



## SAW Components

### SAW filter

AMPS TX

<b>Series/type:</b>	<b>B4180</b>
<b>Ordering code:</b>	<b>B39841B4180U410</b>
<b>Date:</b>	<b>August 22, 2012</b>
<b>Version:</b>	<b>2.0</b>



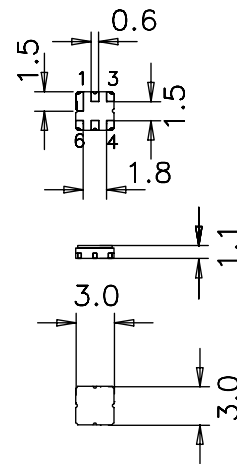
**Application**

- Low-loss RF filter for mobile telephone AMPS system, transmit path
- High selectivity
- Usable passband of 25MHz
- No matching required for operation at 50Ω



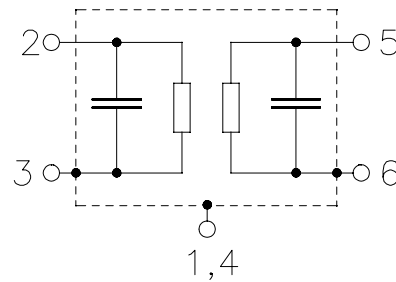
**Features**

- 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)**
- **Moisture Sensitive Level 1**
- Filter surface passivated



**Pin configuration**

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





**SAW Components**

**B4180**

**SAW filter**

**836.5 MHz**

Data sheet



**Characteristics**

Temperature range for specification: T = -30 °C to +85 °C  
 Terminating source impedance: Z<sub>S</sub> = 50 Ω  
 Terminating load impedance: Z<sub>L</sub> = 50 Ω

			min.	typ.	max.	
<b>Center frequency</b>	$f_c$		—	836,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	824,0 ... 849,0 MHz	—	2,2	2,5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	824,0 ... 849,0 MHz	—	1,0	1,5	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$	824,0 ... 849,0 MHz	—	30	50	ns
<b>VSWR</b>		824,0 ... 849,0 MHz	—	1,9	2,1	
<b>Attenuation</b>	$\alpha$					
		0,0 ... 300,0 MHz	25,0	27,0	—	dB
		300,0 ... 800,0 MHz	22,0	24,0	—	dB
		869,0 ... 894,0 MHz	30,0	32,0	—	dB
		894,0 ... 1800,0 MHz	25,0	27,0	—	dB
		1800,0 ... 2200,0 MHz	20,0	22,0	—	dB
		2200,0 ... 3000,0 MHz	13,0	15,0	—	dB



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

			<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_c$		—	836,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	824,0 ... 849,0 MHz	—	2,2	2,6	dB
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<b>VSWR</b>		824,0 ... 849,0 MHz	—	1,9	2,2	
<b>Attenuation</b>	$\alpha$					
		0,0 ... 300,0 MHz	25,0	27,0	—	dB
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**Characteristics**

**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>	5	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 10 pulses
Input power at 824.0 ... 849.0 MHz	P <sub>IN</sub>	15	dBm	CW

<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



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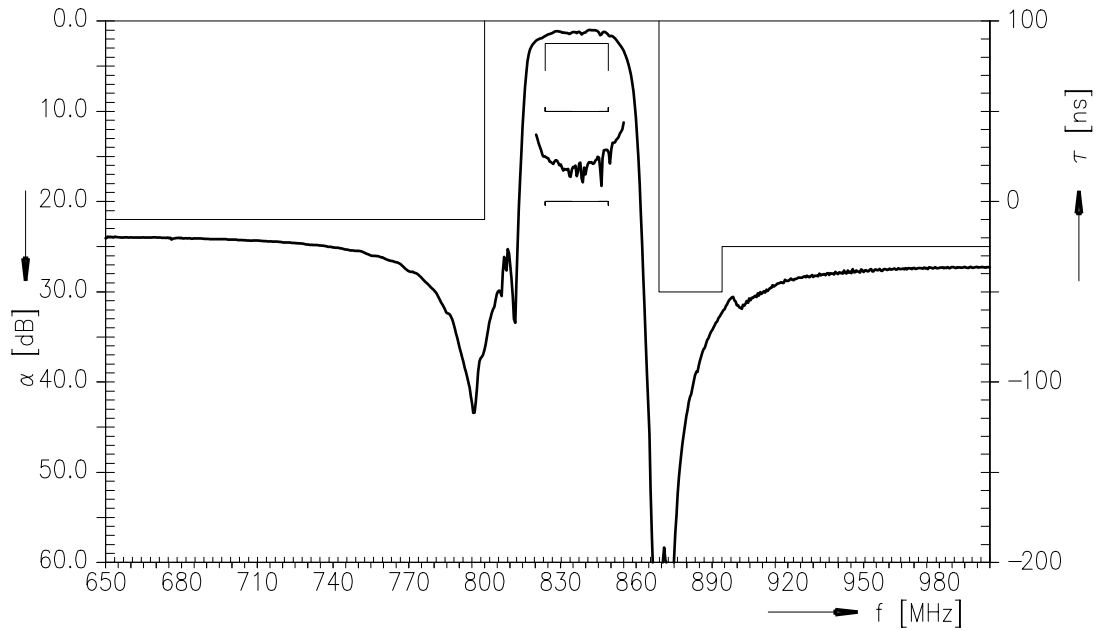
SAW filter

836.5 MHz

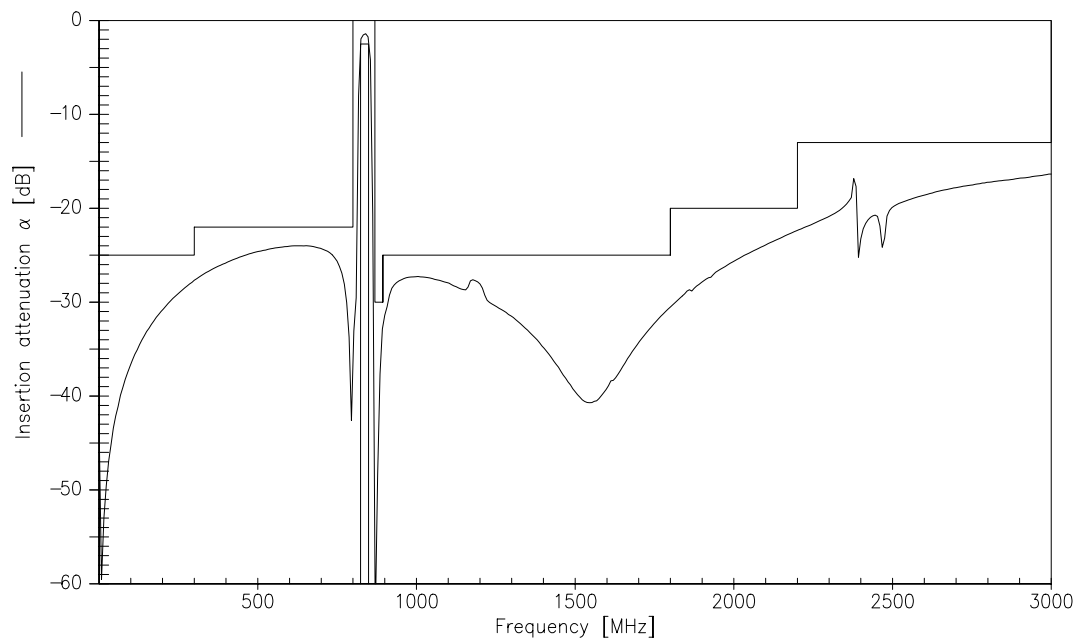
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Transfer function (narrowband)(-30 to 85°C)



Transfer function (wideband)



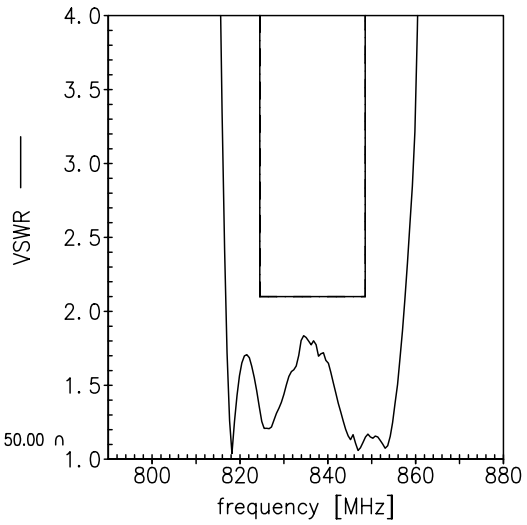
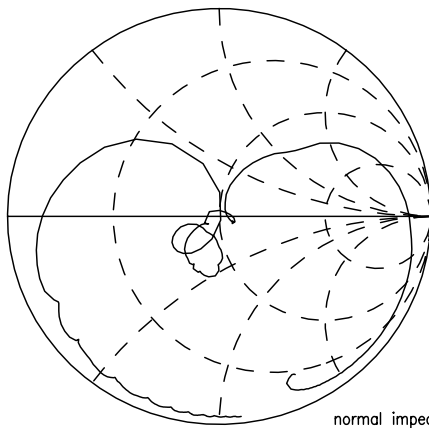
Please read *cautions and warnings* and *important notes* at the end of this document.

Data sheet

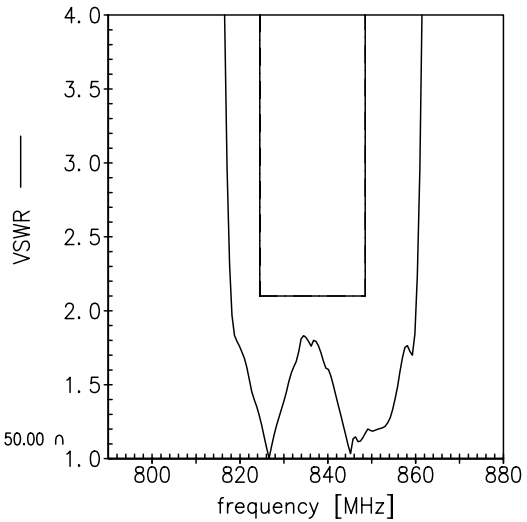
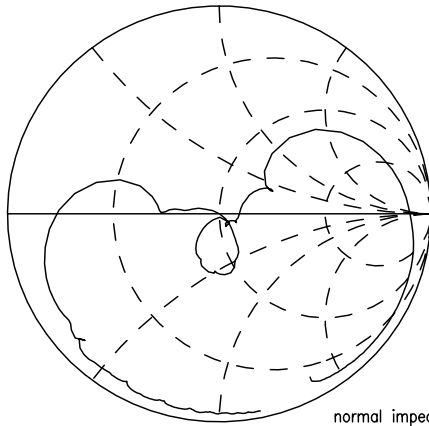


Smith charts

**S<sub>11</sub> function**



**S<sub>22</sub> function**





<b>SAW Components</b>	<b>B4180</b>
<b>SAW filter</b>	<b>836.5 MHz</b>
Data sheet	

#### References

<b>Type</b>	B4180
<b>Ordering code</b>	B39841B4180U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B4180_NB.s2p, B4180_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."
<b>Matching coils</b>	See Inductor pdf-catalog <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> and Data Library for circuit simulation <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a> for a large variety of matching coils.

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