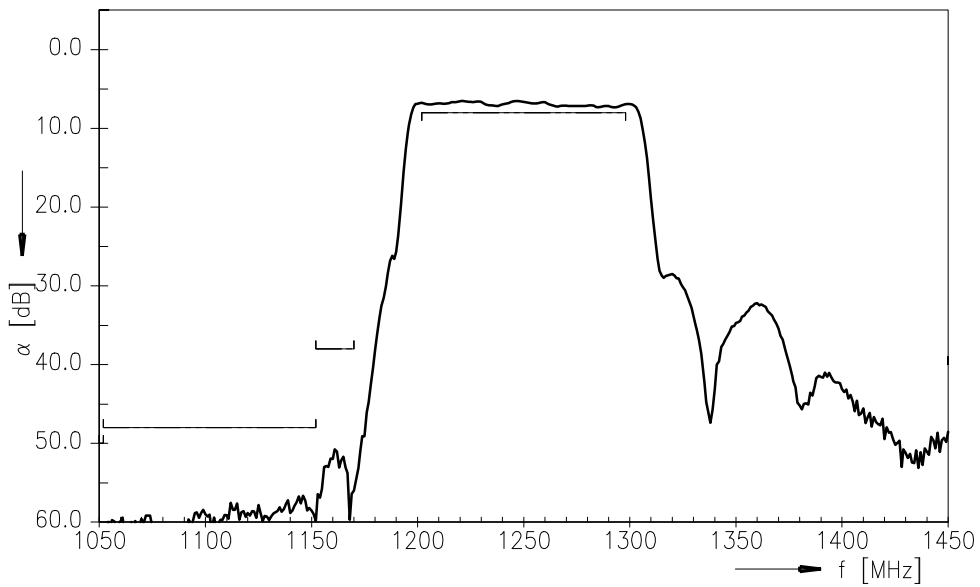
		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	f <sub>N</sub>	—	1250.0	—	MHz
<b>Maximum insertion attenuation</b>	α <sub>max</sub>	—	7.4	8.6	dB
1202.0 ... 1298.0 MHz					
<b>Amplitude ripple (p-p)</b>	Δα	—	1.0	2.2	dB
1202.0 ... 1298.0 MHz					
<b>Amplitude ripple in any 6MHz band(p-p)</b>	Δα	—	0.6	1.5	dB
1202.0 ... 1298.0 MHz					
<b>Amplitude ripple in any 8MHz band(p-p)</b>	Δα	—	0.7	1.7	dB
1202.0 ... 1298.0 MHz					
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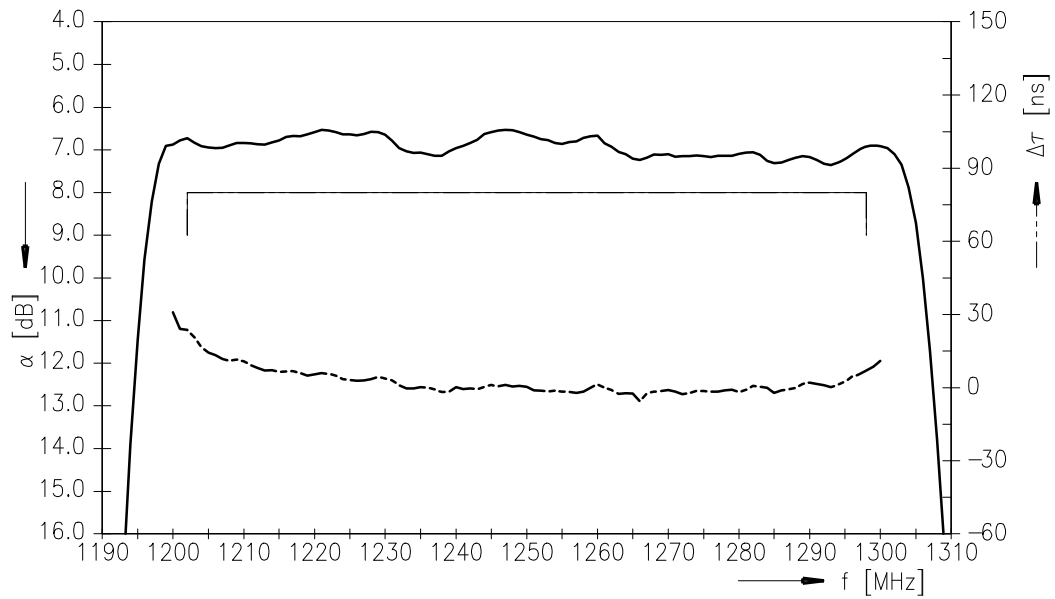
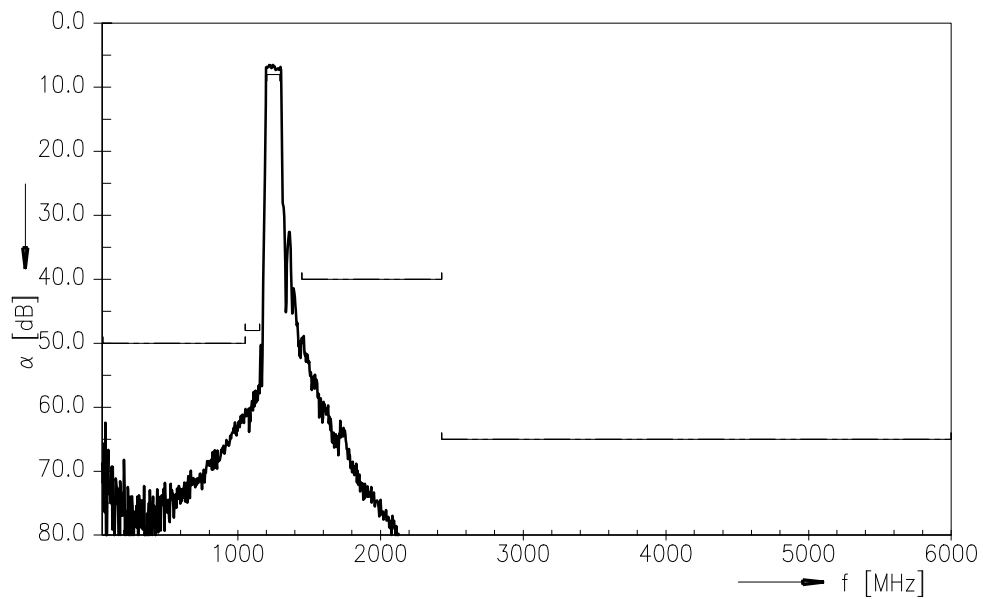
**Matching network** (element values depend on PCB layout)


L<sub>s1</sub> = 10.0 nH  
 L<sub>s2</sub> = 11.0 nH  
 C<sub>p1</sub> = 1.6 pF  
 L<sub>s5</sub> = 9.1 nH  
 L<sub>s6</sub> = 10.0 nH  
 C<sub>p2</sub> = 1.1 pF


**Maximum ratings**

Operable temperature range	T	-40/+85	°C	
Storage temperature range	Tstg	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
Source power	P <sub>S</sub>	0	dBm	source impedance 180 Ω

**Transfer function S<sub>dd21</sub>**



**Transfer function  $S_{dd21}$  (passband)**

**Transfer function  $S_{dd21}$  (wideband)**


**References**

<b>Type</b>	B1642
<b>Ordering code</b>	B39132-B1642-U810
<b>Marking and package</b>	C61157-A7-A72
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B1642_NB_UN.s4p B1642_WB_UN.s4p
<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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