



## **SAW Components**

### **SAW RF low loss filter**

Satellite CSS

<b>Series/type:</b>	<b>B1625</b>
<b>Ordering code:</b>	<b>B39172B1625U810</b>
<b>Date:</b>	<b>July 01, 2008</b>
<b>Version:</b>	<b>2.3</b>



Data Sheet



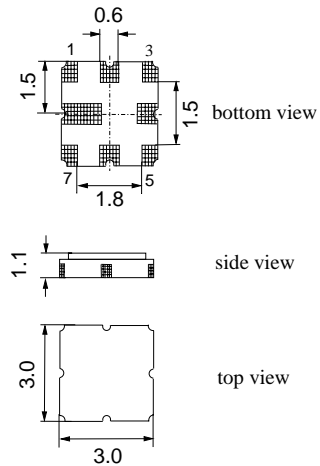
Application

- Low loss RF filter for satellite CSS
- Usable passband 40.0 MHz
- Low insertion attenuation
- Low amplitude ripple
- Low group delay ripple
- Balanced to balanced operation
- No matching network required for operation at 150 Ω



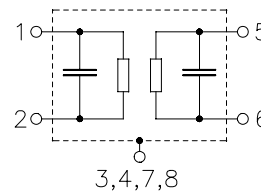
Features

- 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




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**1688.42 MHz**
**Data Sheet**

**Characteristics**

Temperature range for specification:  $T = -40\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 150\ \Omega$   
 Terminating load impedance:  $Z_L = 150\ \Omega$

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	$f_N$	—	1688.42	—	MHz
<b>Maximum insertion attenuation</b> 1668.42 ... 1708.42 MHz	$\alpha_{\max}$	—	4.6	5.5	dB
<b>Pass bandwidth</b> $\alpha_{\text{rel}} \leq 1.5\text{ dB}$	$B_{1.5\text{ dB}}$	—	63.8	—	MHz
<b>Amplitude ripple (p-p)</b> 1668.42 ... 1708.42 MHz	$\Delta\alpha$	—	2.2	2.6	dB
<b>Group delay ripple (p-p)</b> 1668.42 ... 1708.42 MHz	$\Delta\tau$	—	10.0	20.0	ns
<b>Differential to common mode ratio</b> ( $ S_{dd21}/S_{cd21} $ ) 1668.42 ... 1708.42 MHz		9	11	—	dB
<b>Deviation from linear phase (rms)</b> in any 30 MHz band 1668.42 ... 1708.42 MHz		—	3.5	5.5	°
<b>Relative attenuation (relative to <math>\alpha_{\max}</math>)</b>	$\alpha$				
50.00 ... 1606.36 MHz		45.0	47.0	—	dB
1770.48 ... 1800.00 MHz		38.0	43.0	—	dB
1800.00 ... 2000.00 MHz		46.0	51.0	—	dB
2000.00 ... 6000.00 MHz		15.0	—	—	dB



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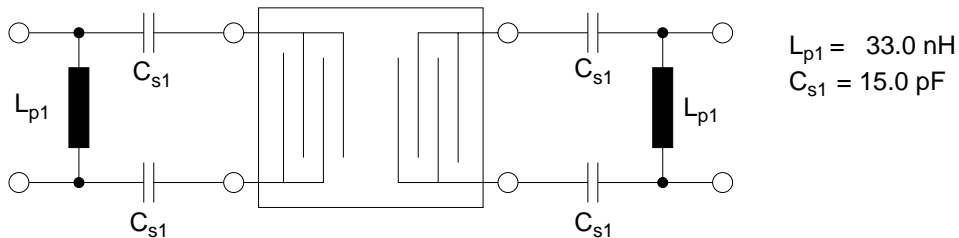


**Characteristics**

Temperature range for specification:  $T = -40\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 150\ \Omega$  and matching network  
 Terminating load impedance:  $Z_L = 150\ \Omega$  and matching network

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	$f_N$	—	1688.42	—	MHz
<b>Maximum insertion attenuation</b> 1668.42 ... 1708.42 MHz	$\alpha_{max}$	—	3.8	5.5	dB
<b>Pass bandwidth</b> $\alpha_{rel} \leq 1.5\text{dB}$	$B_{1.5\text{dB}}$	—	50.0	—	MHz
<b>Amplitude ripple (p-p)</b> 1668.42 ... 1708.42 MHz	$\Delta\alpha$	—	1.3	1.8	dB
<b>Group delay ripple (p-p)</b> 1668.42 ... 1708.42 MHz	$\Delta\tau$	—	8.0	20.0	ns
<b>Deviation from linear phase (rms)</b> in any 30MHz band 1668.42 ... 1708.42 MHz	$\Delta\tau$	—	1.5	5.5	
<b>Relative attenuation (relative to <math>\alpha_{max}</math>)</b> 50.0 ... 1606.36 MHz	$\alpha$	45.0	50.0	—	dB
1770.48 ... 1800.00 MHz		38.0	46.0	—	dB
1800.00 ... 2000.00 MHz		46.0	56.0	—	
2000.00 ... 6000.00 MHz		20.0	—	—	

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



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



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**1688.42 MHz**

Data Sheet



**Characteristics**

**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 150 Ω



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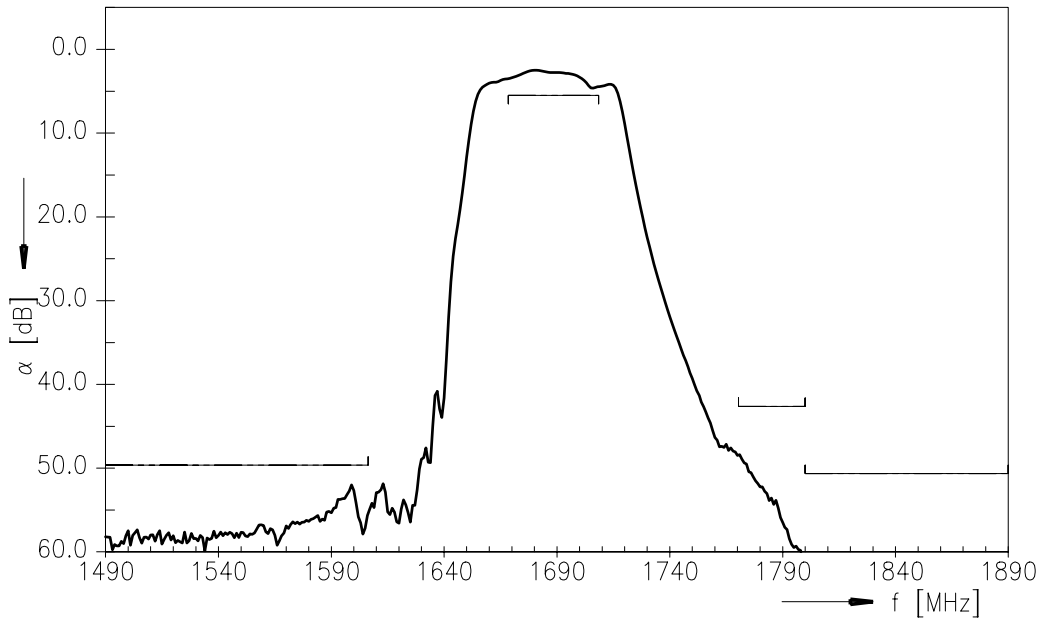
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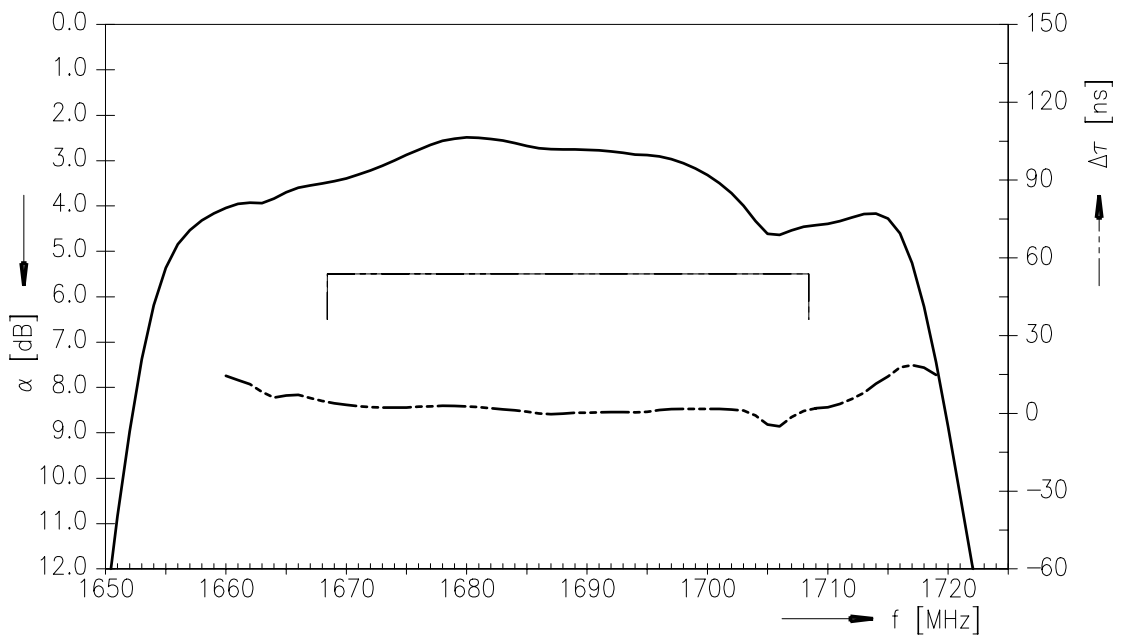
Data Sheet



Transfer function  $S_{21}$  without matching network



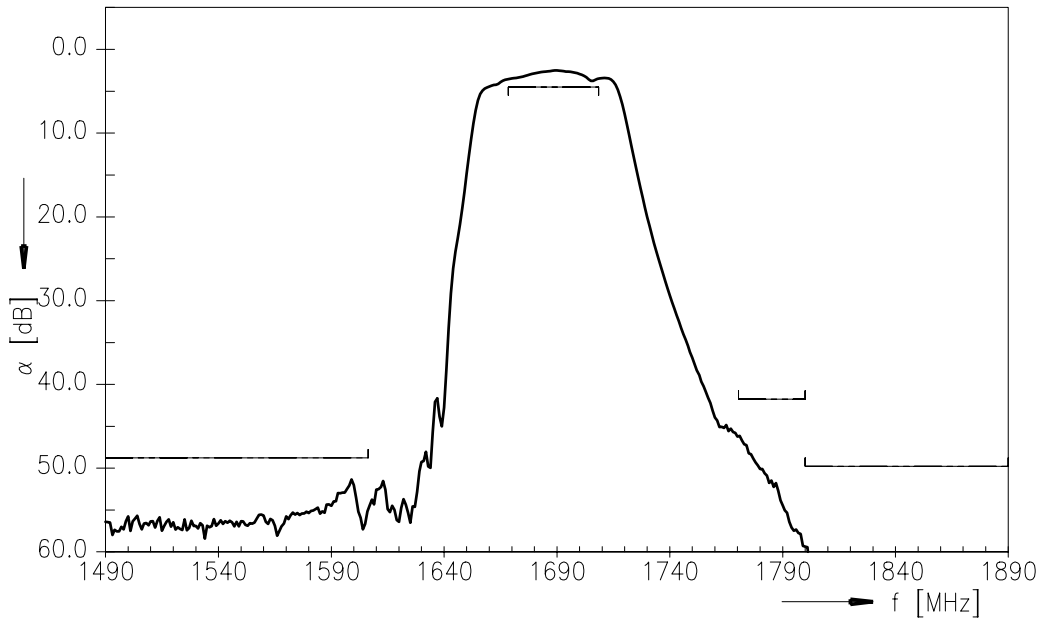
Transfer function  $S_{21}$  (passband) without matching network



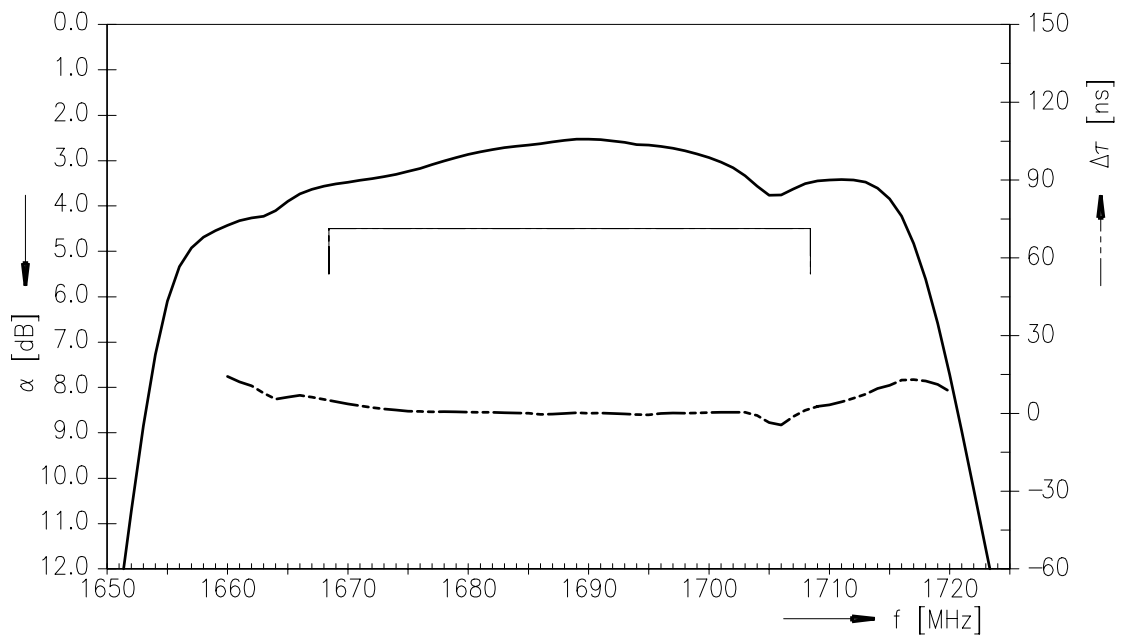
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Transfer function  $S_{21}$  (passband) with matching network



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





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## References

<b>Type</b>	B1625
<b>Ordering code</b>	B39172B1625U810
<b>Marking and package</b>	C61157-A7-A72
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B1625_NB.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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**Published by EPCOS AG  
Surface Acoustic Wave Components Division  
P.O. Box 80 17 09, 81617 Munich, GERMANY**

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