



## **SAW Components**

**SAW Tx filter**

AWS

<b>Series/type:</b>	<b>B9443</b>
<b>Ordering code:</b>	<b>B39172B9443M410</b>
<b>Date:</b>	<b>January 25, 2010</b>
<b>Version:</b>	<b>2.4</b>



Data sheet



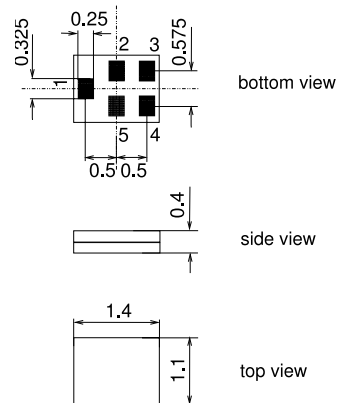
### Application

- Low-loss RF filter for AWS systems, transmit path
- Usable passband: 45MHz
- Unbalanced to unbalanced operation
- No matching network required for operation at 50 Ω



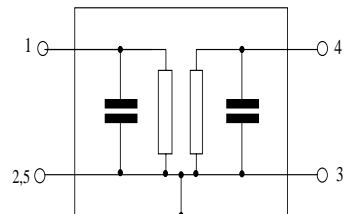
### Features

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- Package code QCS51
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



### Pin configuration

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





Data sheet



**Characteristics**

Temperature range for specification: T = -20 °C to +75 °C  
 Terminating source impedance: Z<sub>S</sub> = 50 Ω  
 Terminating load impedance: Z<sub>L</sub> = 50 Ω

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	f <sub>C</sub>	—	1732.50	—	MHz
<b>Maximum insertion attenuation</b>	α <sub>max</sub>	—	2.6	3.1 <sup>1)</sup>	dB CTQ
1710.0 ... 1755.0 MHz					
<b>Amplitude ripple (p-p)</b>	Δα	—	1.6	2.1 <sup>2)</sup>	dB
1710.0 ... 1755.0 MHz					
<b>Input VSWR</b>		—	2.3	2.6	
1710.0 ... 1755.0 MHz					
<b>Output VSWR</b>		—	2.3	2.6	
1710.0 ... 1755.0 MHz					
<b>Attenuation</b>	α				
0.0 ... 1670.0 MHz		25	29	—	dB
1670.0 ... 1680.0 MHz		20	28	—	dB
1805.0 ... 1810.0 MHz		10	31	—	dB
1810.0 ... 1820.0 MHz		22	26	—	dB
1820.0 ... 1840.0 MHz		22	26	—	dB
1840.0 ... 1860.0 MHz		22	26	—	dB
1860.0 ... 1880.0 MHz		25	31	—	dB
1880.0 ... 3500.0 MHz		25	29	—	dB
3500.0 ... 6000.0 MHz		20	31	—	dB

1) 2.8dB max. at 25°C.  
 2) 1.8dB max. at 25°C.



Data sheet



**Characteristics**

Temperature range for specification:  $T = -30\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$	—	1732.50	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2.6	3.6 <sup>1)</sup>	dB CTQ
1710.0 ... 1755.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1.6	2.6 <sup>2)</sup>	dB
1710.0 ... 1755.0 MHz					
<b>Input VSWR</b>		—	2.3	2.7	
1710.0 ... 1755.0 MHz					
<b>Output VSWR</b>		—	2.3	2.7	
1710.0 ... 1755.0 MHz					
<b>Attenuation</b>	$\alpha$				
0.0 ... 1670.0 MHz		25	29	—	dB
1670.0 ... 1680.0 MHz		15	28	—	dB
1805.0 ... 1810.0 MHz		10	31	—	dB
1810.0 ... 1820.0 MHz		22	26	—	dB
1820.0 ... 1840.0 MHz		22	26	—	dB
1840.0 ... 1860.0 MHz		22	26	—	dB
1860.0 ... 1880.0 MHz		25	31	—	dB
1880.0 ... 3500.0 MHz		25	29	—	dB
3500.0 ... 6000.0 MHz		20	31	—	dB

1) 2.8dB max. at 25°C.

2) 1.8dB max. at 25°C.



SAW Components

B9443

SAW Tx filter

1732.50 MHz

Data sheet



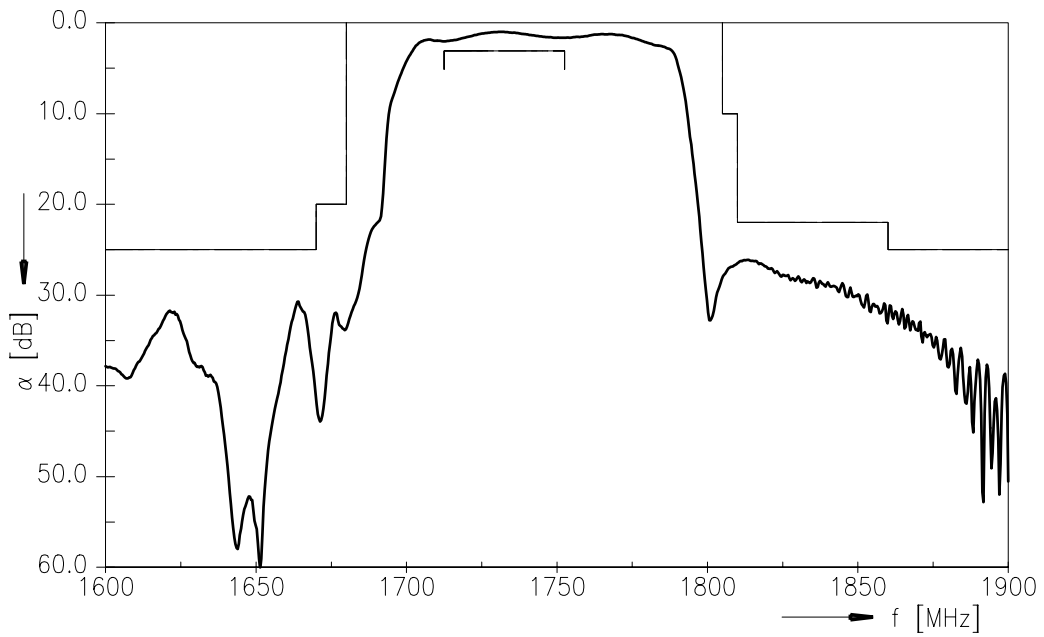
### Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input power at 1710 MHz ... 1755 MHz	P <sub>IN</sub>	10	dBm	continuous wave

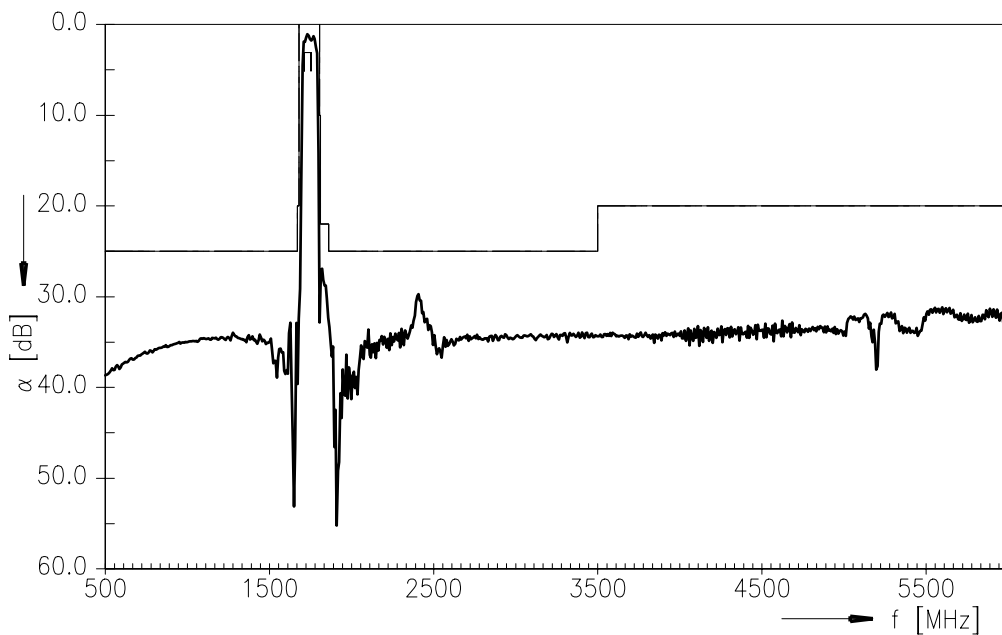
<sup>1)</sup> acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function



Transfer function (wideband)



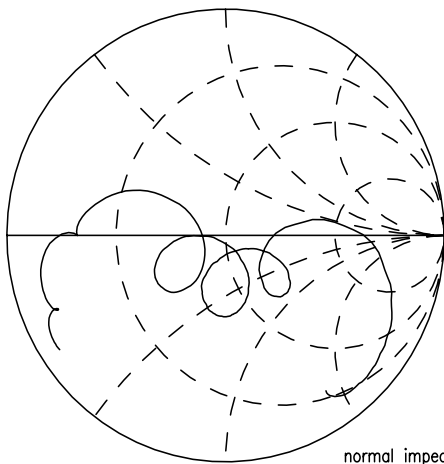


Data sheet

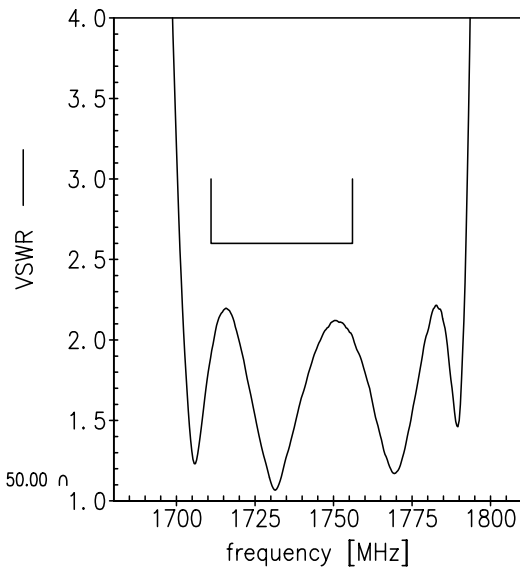


Smith chart

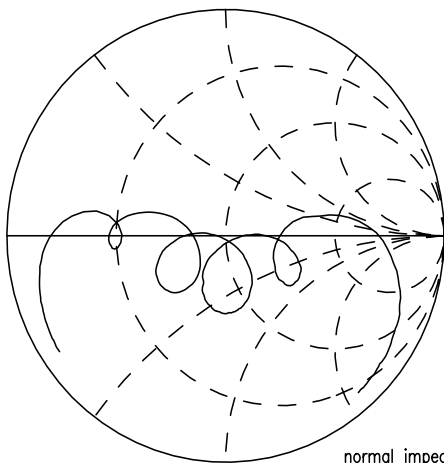
S<sub>11</sub> function



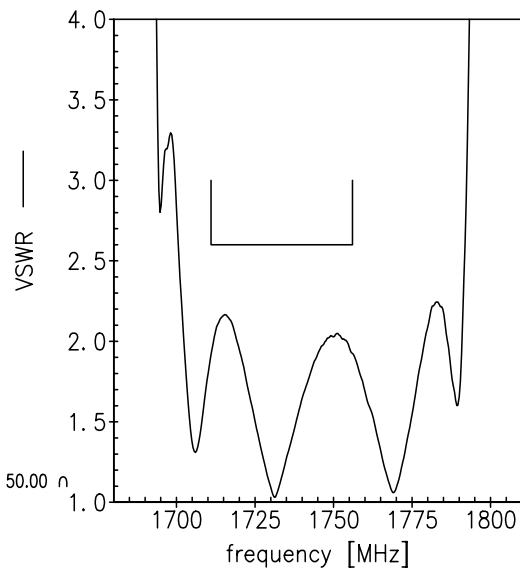
normal impedance: 50.00  $\Omega$



S<sub>22</sub> function



normal impedance: 50.00  $\Omega$





**SAW Components** **B9443**

**SAW Tx filter** **1732.50 MHz**

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## References

<b>Type</b>	B9443
<b>Ordering code</b>	B39172B9443M410
<b>Marking and package</b>	C61157-A8-A3
<b>Packaging</b>	F61074-V8212-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9443_NB.s2p B9443_WB.s2p
<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."
<b>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office

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