



# SAW Filters for Infrastructure Systems

## Series/Type: **B5105**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39301B5105U310		2011-07-15	2011-12-31	2012-03-31

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Data Sheet



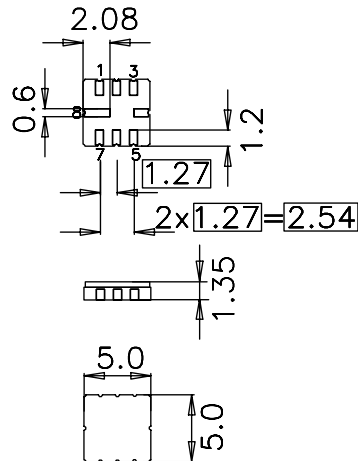
Application

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



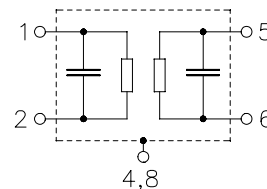
Features

- Package size 5.0 x 5.0 x 1.35 mm<sup>3</sup>
- Package code QCC8C
- RoHS compatible
- Approx. weight 0.1 g
- Ceramic package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (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

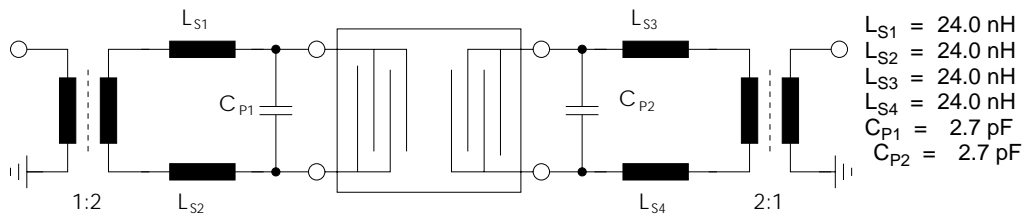


Characteristics

Operating temperature range:  $T = -40$  to  $85\text{ }^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 100\ \Omega$  and matching network  
 Terminating load impedance:  $Z_L = 100\ \Omega$  and matching network

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	$f_N$	—	302.4	—	MHz
<b>Maximum insertion attenuation</b> (including matching network)	$\alpha_{\max}$	—	2.1	3.0	dB
<b>Amplitude ripple (p-p)</b> 296.9 MHz ... 307.9 MHz	$\Delta\alpha$	—	0.35	1.0	dB
<b>Attenuation</b>	$\alpha$				
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
<b>Input VSWR</b>					
296.9 MHz ... 307.9 MHz		—	1.3 : 1	1.8 : 1	
<b>Output VSWR</b>					
296.9 MHz ... 307.9 MHz		—	1.3 : 1	1.8 : 1	
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 64	—	ppm/K

Matching network to 100  $\Omega$



Element values depend upon board layout



SAW Components

B5105

SAW IF filter

302.4 MHz

Data Sheet

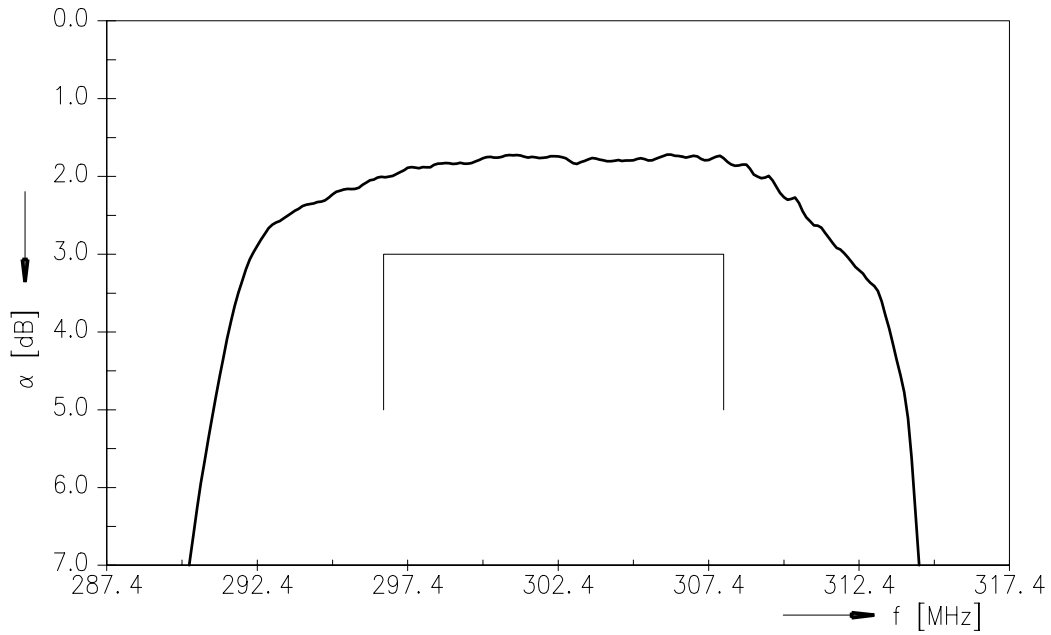


### Maximum ratings

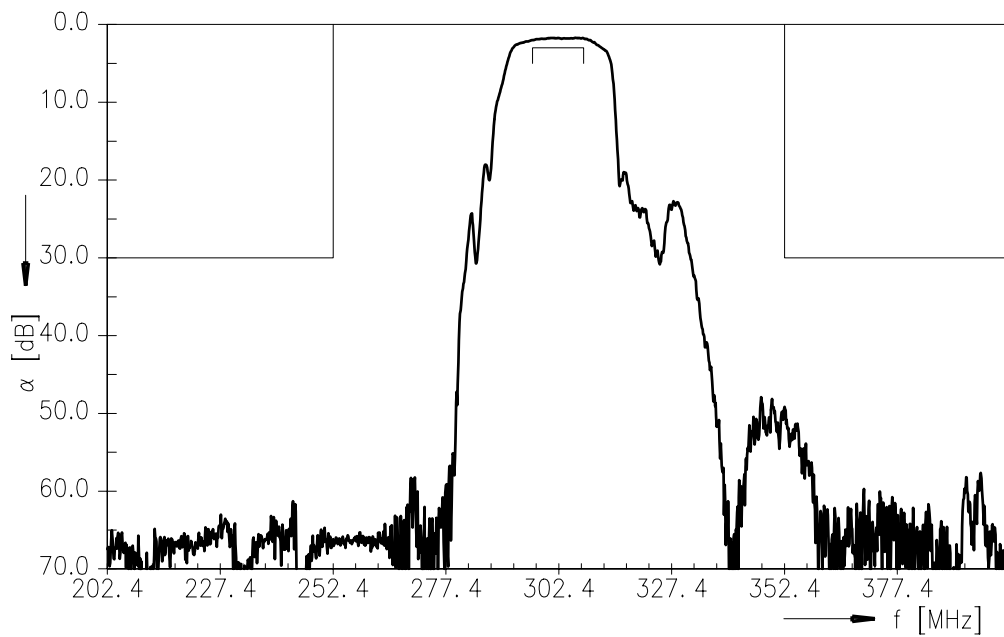
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>sta</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
Input power	P <sub>IN</sub>	5	dBm	



Transfer function



Transfer function (wideband)



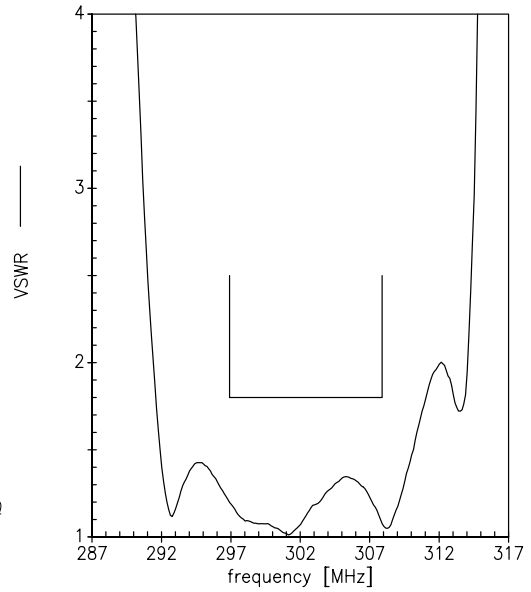
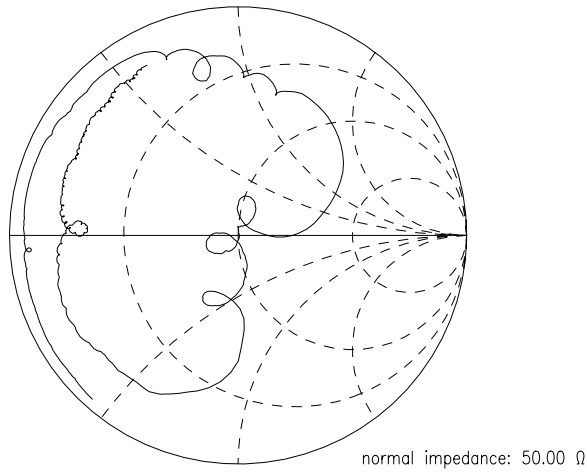


Data Sheet

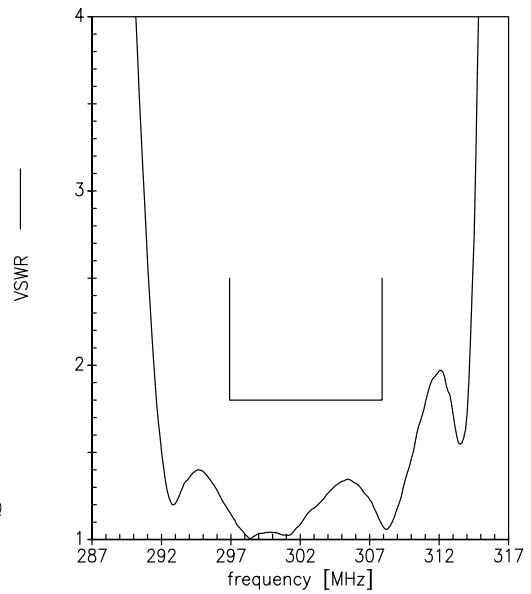
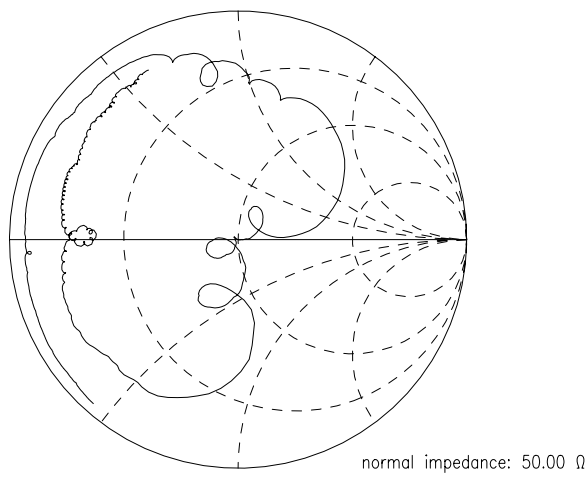


Smith charts

S<sub>11</sub> function



S<sub>22</sub> function





**SAW Components** **B5105**

**SAW IF filter** **302.4 MHz**

Data Sheet



### 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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