SAW Components

SAW IF filter

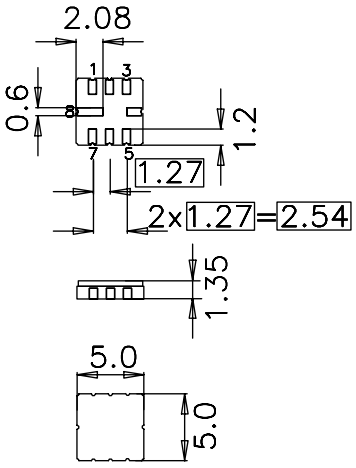
Series/type:	**B5105**
Ordering code:	**B39301B5105U310**
Date:	Nov 05, 2008
Version:	2.0

Application

- SAW Filter for Wi-Max Terminal and BTS
- Usable passband 11 MHz
- Low Loss
- Balanced operation

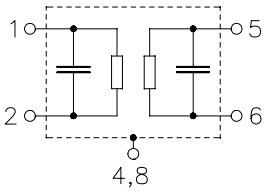
Features

- Package size 5.0 x 5.0 x 1.35 mm³
- Package code QCC8C
- RoHS compatible
- Approx. weight 0.1 g
- Ceramic package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- Filter surface passivated



Pin configuration

1, 2	Input
5, 6	Output
4, 8	Case Ground
3, 4, 7, 8	To be grounded



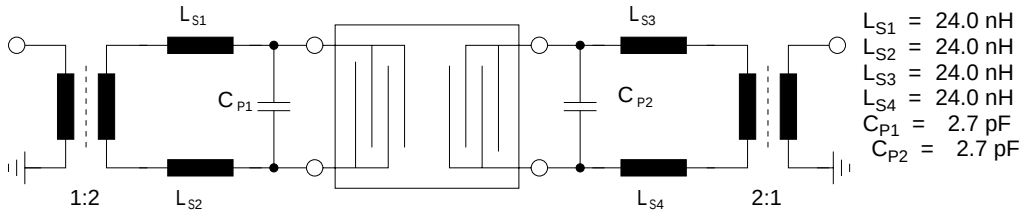
Data Sheet SMD

Characteristics

Operating temperature range: T = -40 to 85 °C
Terminating source impedance: Z_S = 100 Ω and matching network
Terminating load impedance: Z_L = 100 Ω and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	302.4	—	MHz
Maximum insertion attenuation (including matching network)	α_{max}	—	2.1	3.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
296.9 MHz ... 307.9 MHz		—	0.35	1.0	dB
Attenuation	α				
1.0 MHz ... 202.4 MHz		50	60	—	dB
202.4 MHz ... 252.2 MHz		30	60	—	dB
352.4 MHz ... 402.4 MHz		30	50	—	dB
402.4 MHz ... 450.0 MHz		45	55	—	dB
450.0 MHz ... 1500.0 MHz		40	60	—	dB
Input VSWR					
296.9 MHz ... 307.9 MHz		—	1.3 : 1	1.8 : 1	
Output VSWR					
296.9 MHz ... 307.9 MHz		—	1.3 : 1	1.8 : 1	
Temperature coefficient of frequency	TC_f	—	- 64	—	ppm/K

Matching network to 100 Ω



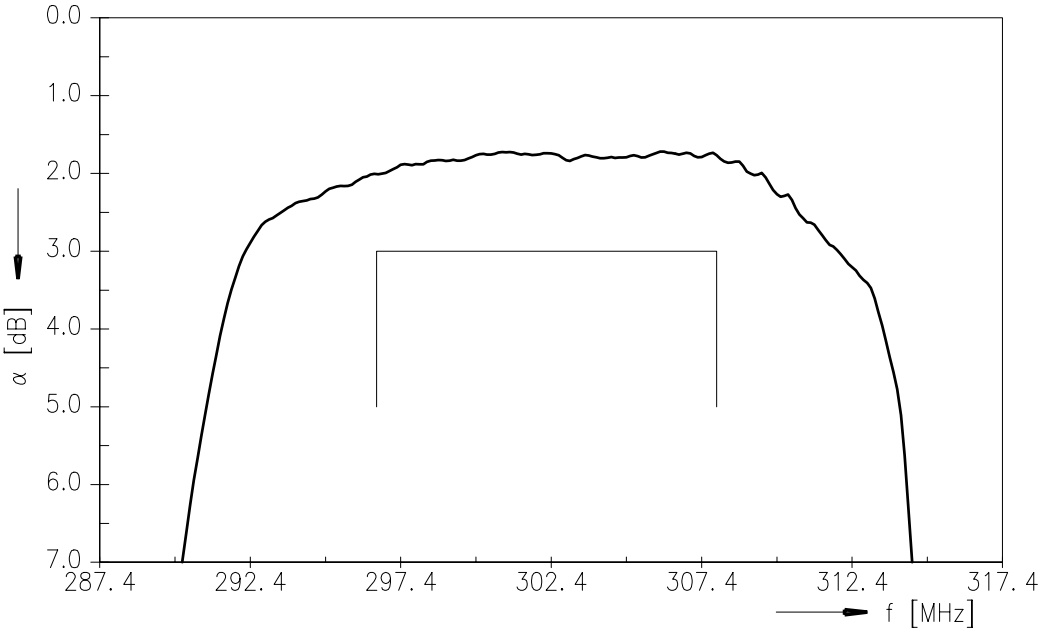
L_{S1} = 24.0 nH
L_{S2} = 24.0 nH
L_{S3} = 24.0 nH
L_{S4} = 24.0 nH
C_{P1} = 2.7 pF
C_{P2} = 2.7 pF

Element values depend upon board layout

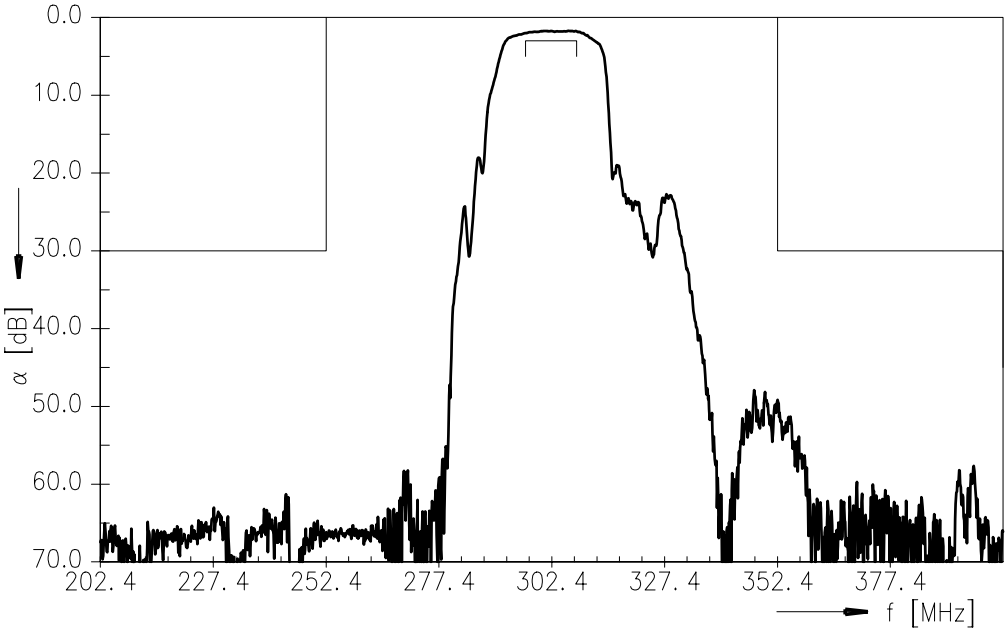
Maximum ratings

Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{sta}	–40/+85	˚C	
DC voltage	V_{DC}	0	V	
Input power	P_{IN}	5	dBm	

Transfer function

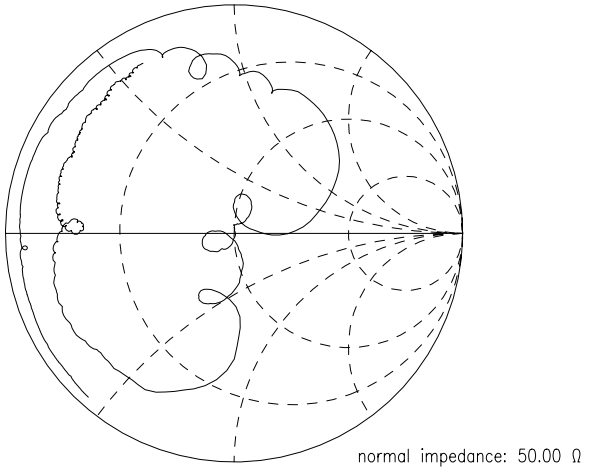


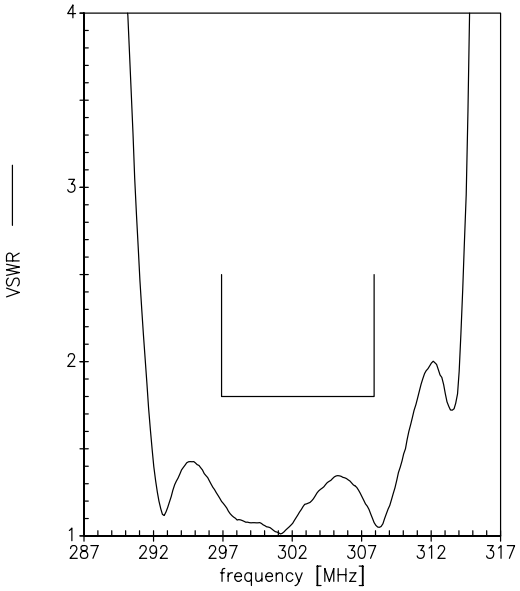
Transfer function (wideband)



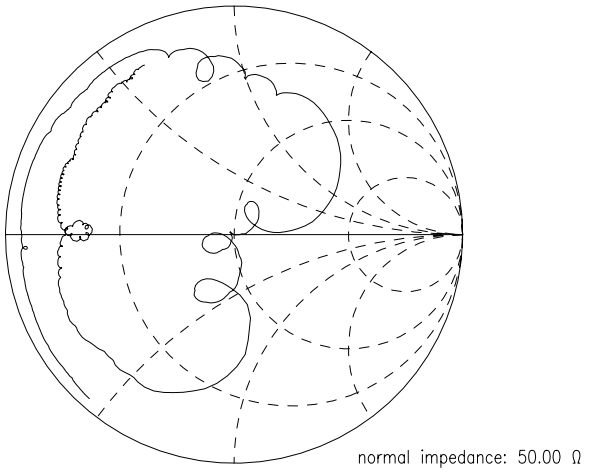
Smith charts

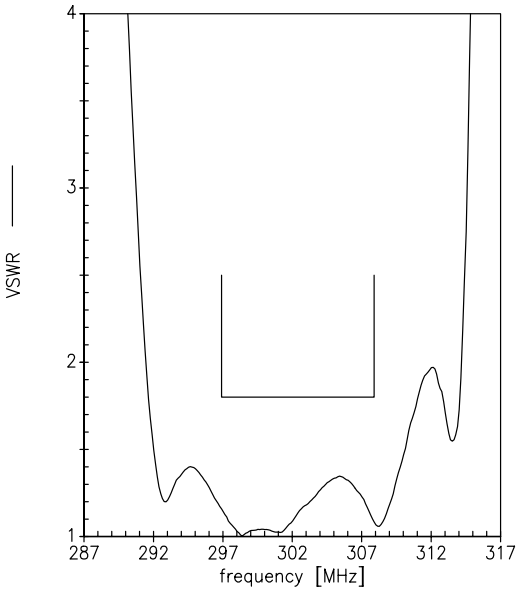
S_{11} function





S_{22} function





References

Type	B5105
Ordering code	B39301B5105U310
Marking and package	C61157-A7-A56
Packaging	F61074-V8169-Z000
Date codes	L_1126
S-parameters	LI11A_NB.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."

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