



## **SAW Components**

SAW filter for base station

TD-LTE

|                       |                        |
|-----------------------|------------------------|
| <b>Series/type:</b>   | <b>B5154</b>           |
| <b>Ordering code:</b> | <b>B39262B5154U410</b> |
| <b>Date:</b>          | <b>August 30, 2012</b> |
| <b>Version:</b>       | <b>2.0</b>             |



## SAW Components

B5154

## SAW filter

2595.0 MHz

## Data sheet

**SMD**

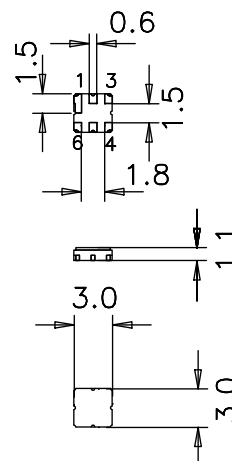
### Application

- Low-loss TD-LTE RF filter for base station
- Unbalanced to Unbalanced operation
- Low amplitude ripple
- Usable passband 50 MHz
- No matching required for operation at 50Ω



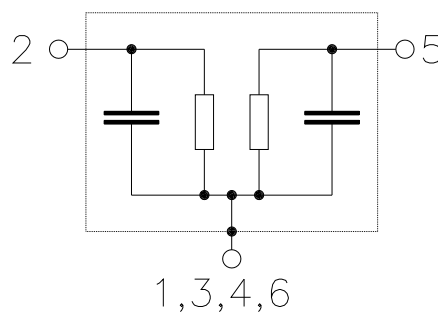
### Features

- 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 Sensitivity Level 1
- Filter Surface Passivated



### Pin configuration

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





|                       |                   |
|-----------------------|-------------------|
| <b>SAW Components</b> | <b>B5154</b>      |
| <b>SAW filter</b>     | <b>2595.0 MHz</b> |

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>              | $f_C$                 | —    | 2595.0          | —     | MHz |
| <b>Maximum insertion attenuation</b> | $\alpha_{\max}$       | —    | 2.6             | 3.0   | dB  |
|                                      | 2570.0 ... 2620.0MHz  |      |                 |       |     |
| <b>Amplitude ripple (p-p)</b>        | $\Delta\alpha$        | —    | 0.6             | 1.0   | dB  |
|                                      | 2570.0 ... 2620.0MHz  |      |                 |       |     |
| <b>Group delay ripple (p-p)</b>      | $\Delta\tau$          | —    | 8               | 15    | ns  |
|                                      | 2570.0 ... 2620.0MHz  |      |                 |       |     |
| <b>Absolute group delay</b>          | $\tau$                | —    | 20              | 40    | ns  |
|                                      | 2570.0 ... 2620.0MHz  |      |                 |       |     |
| <b>VSWR</b>                          |                       | —    | 1.8:1           | 2.0:1 |     |
|                                      | 2570.0 ... 2620.0 MHz |      |                 |       |     |
| <b>Attenuation</b>                   | $\alpha_{\text{abs}}$ |      |                 |       |     |
|                                      | 10 ... 2400 MHz       | 20   | 30              | —     | dB  |
|                                      | 2875 ... 2930 MHz     | 25   | 29              | —     | dB  |
|                                      | 2930 ... 6000 MHz     | 10   | 20              | —     | dB  |



|                |     |            |
|----------------|-----|------------|
| SAW Components |     | B5154      |
| SAW filter     |     | 2595.0 MHz |
| Data sheet     | SMD |            |

#### 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, 10 pulses      |
| Input power at             |                  |                  |     |                               |
| 2570 ... 2620MHz           | P <sub>IN</sub>  | 22               | dBm | CW signal, 1 minute at 85°C   |
|                            |                  | 10               | dBm | CW signal, 100,000hrs at 85°C |

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



SAW Components

B5154

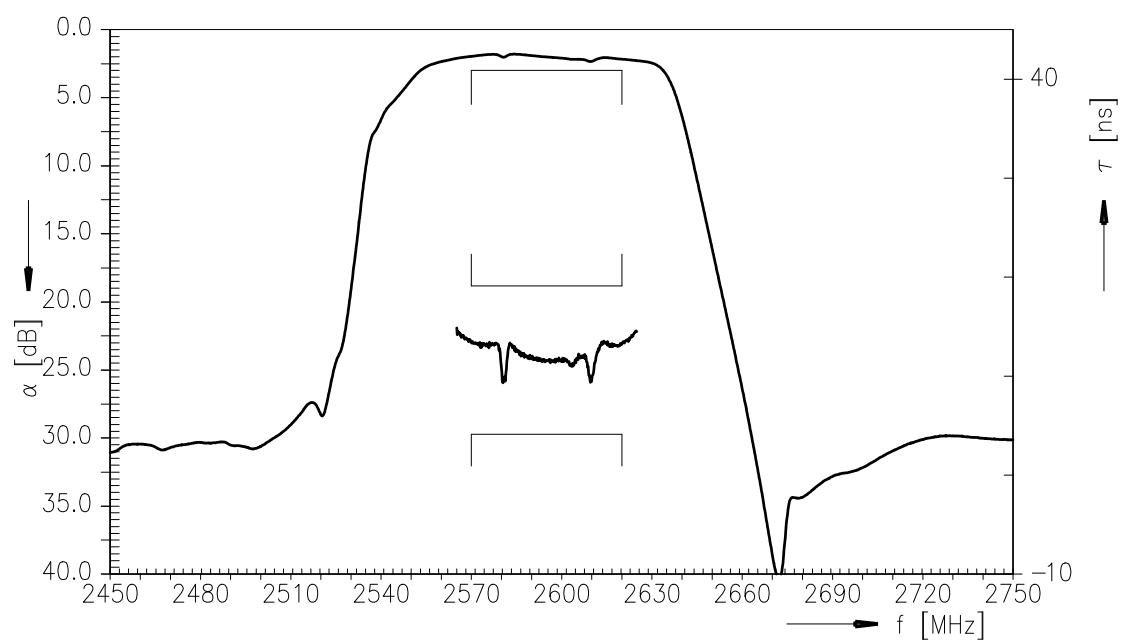
SAW filter

2595.0 MHz

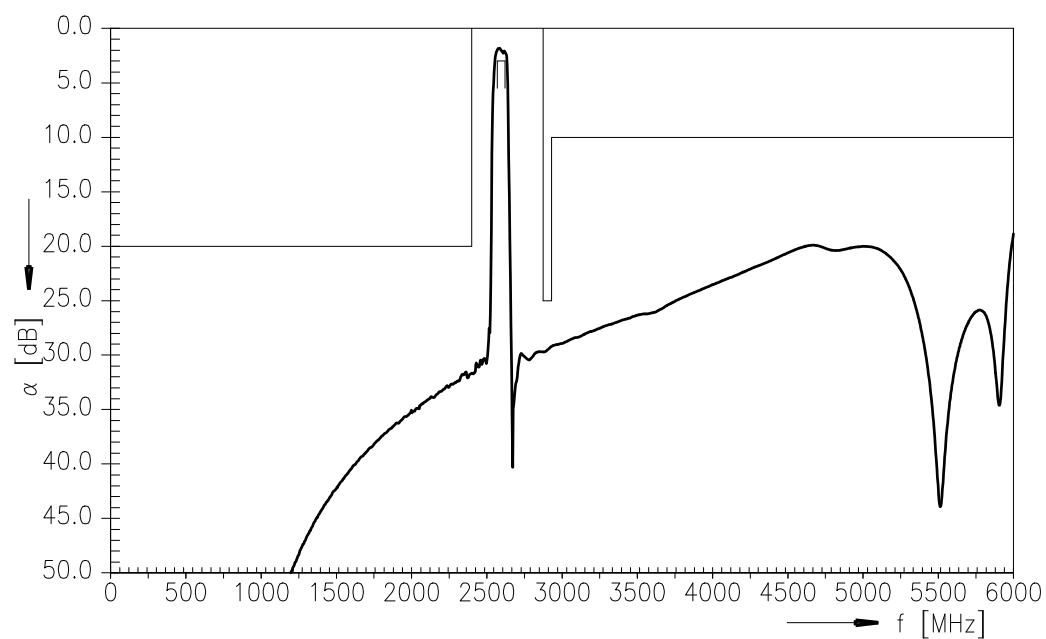
Data sheet

SMD

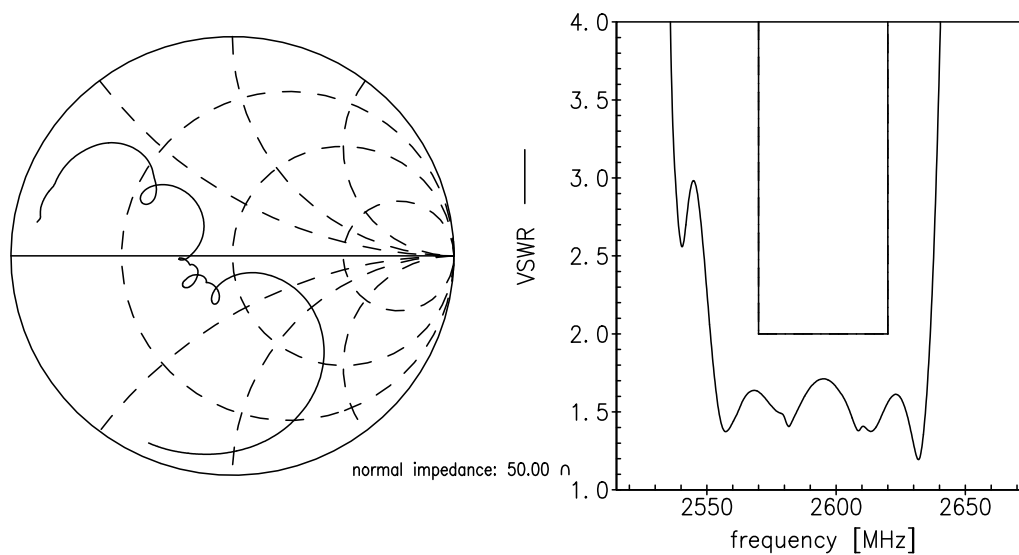
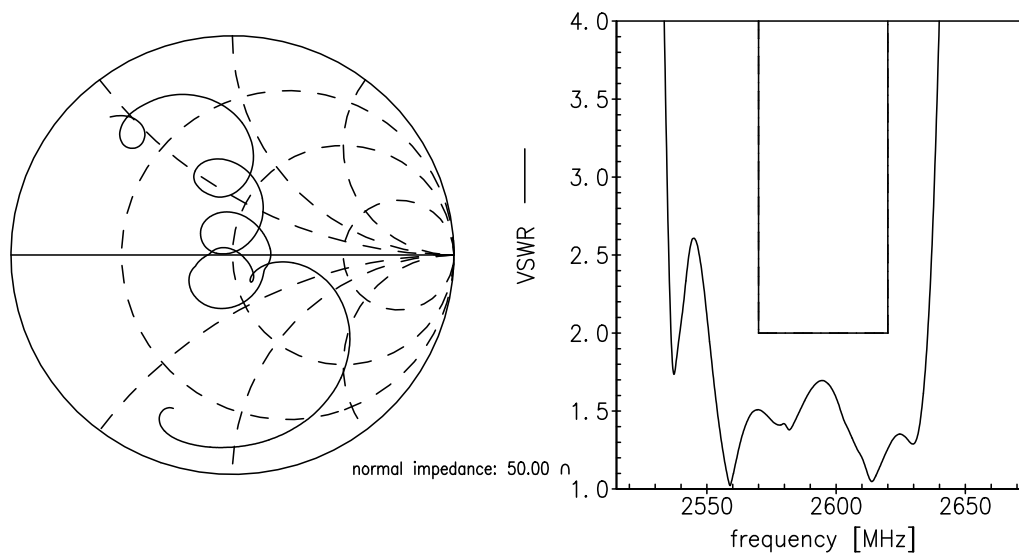
### Transfer function



### Transfer function (wideband)



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





|                       |                   |
|-----------------------|-------------------|
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| <b>Data sheet</b>     | <b>SMD</b>        |

## References

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Type</b>                | B5154                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Ordering code</b>       | B39262B5154U410                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Marking and package</b> | C61157-A7-A67                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Packaging</b>           | F61074-V8168-Z000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Date codes</b>          | L_1126                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>S-parameters</b>        | B5154_NB.s2p, B5154_WB.s2p<br>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:<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." |
| <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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