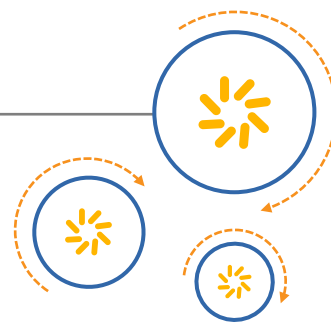




RF360 Europe GmbH

A Qualcomm – TDK Joint Venture



SAW Components

SAW RF filter for base stations

L-Band SatCom

Series/type: B5163
Ordering code: B39152B5163U410

Date: Aug 14, 2014
Version: 2.1

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SAW Components

B5163

SAW RF filter

1538.5 MHz

Data sheet

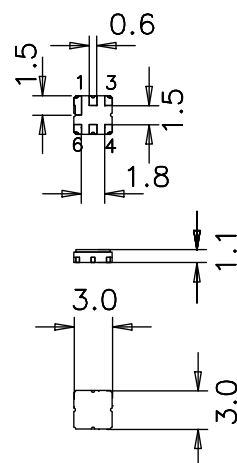


Application

- RF filter for L-Band SatCom
- Unbalanced to unbalanced operation
- Low amplitude ripple
- Usable passband 41 MHz
- No matching required for operation at 50 Ω

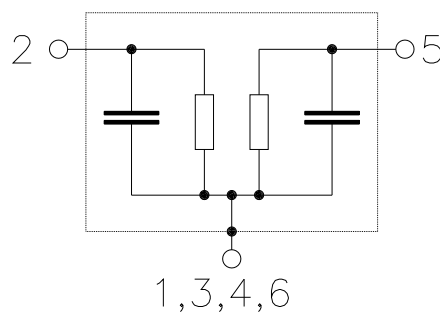
Features

- 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



Please read *cautions and warnings* and *important notes* at the end of this document.

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SAW Components
B5163
SAW RF filter
1538.5 MHz
Data sheet

Characteristics

 Temperature range for specification: $T = -40\text{ }^{\circ}\text{C to }+85\text{ }^{\circ}\text{C}$

 Terminating source impedance: $Z_S = 50\text{ }\Omega$

 Terminating load impedance: $Z_L = 50\text{ }\Omega$

		min.	typ. @ 25 °C	max.	
Center frequency	f_c	—	1538.5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2.3	3.3	dB
1518.0 ... 1559.0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0.8	1.8	dB
1518.0 ... 1559.0 MHz					
Input return loss		8.0	10.0	—	dB
1518.0 ... 1559.0 MHz					
Output return loss		9.0	11.0	—	dB
1518.0 ... 1559.0 MHz					
Absolute group delay (mean)	$\bar{\tau}$	12	22	32	ns
1518.0 ... 1559.0 MHz					
Absolute attenuation	α_{abs}	35	43	—	dB
10.0 ... 1450.0 MHz					
1450.0 ... 1468.0 MHz		30	45	—	dB
1468.0 ... 1486.0 MHz		22	37	—	dB
1486.0 ... 1490.0 MHz		15	37	—	dB
1582.0 ... 1592.0 MHz		10	40	—	dB
1592.0 ... 1640.0 MHz		22	38	—	dB
1640.0 ... 1700.0 MHz		30	40	—	dB
2400.0 ... 2500.0 MHz		30	37	—	dB

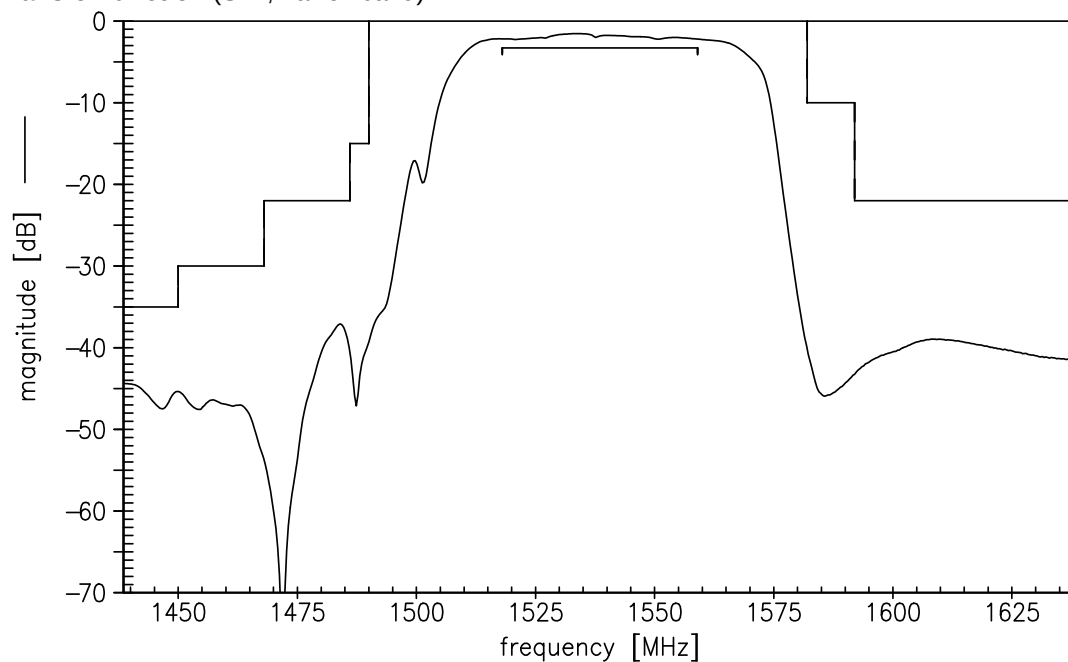
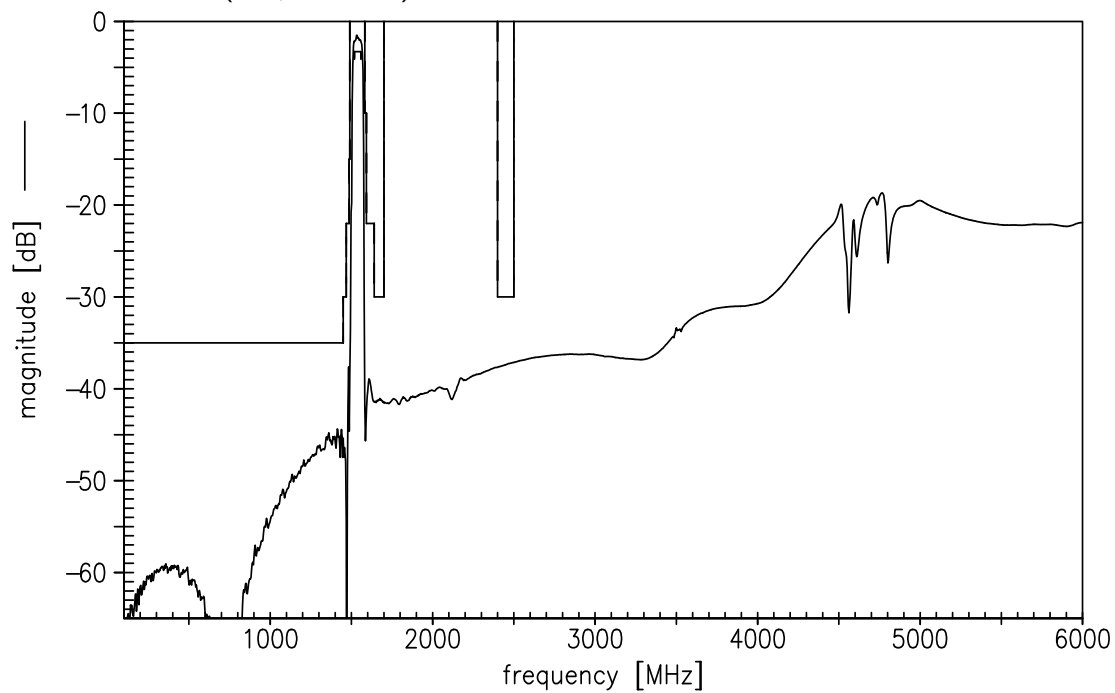
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SAW Components	B5163
SAW RF filter	1538.5 MHz
Data sheet	

Maximum ratings

Operable temperature range	T	−40/+85	°C	Machine Model cw, 1000 hrs, 85 °C
Storage temperature range	T _{stg}	−40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	
Input power	P _{IN}	13	dBm	
1518.0 ... 1559.0 MHz				

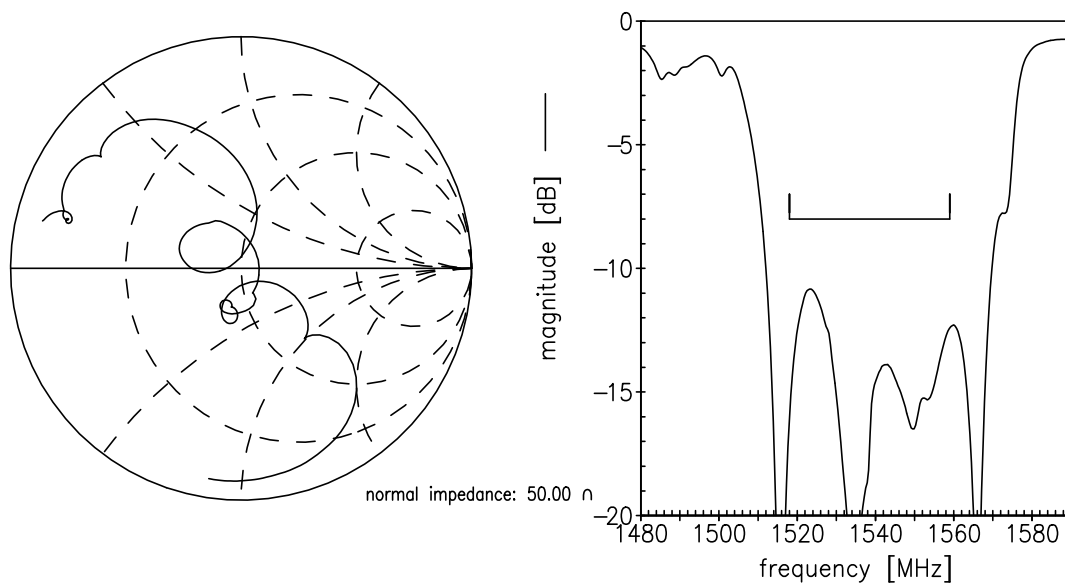
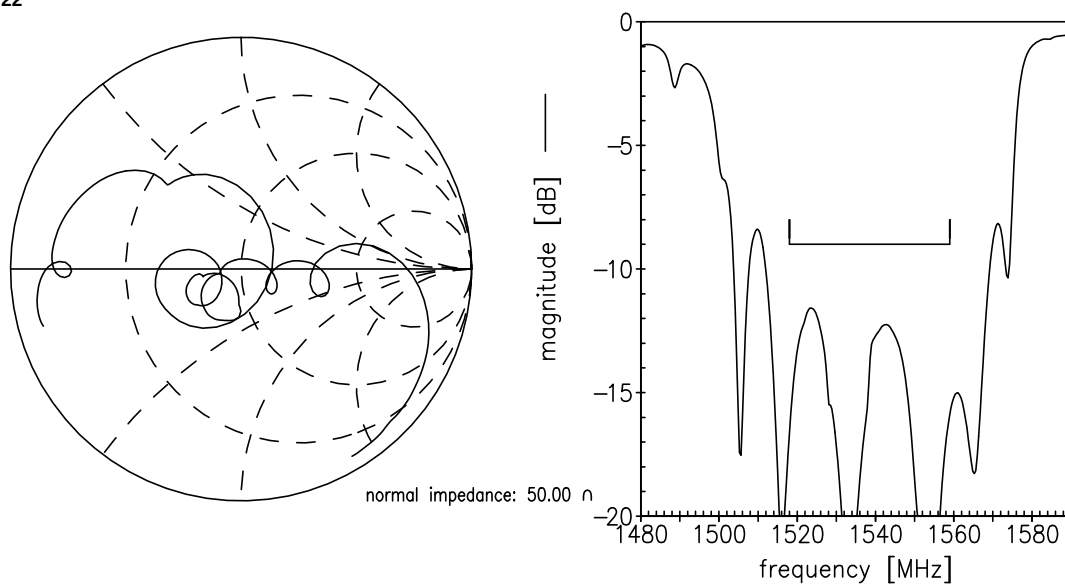
¹⁾ acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses

Transfer function (S21, narrowband)

Transfer function (S21, wideband)


Data sheet



Smith charts

 S_{11} function

 S_{22} function


Please read cautions and warnings and important notes at the end of this document.

SAW Components	B5163
SAW RF filter	1538.5 MHz

Data sheet



References

Type	B5163
Ordering code	B39152B5163U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5163_NB.s2p B5163_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.

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