



SAW Components

SAW Tx filter

AWS

Series/type:	B9443
Ordering code:	B39172B9443M410
Date:	November 06, 2013
Version:	2.5

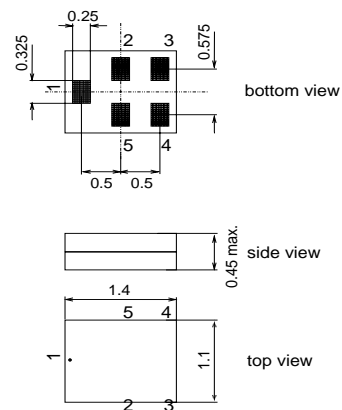
Data sheet


Application

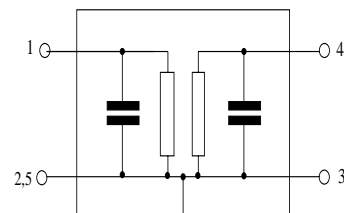
- Low-loss RF filter for AWS systems, transmit path
- Usable passband: 45MHz
- Unbalanced to unbalanced operation
- No matching network required for operation at 50 Ω


Features

- Package size 1.4 x1.1 mm²
- Maximum package height 0.45 mm
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 3**


Pin configuration

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



Data sheet


Characteristics

Temperature range for specification: $T = -20\text{ °C to }+75\text{ °C}$
 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	3.1 ¹⁾	dB CTQ
1710.0 ... 1755.0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	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.


Maximum ratings

Operable temperature range	T	-40/+85 ¹⁾	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	5 ²⁾	V	
ESD voltage	V _{ESD}	50 ³⁾	V	Machine Model
Input power at 1710 MHz ... 1755 MHz	P _{IN}	10	dBm	continuous wave

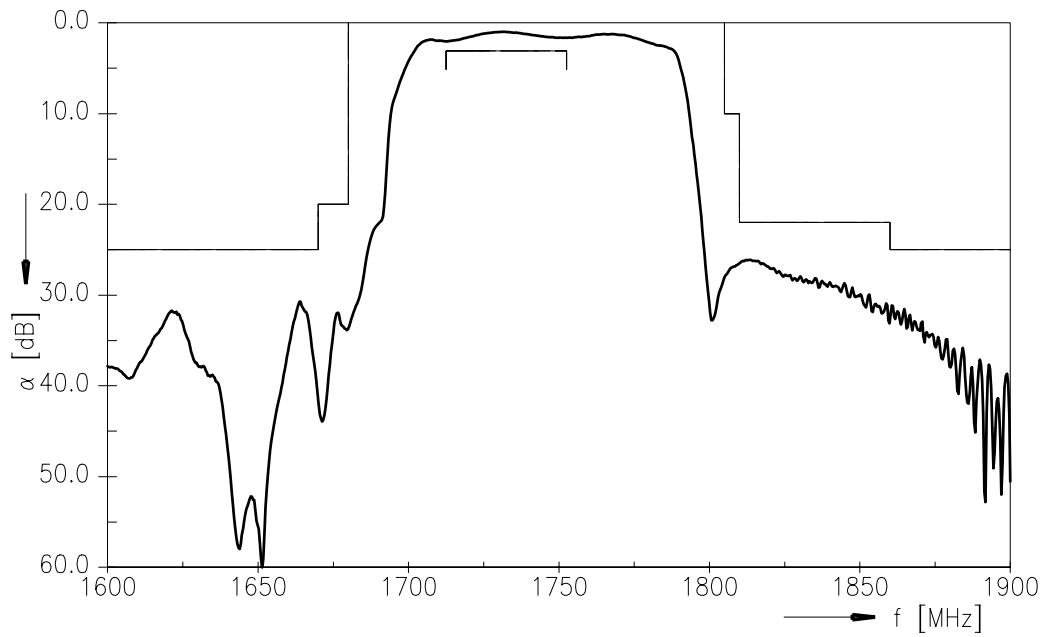
1) extended upperlimit:168@125°C acc. to IEC 60068-2-2 Bb

2) 168h Damp Heat Steady State acc. to IEC 60068-2-67 Cy

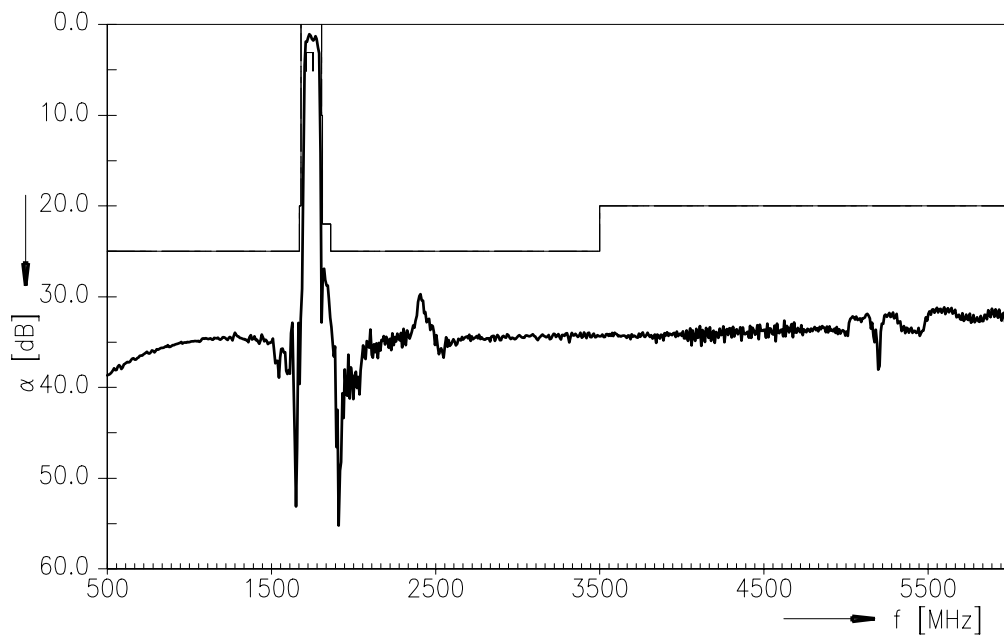
3) acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses.



Transfer function



Transfer function (wideband)

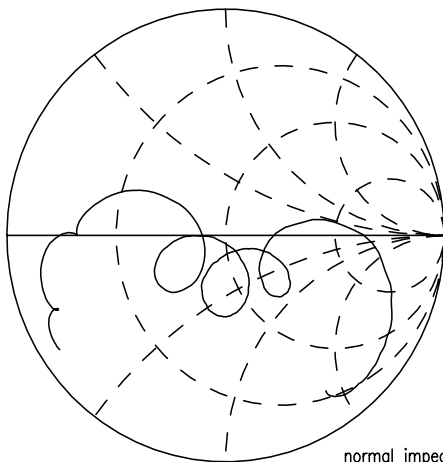


Data sheet

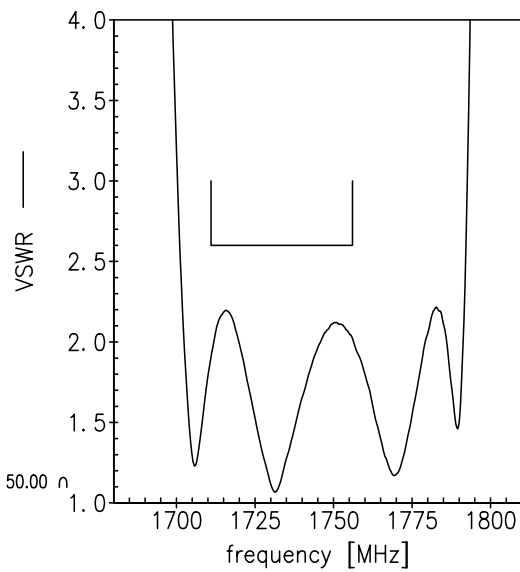


Smith chart

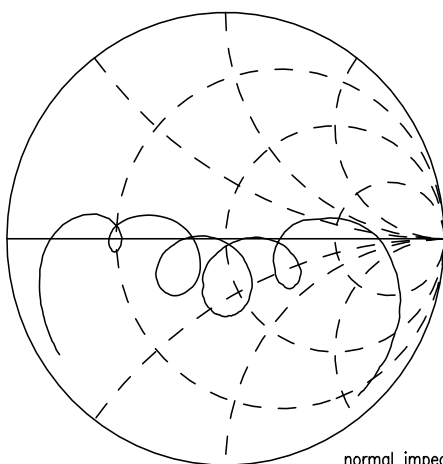
S_{11} function



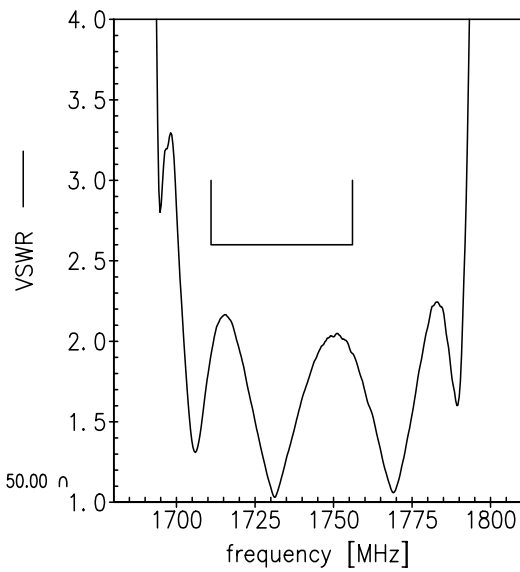
normal impedance: 50.00 Ω



S_{22} function



normal impedance: 50.00 Ω



SAW Components	B9443
SAW Tx filter	1732.50 MHz

Data sheet



References

Type	B9443
Ordering code	B39172B9443M410
Marking and package	C61157-A8-A3
Packaging	F61074-V8237-Z000
Date codes	L_1126
S-parameters	B9443_NB.s2p B9443_WB.s2p
Soldering profile	S_6001
RoHS compatible	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8 th , 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
Moldability	Before using in overmolding environment, please contact your EPCOS sales office
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm for a large variety of matching coils.

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Published by EPCOS AG
Systems, Acoustics, Waves Business Group
P.O. Box 80 17 09, 81617 Munich, GERMANY

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