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RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

## SAW Components

### SAW RF filter for base stations

Band 25 uplink

|                |                 |
|----------------|-----------------|
| Series/type:   | B4182           |
| Ordering code: | B39182B4182U410 |
| Date:          | Aug 07, 2014    |
| Version:       | 2.4             |

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# SAW Components

## SAW RF filter for base stations

Band 25 uplink

**Series/type:** B4182  
**Ordering code:** B39182B4182U410

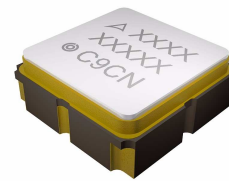
**Date:** Aug 07, 2014  
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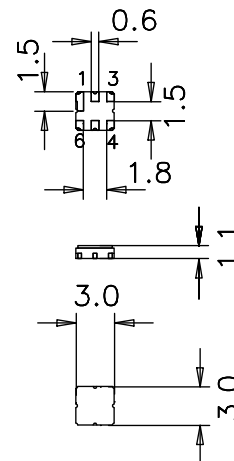
EPCOS AG is a TDK Group Company.

**Application**

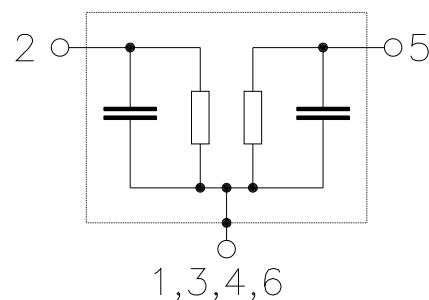
- RF filter for base stations
- Low amplitude ripple
- No matching required for operation at 50 Ω
- Usable passband 65 MHz


**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**
**B4182**
**SAW RF filter**
**1882.5 MHz**

Data sheet


**Characteristics**

Temperature range for specification:  $T = 25 \pm 2 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$   
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

|                                      |                       | min. | typ.<br>@ 25 °C | max. |     |
|--------------------------------------|-----------------------|------|-----------------|------|-----|
| <b>Center frequency</b>              | $f_C$                 |      | 1882.5          |      | MHz |
| <b>Maximum insertion attenuation</b> | $\alpha_{\max}$       |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                       | —    | 2.5             | 3.2  | dB  |
| <b>Amplitude ripple (p-p)</b>        | $\Delta\alpha$        |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                       | —    | 0.8             | 1.4  | dB  |
| <b>Absolute group delay (mean)</b>   | $\bar{\tau}$          |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                       | 1    | 11              | 21   | ns  |
| <b>Return loss</b>                   |                       |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                       | 9    | 10              | —    | dB  |
| <b>Absolute attenuation</b>          | $\alpha_{\text{abs}}$ |      |                 |      |     |
| 800.0 ... 1400.0 MHz                 |                       | 24   | 28              | —    | dB  |
| 1400.0 ... 1745.0 MHz                |                       | 25   | 28              | —    | dB  |
| 1930.0 ... 1940.0 MHz                |                       | 5    | 10              | —    | dB  |
| 1940.0 ... 3000.0 MHz                |                       | 20   | 23              | —    | dB  |



|                       |                   |
|-----------------------|-------------------|
| <b>SAW Components</b> | <b>B4182</b>      |
| <b>SAW RF filter</b>  | <b>1882.5 MHz</b> |

Data sheet

**SMD**

**Characteristics**

Temperature range for specification:  $T = 0 \text{ to } +85 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$   
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

|                                      |                       | min. | typ.<br>@ 25 °C | max. |     |
|--------------------------------------|-----------------------|------|-----------------|------|-----|
| <b>Center frequency</b>              | $f_C$                 |      | 1882.5          |      | MHz |
| <b>Maximum insertion attenuation</b> | $\alpha_{\max}$       |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                       | —    | 2.9             | 3.5  | dB  |
| <b>Amplitude ripple (p-p)</b>        | $\Delta\alpha$        |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                       | —    | 1.1             | 1.7  | dB  |
| <b>Absolute group delay (mean)</b>   | $\bar{\tau}$          |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                       | 1    | 11              | 21   | ns  |
| <b>Return loss</b>                   |                       |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                       | 9    | 10              | —    | dB  |
| <b>Absolute attenuation</b>          | $\alpha_{\text{abs}}$ |      |                 |      |     |
| 800.0 ... 1400.0 MHz                 |                       | 24   | 28              | —    | dB  |
| 1400.0 ... 1746.0 MHz                |                       | 25   | 28              | —    | dB  |
| 1930.0 ... 1940.0 MHz                |                       | 5    | 10              | —    | dB  |
| 1940.0 ... 3000.0 MHz                |                       | 20   | 23              | —    | dB  |

**SAW Components**
**B4182**
**SAW RF filter**
**1882.5 MHz**

Data sheet


**Characteristics**

 Temperature range for specification:  $T = -40$  to  $+85$  °C

 Terminating source impedance:  $Z_S = 50 \Omega$ 

 Terminating load impedance:  $Z_L = 50 \Omega$ 

|                                      |                | min. | typ.<br>@ 25 °C | max. |     |
|--------------------------------------|----------------|------|-----------------|------|-----|
| <b>Center frequency</b>              | $f_C$          |      | 1882.5          |      | MHz |
| <b>Maximum insertion attenuation</b> | $\alpha_{max}$ |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                | —    | 2.9             | 4.0  | dB  |
| <b>Amplitude ripple (p-p)</b>        | $\Delta\alpha$ |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                | —    | 1.1             | 2.2  | dB  |
| <b>Absolute group delay (mean)</b>   | $\bar{\tau}$   |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                | 1    | 11              | 21   | ns  |
| <b>Return loss</b>                   |                |      |                 |      |     |
| 1850.0 ... 1915.0 MHz                |                | 9    | 10              | —    | dB  |
| <b>Absolute attenuation</b>          | $\alpha_{abs}$ |      |                 |      |     |
| 800.0 ... 1400.0 MHz                 |                | 24   | 28              | —    | dB  |
| 1400.0 ... 1746.0 MHz                |                | 25   | 28              | —    | dB  |
| 1930.0 ... 1940.0 MHz                |                | 3    | 10              | —    | dB  |
| 1940.0 ... 3000.0 MHz                |                | 20   | 23              | —    | dB  |



|                       |              |
|-----------------------|--------------|
| <b>SAW Components</b> | <b>B4182</b> |
|-----------------------|--------------|

|                      |                   |
|----------------------|-------------------|
| <b>SAW RF filter</b> | <b>1882.5 MHz</b> |
|----------------------|-------------------|

Data sheet



**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>  | 6                 | V   |                   |
| ESD voltage                | V <sub>ESD</sub> | 50 <sup>1)</sup>  | V   | Machine Model     |
|                            |                  | 250 <sup>2)</sup> | V   | Human Body Model  |
| Input power                | P <sub>IN</sub>  |                   |     |                   |
| 1850.0 ... 1915.0 MHz      |                  | 18                | dBm | cw, 48 h, 85 °C   |
| 1930.0 ... 1990.0 MHz      |                  | 12                | dBm | cw, 2000 h, 85 °C |
| 1930.0 ... 1990.0 MHz      |                  | 15                | dBm | cw, 2000 h, 55 °C |

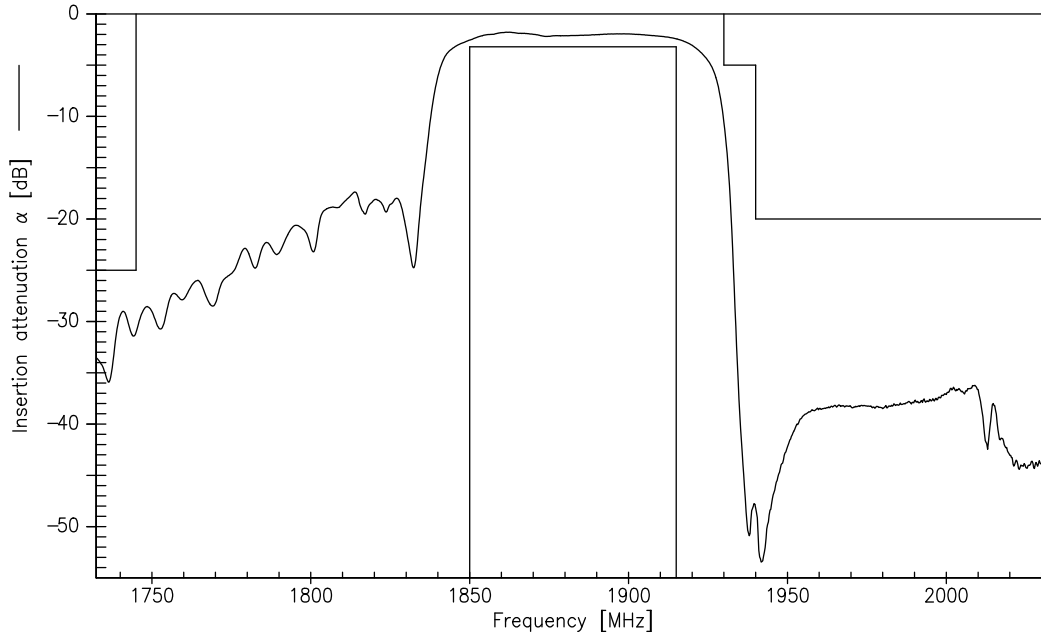
1) acc. to JESD22-A115B (MM - machine model), 10 negative & 10 positive pulses.

2) acc. to JESD22-A114F (HBM - Human Body Model), 1 negative & 1 positive pulses.

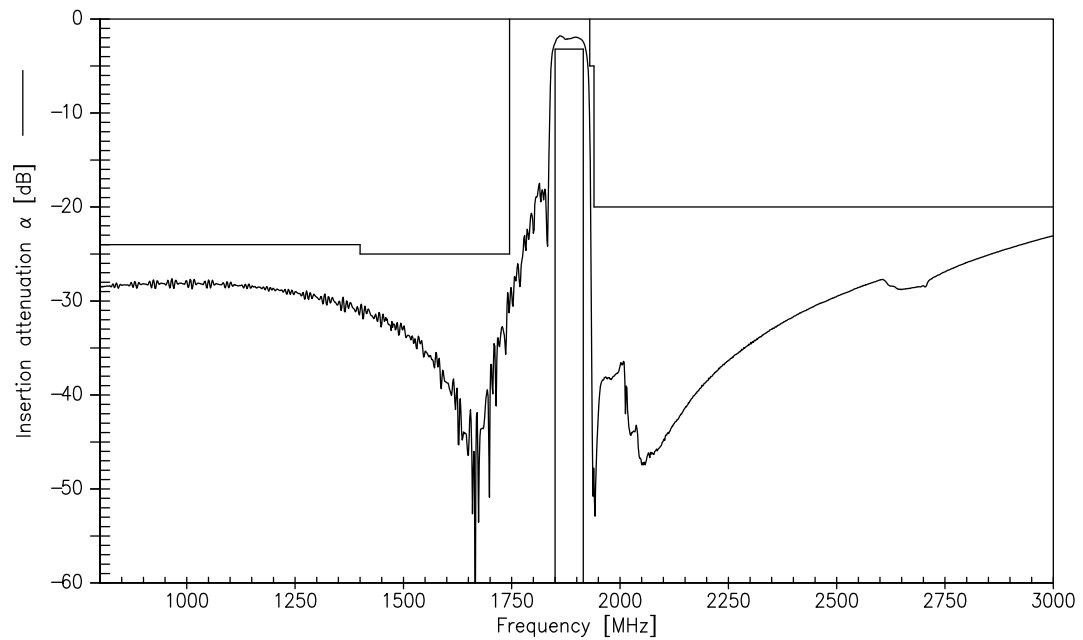
Data sheet



Transfer function (S21, narrowband)



Transfer function (S21, wideband)



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

|                       |                                                                                   |
|-----------------------|-----------------------------------------------------------------------------------|
| <b>SAW Components</b> | <b>B4182</b>                                                                      |
| <b>SAW RF filter</b>  | <b>1882.5 MHz</b>                                                                 |
| Data sheet            |  |

## References

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Type</b>                | B4182                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Ordering code</b>       | B39182B4182U410                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Marking and package</b> | C61157-A7-A67                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Packaging</b>           | F61074-V8168-Z000                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Date codes</b>          | L_1126                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>S-parameters</b>        | B4182_NB.s2p , B4182_WB.s2p<br>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<br><a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a><br>and Data Library for circuit simulation<br><a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a><br>for a large variety of matching coils.                                                                                                                      |

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