



SAW Components

SAW Tx filter

AWS

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



Data sheet



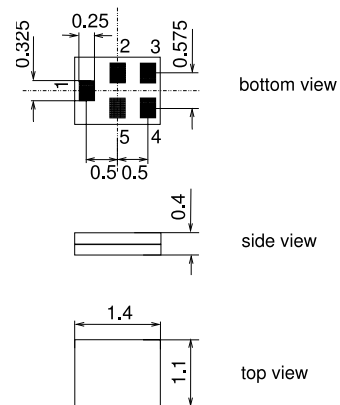
Application

- 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



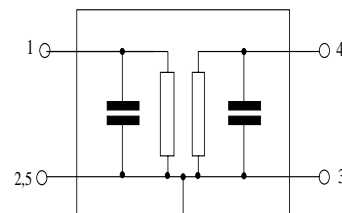
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- 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_S = 50 Ω
 Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 °C	max.	
Center frequency	f _C	—	1732.50	—	MHz
Maximum insertion attenuation	α _{max}	—	2.6	3.1 ¹⁾	dB CTQ
1710.0 ... 1755.0 MHz					
Amplitude ripple (p-p)	Δα	—	1.6	2.1 ²⁾	dB
1710.0 ... 1755.0 MHz					
Input VSWR		—	2.3	2.6	
1710.0 ... 1755.0 MHz					
Output VSWR		—	2.3	2.6	
1710.0 ... 1755.0 MHz					
Attenuation	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.	
Center frequency	f_C	—	1732.50	—	MHz
Maximum insertion attenuation	α_{max}	—	2.6	3.6 ¹⁾	dB CTQ
1710.0 ... 1755.0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1.6	2.6 ²⁾	dB
1710.0 ... 1755.0 MHz					
Input VSWR		—	2.3	2.7	
1710.0 ... 1755.0 MHz					
Output VSWR		—	2.3	2.7	
1710.0 ... 1755.0 MHz					
Attenuation	α				
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.



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1732.50 MHz

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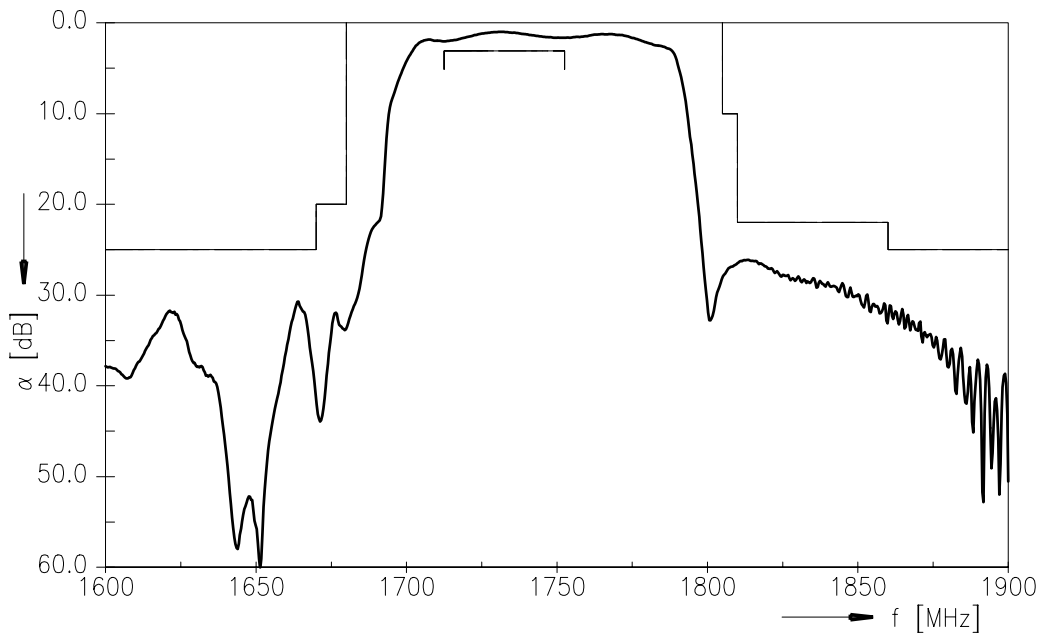
Maximum ratings

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

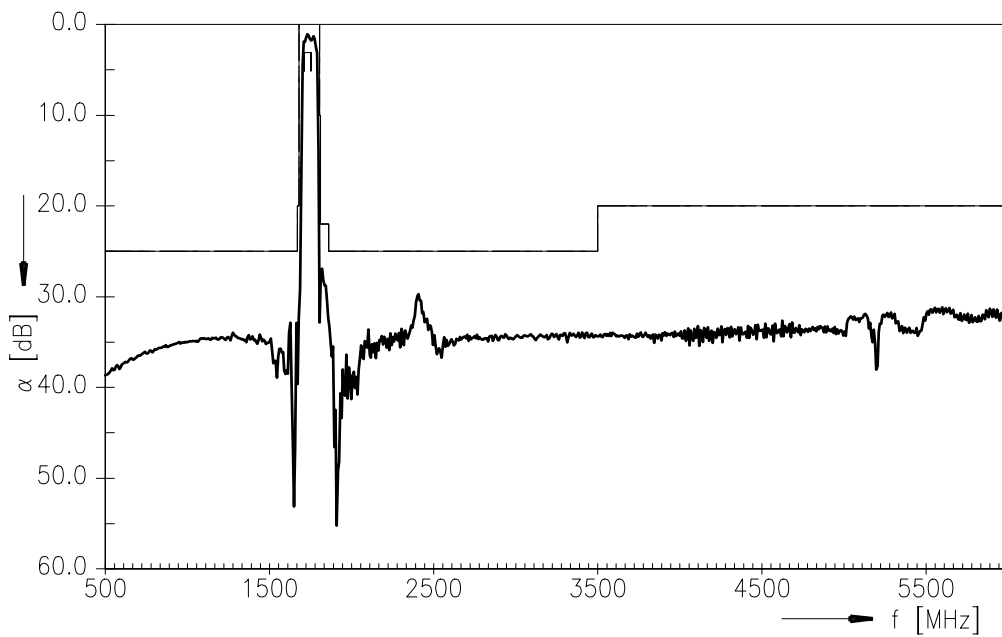
¹⁾ acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function



Transfer function (wideband)



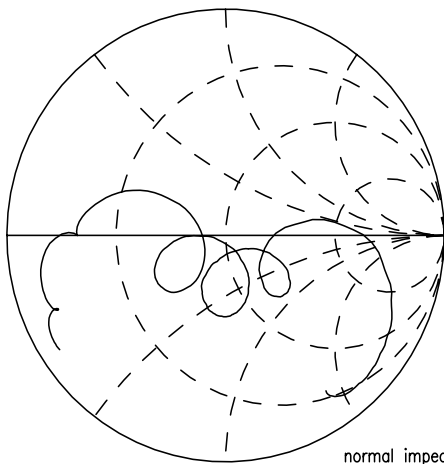


Data sheet

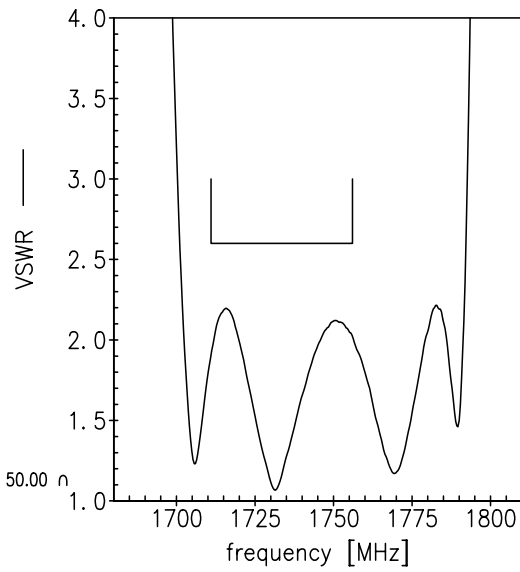


Smith chart

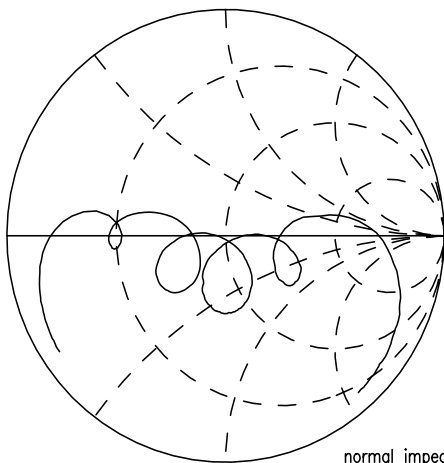
S₁₁ function



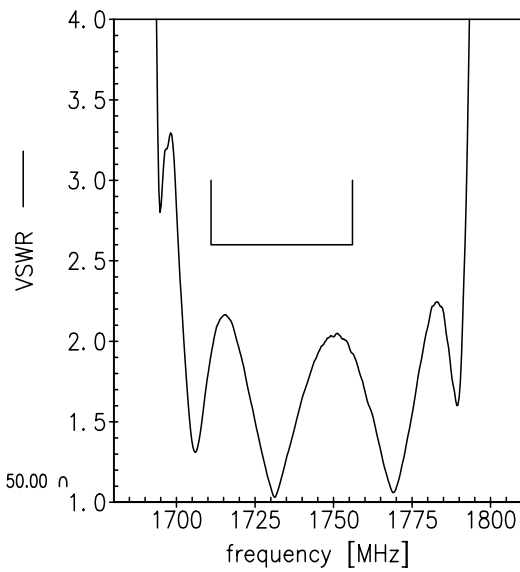
normal impedance: 50.00 Ω



S₂₂ function



normal impedance: 50.00 Ω





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1732.50 MHz

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References

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

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