



## SAW Components

### SAW filter

DCS 1800 band I

|                       |                        |
|-----------------------|------------------------|
| <b>Series/type:</b>   | <b>B5125</b>           |
| <b>Ordering code:</b> | <b>B39172B5125U410</b> |
| <b>Date:</b>          | <b>July 26, 2010</b>   |
| <b>Version:</b>       | <b>2.0</b>             |





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B5125

### SAW filter

1740.00 MHz

#### 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.<br>@ 25 °C | max.  |     |
|----------------------------------------------------------------------|-----------------------|------|-----------------|-------|-----|
| <b>Center frequency</b>                                              | $f_N$                 | —    | 1740.00         | —     | MHz |
| <b>Minimum insertion attenuation</b>                                 | $\alpha_{\min}$       |      |                 |       |     |
| 1710.0 ... 1770.0 MHz                                                |                       | —    | 1.2             | —     | dB  |
| <b>Maximum insertion attenuation</b>                                 | $\alpha_{\max}$       |      |                 |       |     |
| 1710.0 ... 1770.0 MHz                                                |                       | —    | 2.2             | 3.2   | dB  |
| <b>Amplitude ripple (p-p)</b>                                        | $\Delta\alpha$        |      |                 |       |     |
| 1710.0 ... 1770.0 MHz                                                |                       | —    | 1.1             | 2.1   | dB  |
| <b>Input VSWR</b>                                                    |                       |      |                 |       |     |
| 1710.0 ... 1770.0 MHz                                                |                       | —    | 1.8:1           | 2.1:1 |     |
| <b>Output VSWR</b>                                                   |                       |      |                 |       |     |
| 1710.0 ... 1770.0 MHz                                                |                       | —    | 1.8:1           | 2.1:1 |     |
| <b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b> | $\alpha_{\text{rel}}$ |      |                 |       |     |
| 10.0 ... 1678.0 MHz                                                  |                       | 20.0 | 24.0            | —     | dB  |
| 1802.0 ... 1805.0 MHz                                                |                       | 10.0 | 40.0            | —     | dB  |
| 1805.0 ... 1880.0 MHz                                                |                       | 20.0 | 29.0            | —     | dB  |
| 1880.0 ... 3200.0 MHz                                                |                       | 20.0 | 29.0            | —     | dB  |
| 3200.0 ... 5200.0 MHz                                                |                       | 15.5 | 23.0            | —     | dB  |

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Data sheet

**Maximum ratings**

|                                   |                  |                  |     |                               |
|-----------------------------------|------------------|------------------|-----|-------------------------------|
| Operable temperature range        | T                | −40/+85          | °C  | machine model, 1 pulse        |
| 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   |                               |
| Input power at<br>1710 ... 1770.0 | P <sub>IN</sub>  | 10               | dBm | Continuous wave (10000 hours) |

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



SAW Components

B5125

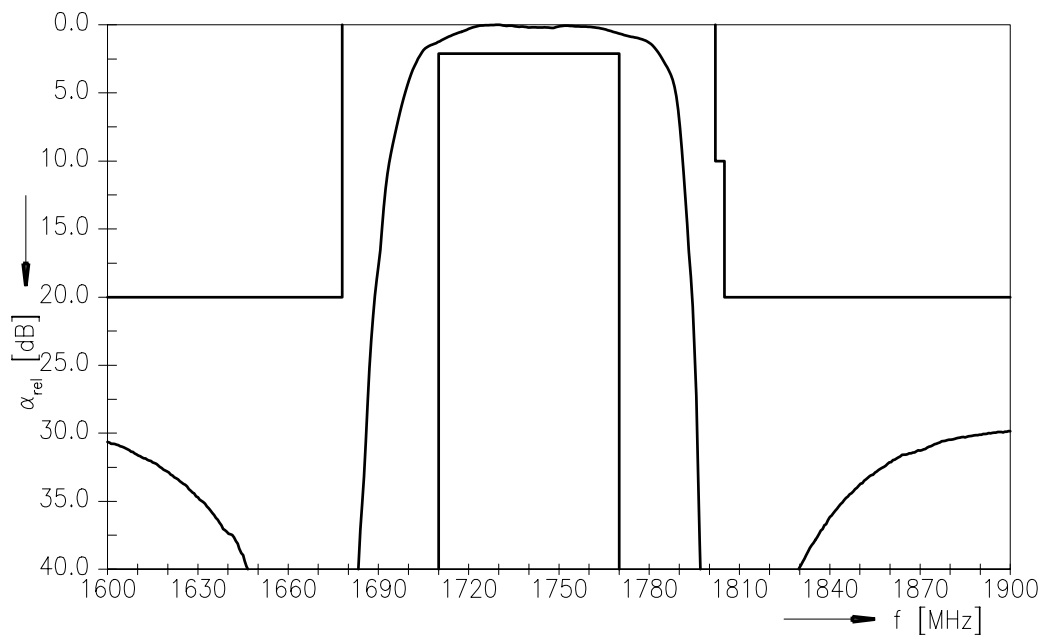
SAW filter

1740.00 MHz

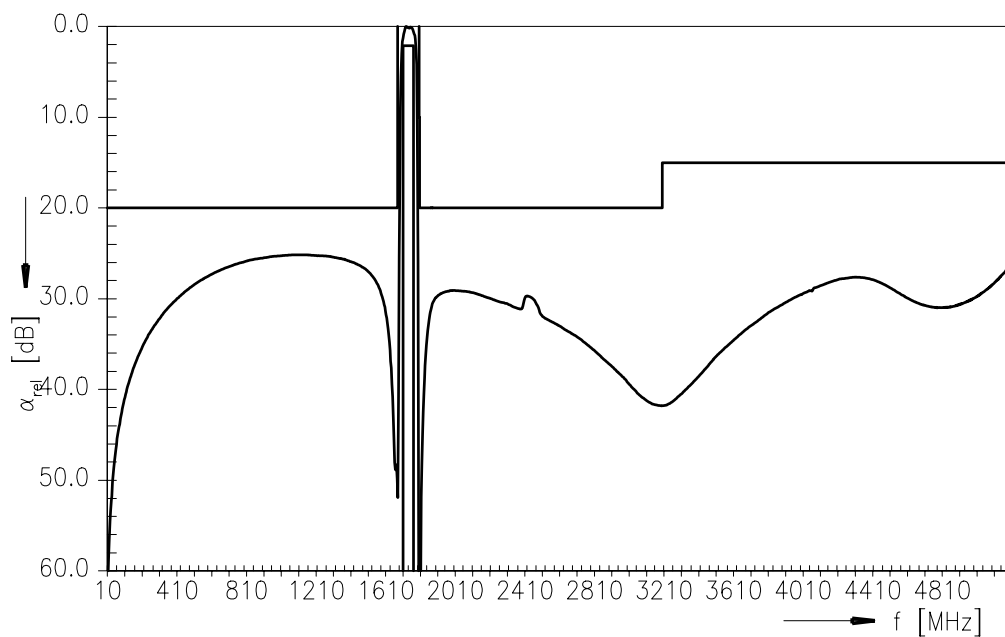
Data sheet



Transfer function (normalized)



Transfer function (wideband)



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



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### SAW filter

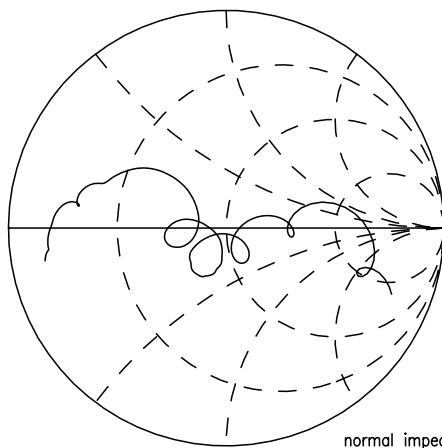
1740.00 MHz

Data sheet

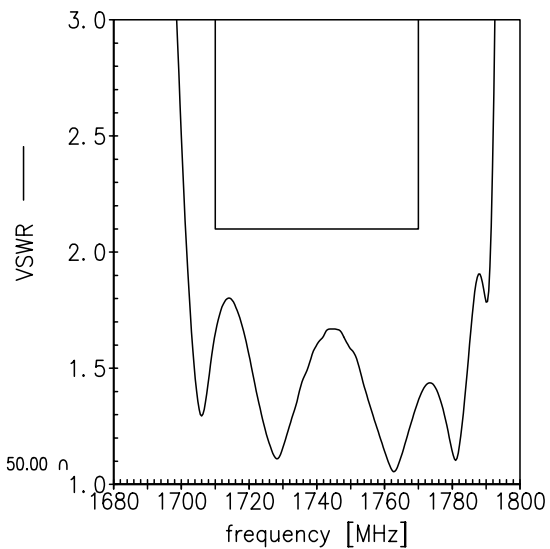


Smith charts

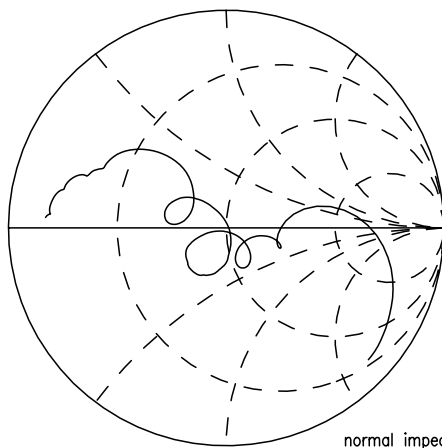
$S_{11}$  function



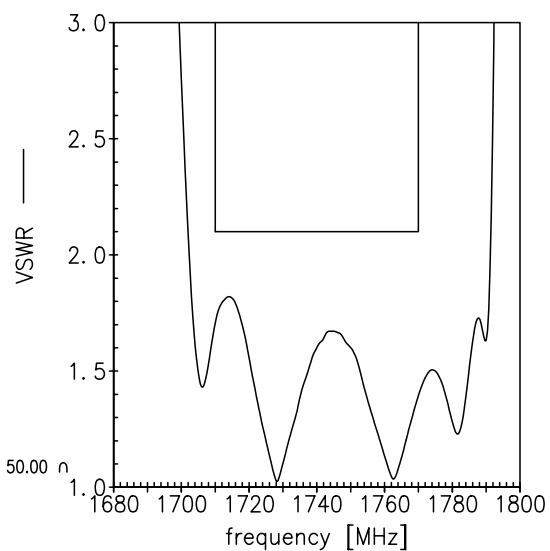
normal impedance: 50.00  $\Omega$



$S_{22}$  function



normal impedance: 50.00  $\Omega$



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Data sheet

**References**

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                | B5125                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Ordering code       | B39172B5125U410                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Marking and package | C61157-A7-A67                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Packaging           | F61074-V8168-Z000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Date codes          | L_1126                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| S-parameters        | B5125_NB.s2p, B5125_WB.s2p<br>see file header for port/pin assignment table                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Soldering profile   | S_6001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| RoHS compatible     | defined as compatible with the following documents:<br>"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." |
| Matching coils      | See<br><a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a><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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