

RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

## SAW Components

### SAW filter for base station

GSM1900, LTE Band II

Series/type: B5180  
Ordering code: B39192B5180U410

Date: June 15, 2013  
Version: 2.0

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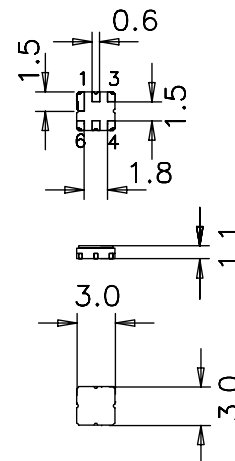
Data sheet


**Application**

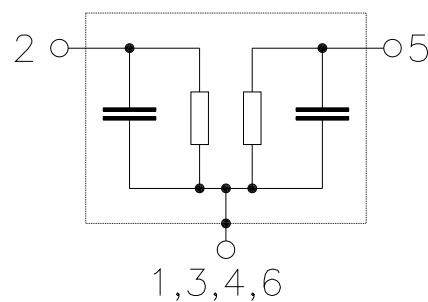
- GSM1900, LTE Band II filter for base station
- Low amplitude ripple
- Usable passband 60MHz

**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
- Ceramic 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 Case grounded



Data sheet


**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>	$f_C$	—	1880.00	—	MHz
<b>Minimum insertion attenuation</b> 1850.0 ... 1910.0 MHz	$\alpha_{\min}$	—	1.4	—	dB
<b>Maximum insertion attenuation</b> 1850.0 ... 1910.0 MHz	$\alpha_{\max}$	—	2.1	2.5	dB
<b>Amplitude ripple (p-p)</b> 1850.0 ... 1910.0 MHz	$\Delta\alpha$	—	0.7	1.2	dB
<b>VSWR</b> 1850.0 ... 1910.0 MHz		—	1.8	2.2	
<b>Mean of Absolute group delay</b> 1850.0 ... 1910.0 MHz	$\tau$	—	14	30	ns
<b>Group delay ripple (p-p)</b> 1850.0 ... 1910.0 MHz	$\Delta\tau$	—	7	25	ns
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
10.0 ... 1000.0 MHz		25	35	—	dB
1000.0 ... 1730.0 MHz		25	35	—	dB
1730.0 ... 1800.0 MHz		18	29	—	dB
1950.0 ... 2090.0 MHz		20	25	—	dB
2100.0 ... 3000.0 MHz		20	39	—	dB


**Maximum ratings**

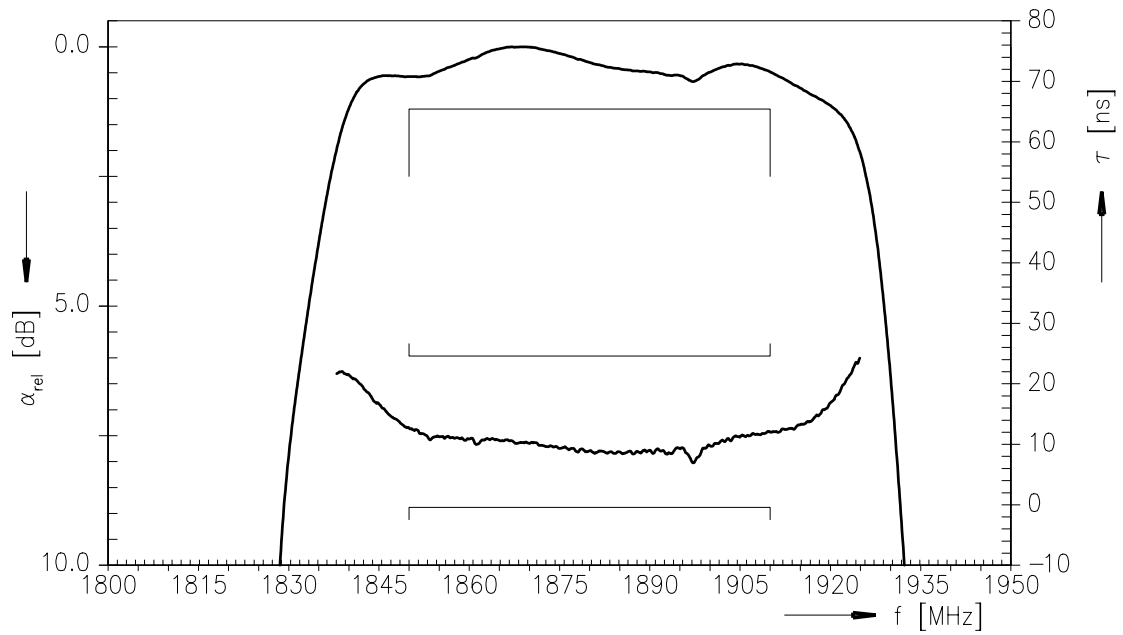
Operable temperature range	T	-45/+125	°C	
Storage temperature range	T <sub>stg</sub>	-45/+125	°C	
DC voltage	V <sub>DC</sub>	6	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 10 pulses
Input power at 1850.0 ... 1910.0 MHz	P <sub>IN</sub>	9	dBm	CW, 100 000hrs@85deg

<sup>1)</sup> acc. to JESD22-A115B (machine model), +/- 10 pulse.

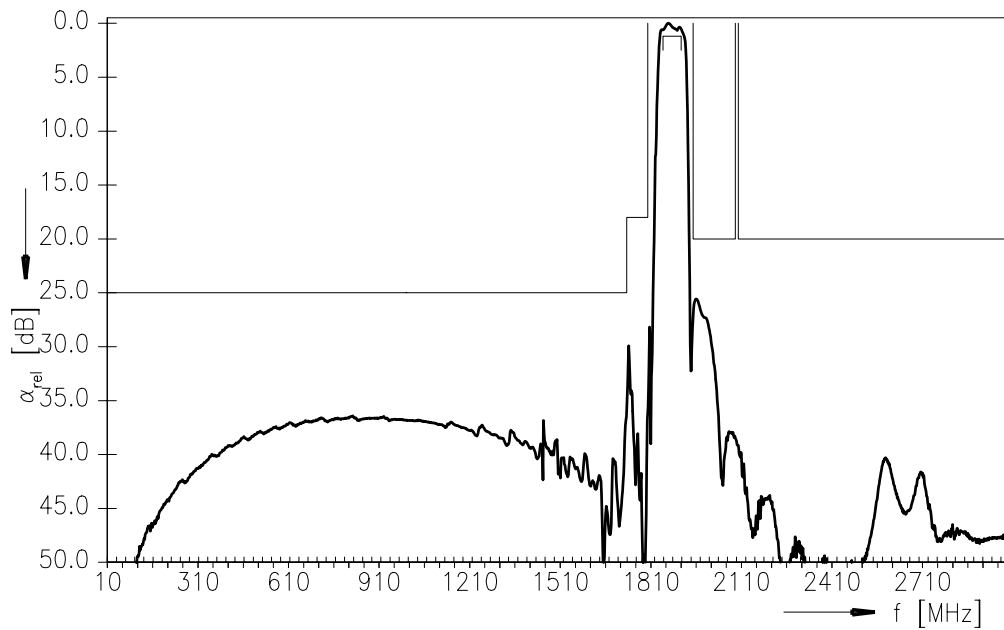
Data sheet



Transfer function (normalized)



Transfer function (wideband) (normalized)



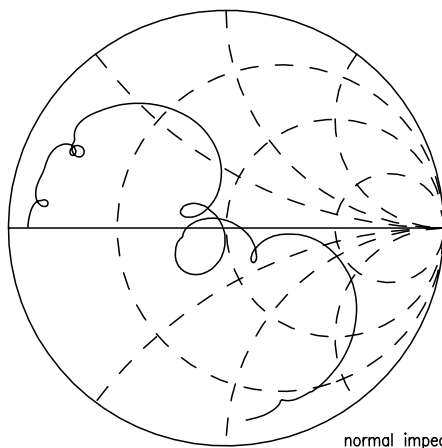
Please read *cautions and warnings* and *important notes* at the end of this document.

Data sheet

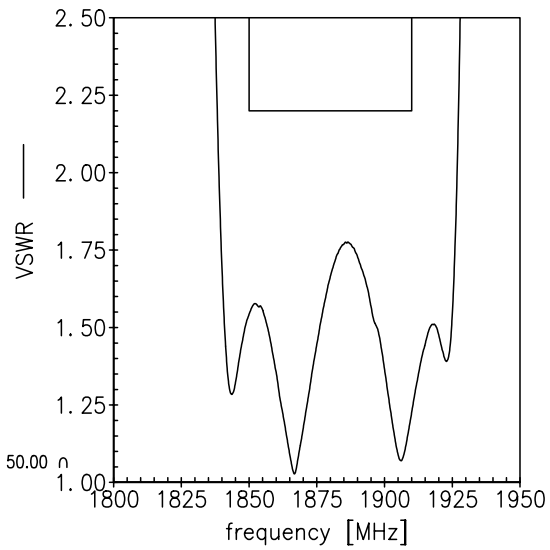


Smith charts

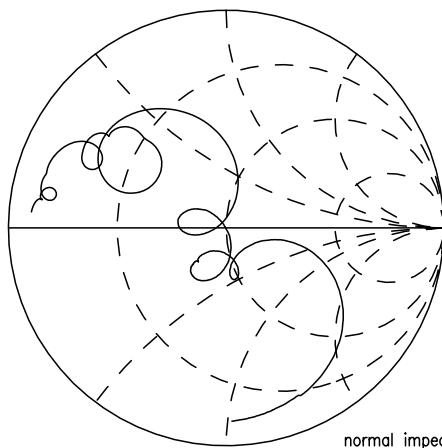
S<sub>11</sub> function



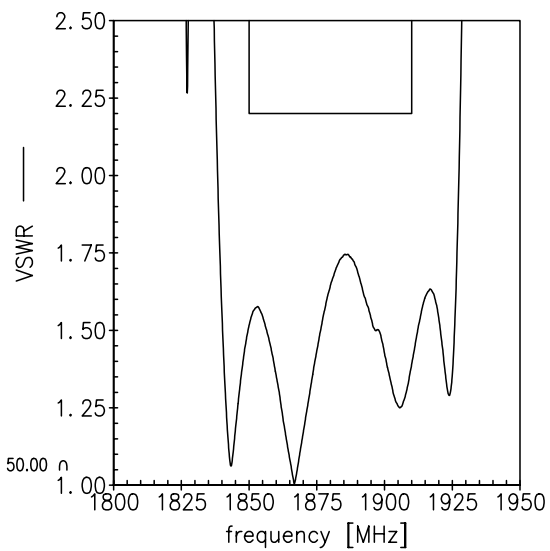
normal impedance: 50.00  $\Omega$



S<sub>22</sub> function



normal impedance: 50.00  $\Omega$





<b>SAW Components</b>	<b>B5180</b>
<b>SAW filter for base station</b>	<b>1880.00 MHz</b>

Data sheet



#### References

<b>Type</b>	B5180
<b>Ordering code</b>	B39192B5180U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8228-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5180_NB.s2p , B5180_WB.s2p See file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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
<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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