



SAW Components

SAW filter

WiMAX

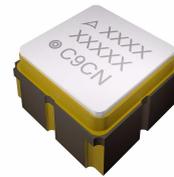
Series/type:	B5139
Ordering code:	B39262B5139U410
Date:	June 18, 2013
Version:	2.2

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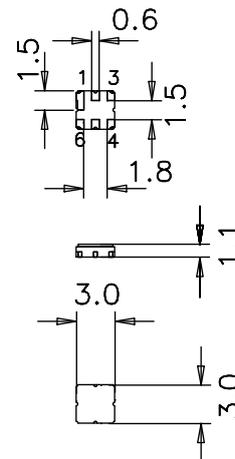
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Application

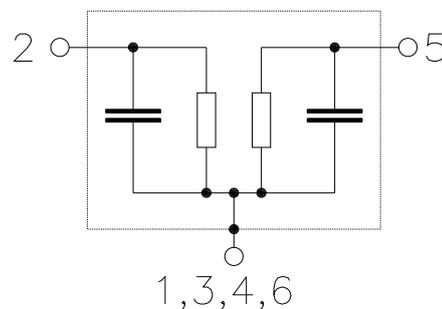
- Low-loss RF filter for WiMAX application
- Low amplitude ripple
- Matching network required for operation at 50Ω
- Usable passband 50 MHz
- Unbalanced to Unbalanced operation


Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)
- Moisture Sensitivity Level 1
- Filter surface passivated


Pin configuration

- 2 Input
- 5 Output
- 1,3,4,6 To be grounded



Data sheet

Characteristics

Temperature range for specification: $T = -40\text{ }^{\circ}\text{C to }+85\text{ }^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\Omega$ with matching network
 Terminating load impedance: $Z_L = 50\Omega$ with matching network

		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	2593.0	—	MHz
Maximum insertion attenuation	α_{\max}				
2568.0 ... 2618.0 MHz		—	2.4	3.5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2568.0 ... 2618.0 MHz		—	1.0	1.5	dB
Input VSWR					
2568.0 ... 2618.0 MHz		—	1.7	2.1	
Output VSWR					
2568.0 ... 2618.0 MHz		—	1.5	2.1	
Attenuation	α				
10.0 ... 2450.0 MHz		20.0	30.0	—	dB
2450.0 ... 2500.0 MHz		25.0	27.0	—	dB
2500.0 ... 2525.0 MHz		11.0	13.0	—	dB
2662.0 ... 2670.0 MHz		10.0	24.0	—	dB
2670.0 ... 2690.0 MHz		17.0	31.0	—	dB
2690.0 ... 3500.0 MHz		25.0	27.0	—	dB
3500.0 ... 4000.0 MHz		25.0	38.0	—	dB

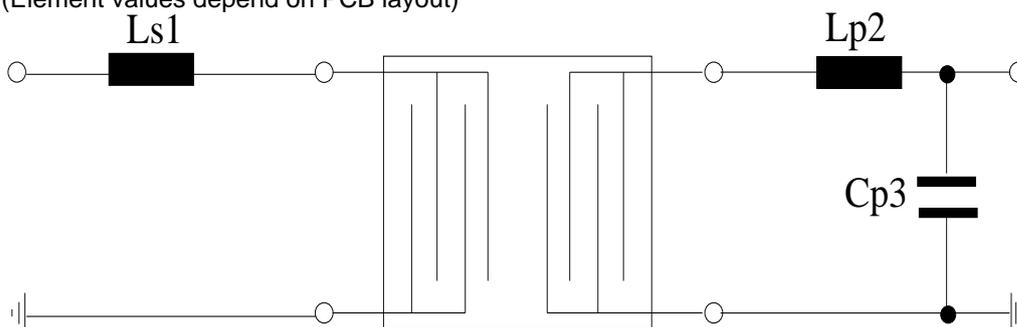
Maximum ratings

Operable temperature range	T	-45/+125	°C	
Storage temperature range	T _{stg}	-45/+125	°C	
DC voltage	V _{DC}	6	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 10 pulses
Input power				
2568.0 ... 2618MHz	P _{IN}	14	dBm	CW, 10K hours, 85°C
		13.5	dBm	CW, 20K hours, 85°C
		10.0	dBm	CW, 100K hours, 85°C

¹⁾ acc. to JESD22-A115B (machine model), 10 negative & 10 positive pulses.

Testing Matching Network

(Element values depend on PCB layout)



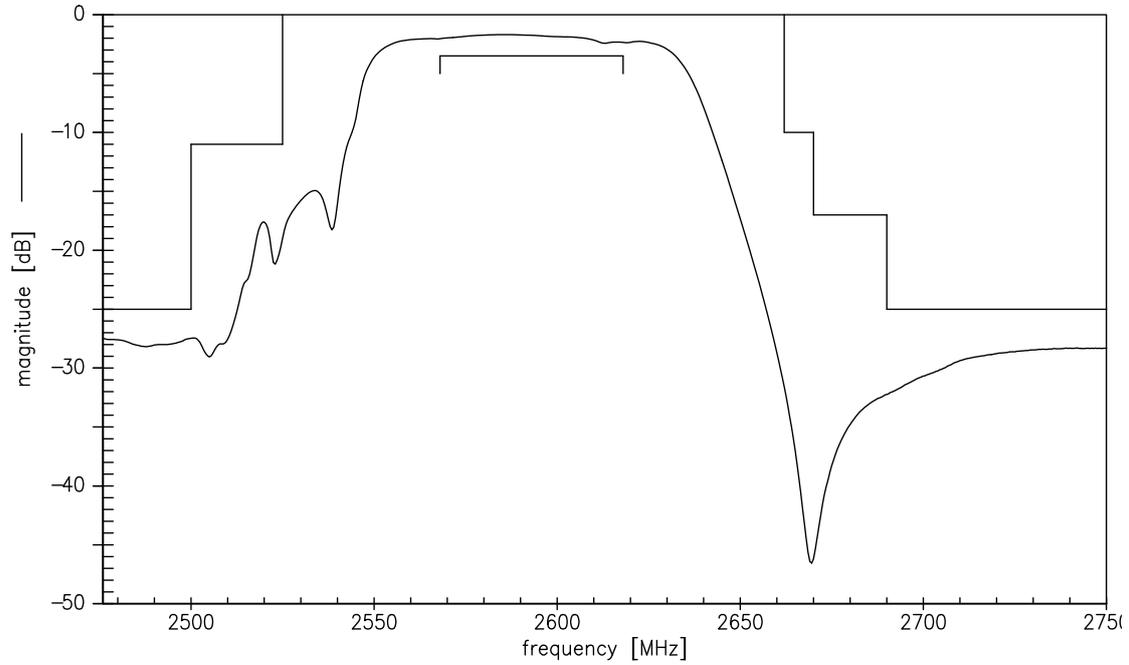
Ls1 = 1.0 nH

Lp2 = 1.0nH

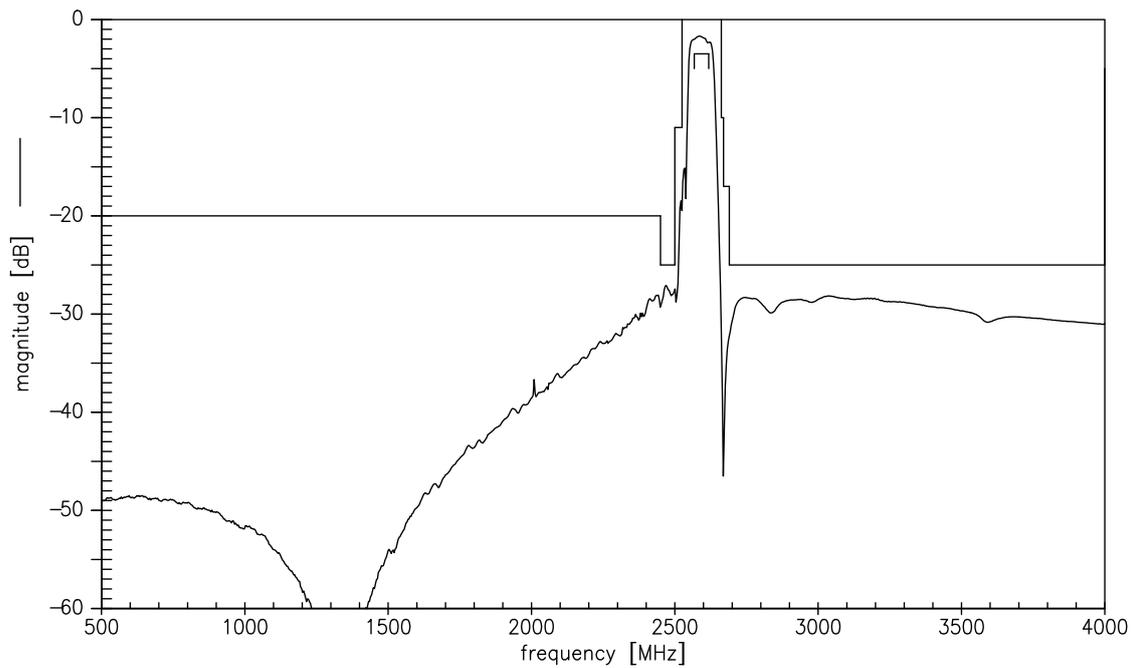
Cp3 = 1.0pF

Element values depend upon board layout.

Transfer function



Transfer function (wideband)

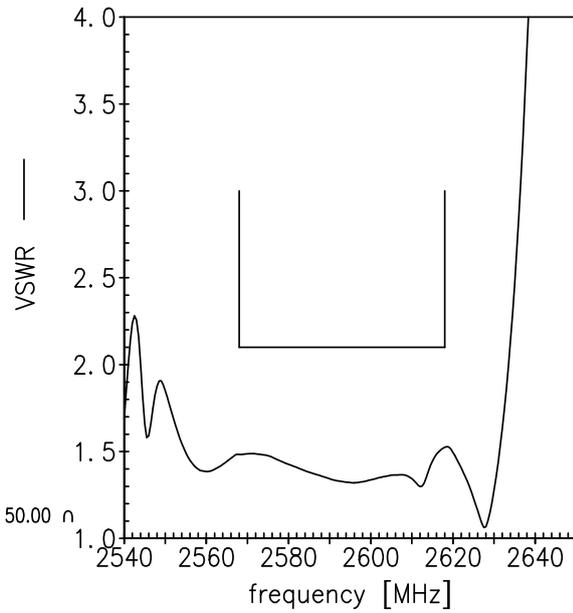
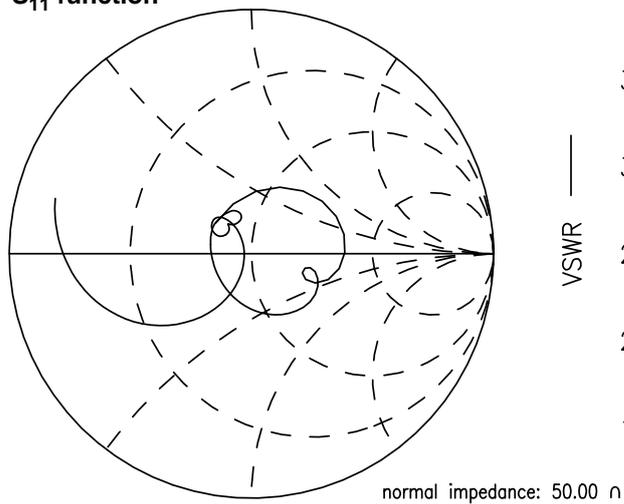


Data sheet

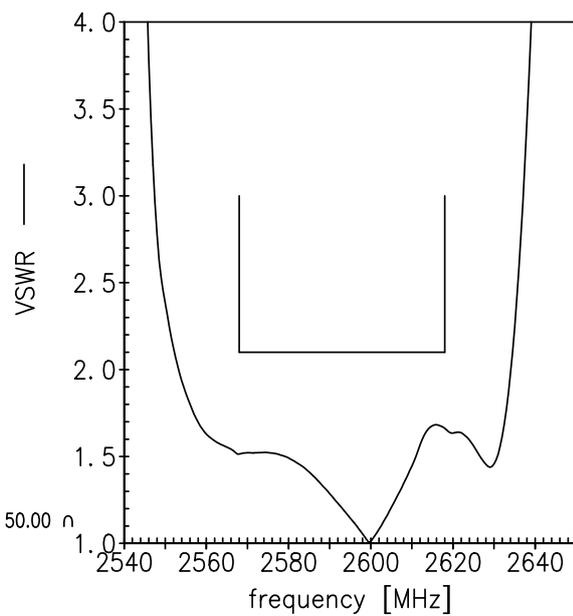
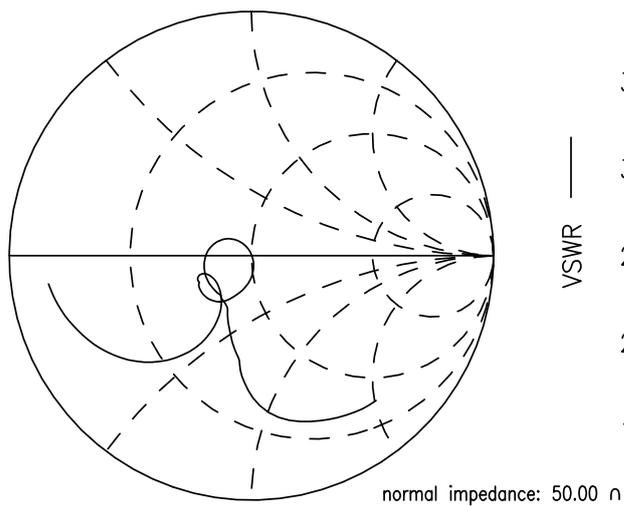
SMD

Smith charts

S₁₁ function



S₂₂ function



SAW Components	B5139
SAW filter	2593.0 MHz

Data sheet



References

Type	B5139
Ordering code	B39262B5139U410
Marking and package	C61157-A8-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5139_NB.s2p B5139_WB.s2p see file header for port/pin assignment table
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 8th, 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.
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.

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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