



## SAW Components

SAW filter  
TD-SCDMA

<b>Series/type:</b>	<b>B5140</b>
<b>Ordering code:</b>	<b>B39202B5140U410</b>
Date:	February 26, 2010
Version:	2.0

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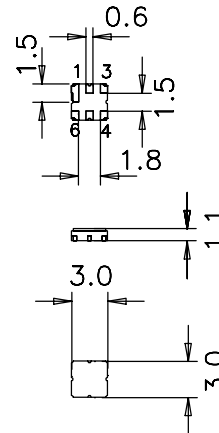
**Application**

- Low-loss RF filter for TD-SCDMA
- Low amplitude ripple
- Usable passband of 15 MHz
- Unbalanced to unbalanced operation
- No matching required for operation at 50 Ω



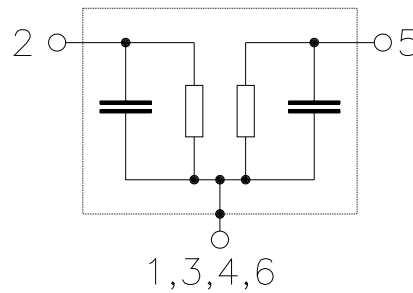
**Features**

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)



**Pin configuration**

- 2 Input
- 5 Output
- 1,3,4,6 Case grounded



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



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Characteristics

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

				min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$			—	2017.5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	2010.0 ... 2025.0	MHz	—	4.2	5.3	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	2010.0 ... 2025.0	MHz	—	0.6	1.7	dB
<b>VSWR</b>		2010.0 ... 2025.0	MHz	—	1.7	1.9	
<b>Attenuation</b>	$\alpha$						
		1700.0 ... 1785.0	MHz	40	43	—	dB
		1800.0 ... 1860.0	MHz	40	43	—	dB
		1920.0 ... 1970.0	MHz	30	44	—	dB
		1970.0 ... 1980.0	MHz	20	33	—	dB
		1980.0 ... 2000.0	MHz	3	5	—	dB
		2035.0 ... 2045.0	MHz	3	5	—	dB
		2045.0 ... 2050.0	MHz	4	13	—	dB
		2050.0 ... 2070.0	MHz	6	20	—	dB
		2070.0 ... 2085.0	MHz	30	40	—	dB
		2170.0 ... 4000.0	MHz	37	40	—	dB



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B5140

SAW filter

2017.50 MHz

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### Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input power at 2010.0 ... 2025.0	P <sub>IN</sub>	23 <sup>2)</sup>	dBm	CW, 24hours

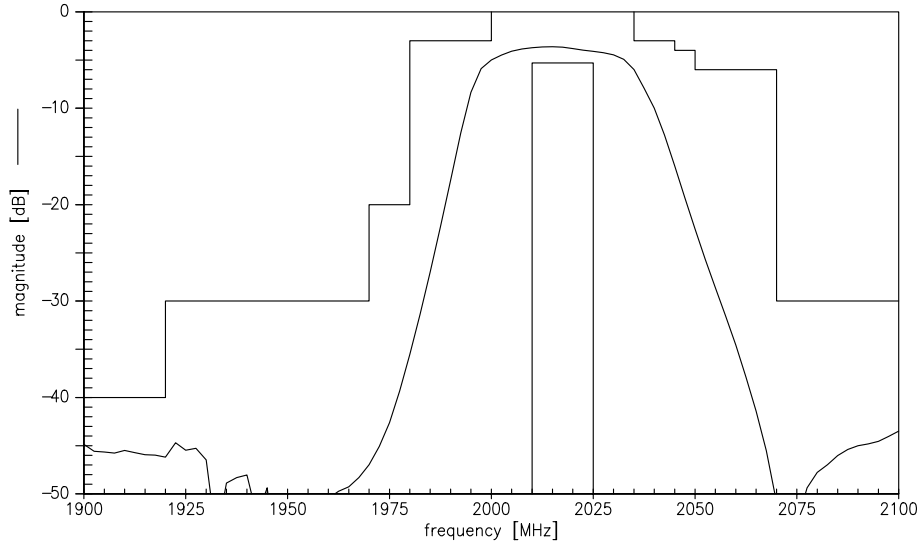
1) acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.

2) Preliminary value, actual value will be updated after power durability test.

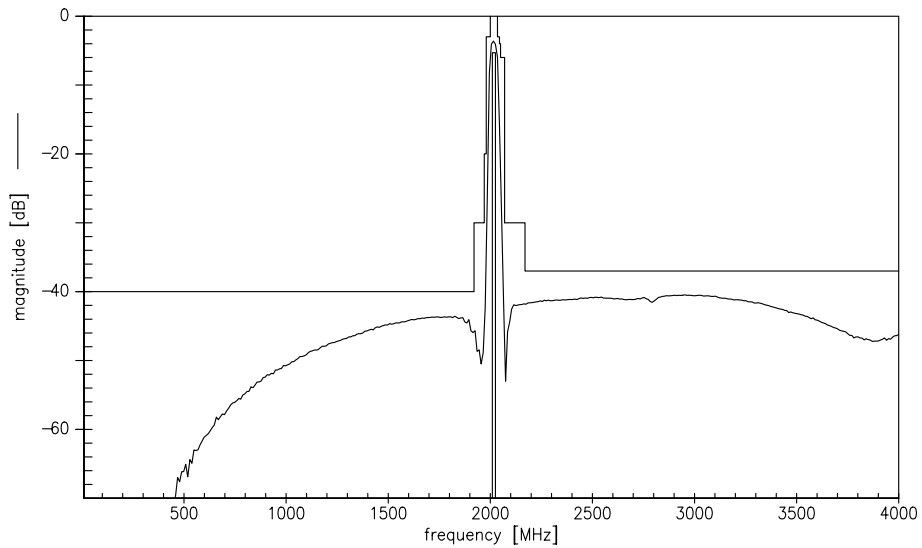
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Transfer function



Transfer function (wideband)



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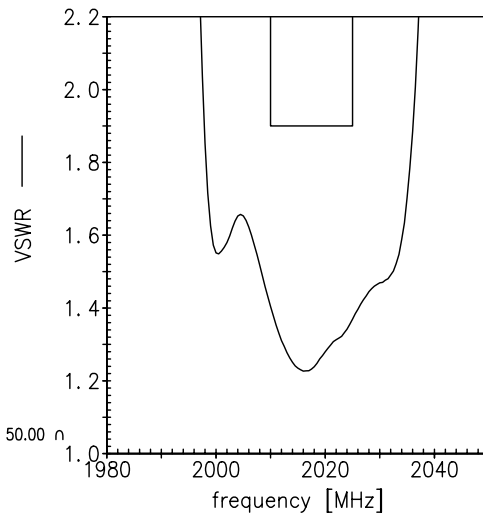
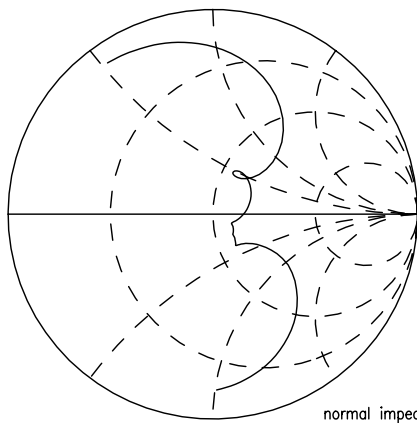


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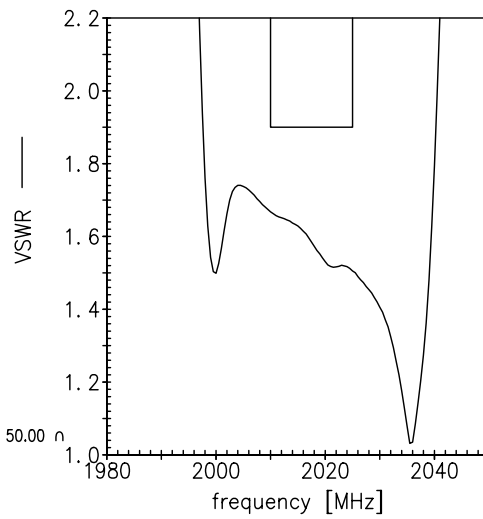
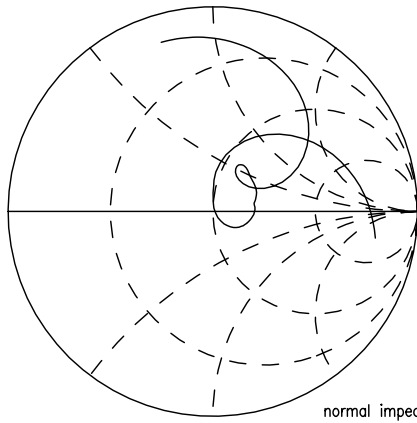


Smith charts

S<sub>11</sub> function



S<sub>22</sub> function



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**SAW Components** **B5140**

**SAW filter** **2017.50 MHz**

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#### References

<b>Type</b>	B5140
<b>Ordering code</b>	B39202B5140U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5140_NB.s2p B5140_WB.s2p See file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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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