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RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

# SAW Components

## SAW filter

DCS 1800 band I

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



RF360 Europe GmbH, Anzinger Str. 13, München, Germany

# SAW Components

## SAW filter

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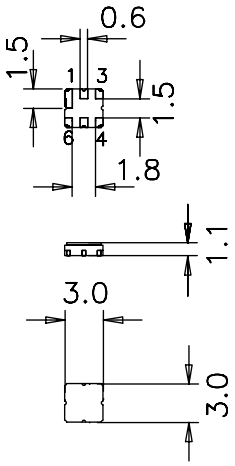
Data sheet SMD

## Application

- DCS1800 band I filter
- Unbalanced to Unbalanced operation
- Low amplitude ripple
- Usable passband of 60 MHz
- No matching required for operation at 50 Ω

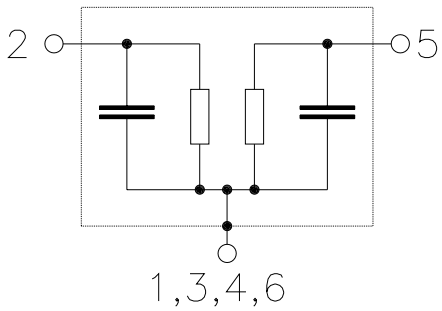

## Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)




## Pin configuration

- 2 Input
- 5 Output
- 1,3,4,6 Case grounded



Data sheet SMD

## Characteristics

Temperature range for specification: T = –40 ˚C to +85 ˚C
Terminating source impedance: $Z_S$ = 50 Ω
Terminating load impedance: $Z_L$ = 50 Ω

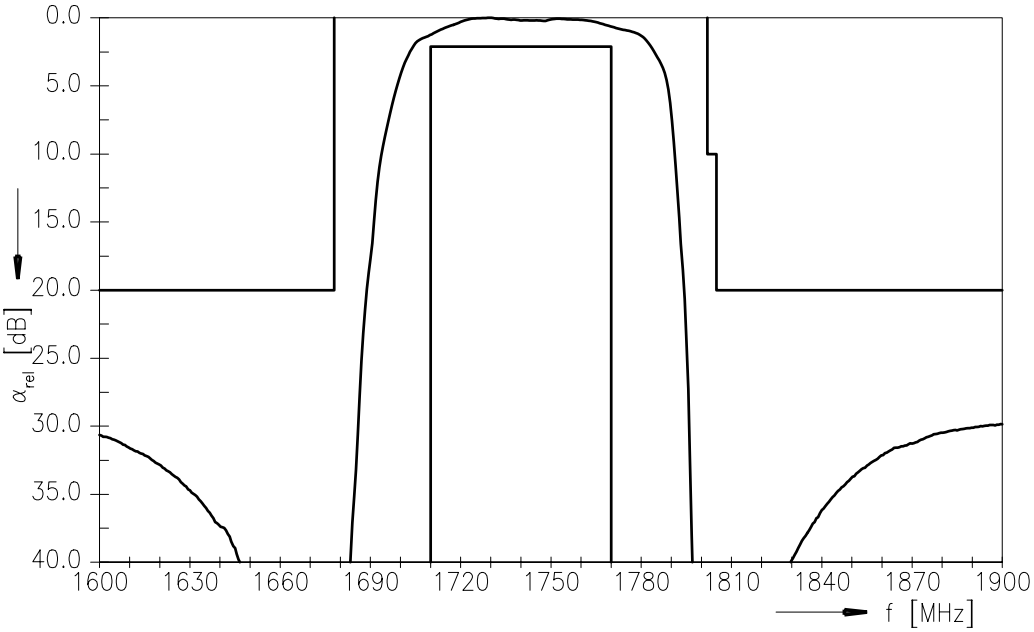
| | | min. | typ. @ 25 ˚C | max. | |
|---|---|---|---|---|---|
| **Center frequency** | $f_N$ | — | 1740.00 | — | MHz |
| **Minimum insertion attenuation** | $\alpha_{min}$ | | | | |
| 1710.0 ... 1770.0 MHz | | — | 1.2 | — | dB |
| **Maximum insertion attenuation** | $\alpha_{max}$ | | | | |
| 1710.0 ... 1770.0 MHz | | — | 2.2 | 3.2 | dB |
| **Amplitude ripple** (p-p) | $\Delta\alpha$ | | | | |
| 1710.0 ... 1770.0 MHz | | — | 1.1 | 2.1 | dB |
| **Input VSWR** | | | | | |
| 1710.0 ... 1770.0 MHz | | — | 1.8:1 | 2.1:1 | |
| **Output VSWR** | | | | | |
| 1710.0 ... 1770.0 MHz | | — | 1.8:1 | 2.1:1 | |
| **Relative attenuation** (relative to $\alpha_{min}$) | $\alpha_{rel}$ | | | | |
| 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 |

**Maximum ratings**

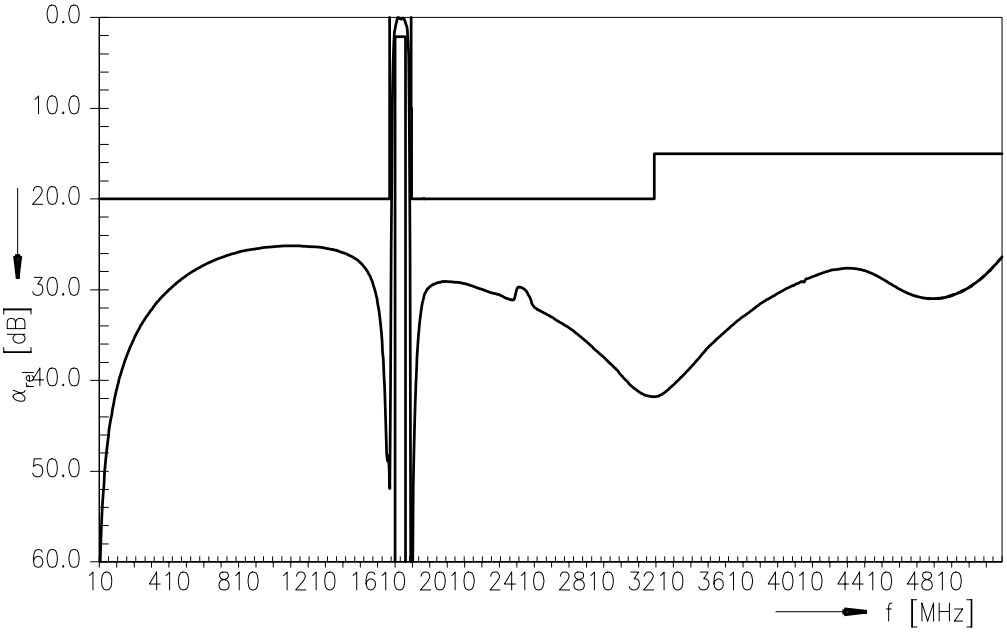
| | | | | |
|---|---|---|---|---|
| Operable temperature range | T | –40/+85 | ˚C | |
| Storage temperature range | $T_{stg}$ | –40/+85 | ˚C | |
| DC voltage | $V_{DC}$ | 0 | V | |
| ESD voltage | $V_{ESD}$ | 50[1)] | V | machine model, 1 pulse |
| Input power at | | | | |
| 1710 ... 1770.0 | $P_{IN}$ | 10 | dBm | Continuous wave (10000 hours) |

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

**Transfer function (normalized)**

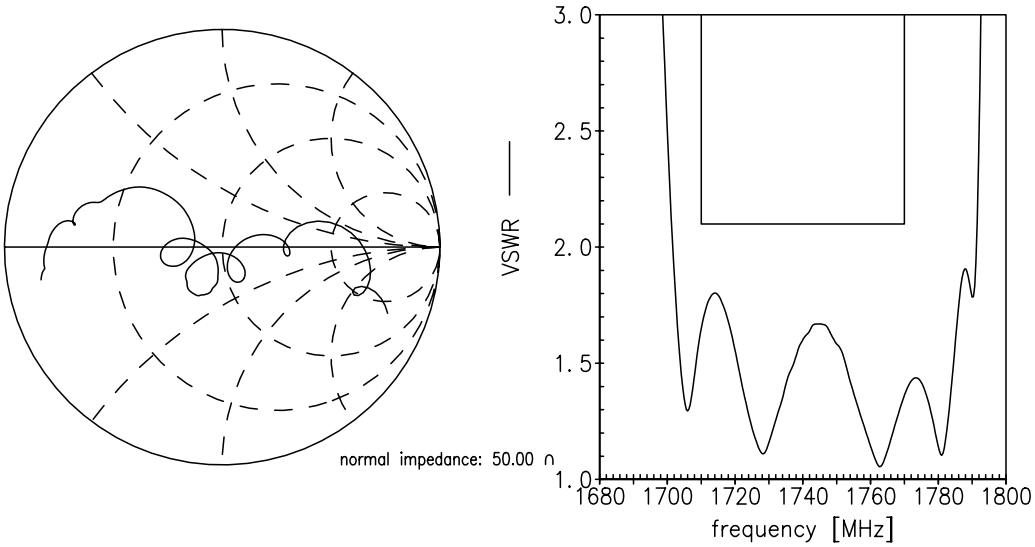



**Transfer function** (wideband)

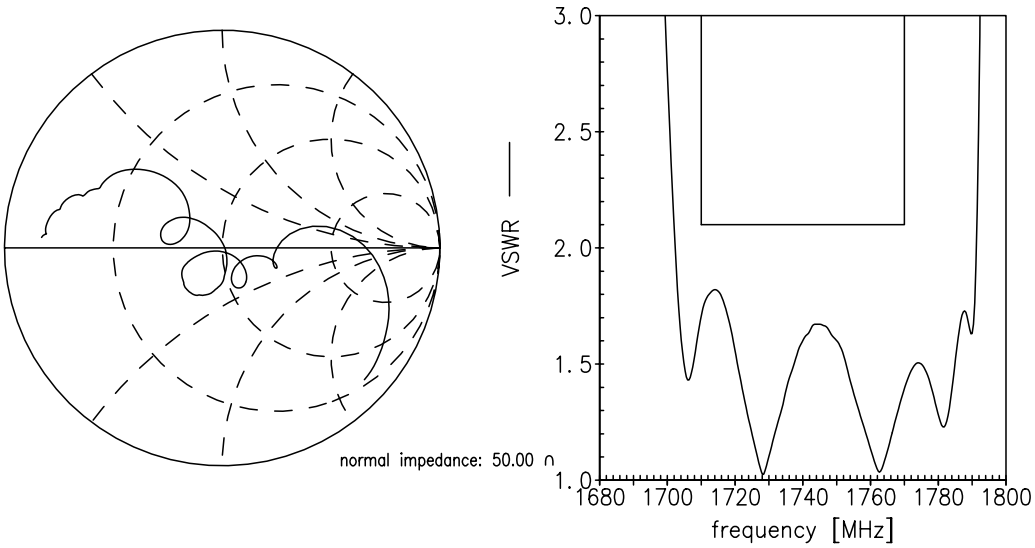


**Smith charts**

**$S_{11}$ function**




**$S_{22}$ function**



**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>http://www.tdk.co.jp/tefe02/coil.htm#aname1<br>http://www.tdk.co.jp/etvcl/index.htm<br>for a large variety of matching coils. |

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