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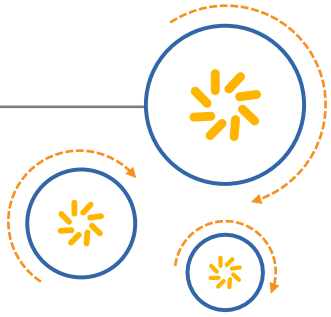

# SAW Components

## SAW RF low loss filter

Satellite CSS

| | |
|---|---|
| Series/type: | B1668 |
| Ordering code: | B39212-B1668-U510 |
| Date: | October 01, 2010 |
| Version: | 2.0 |

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

# SAW Components

## SAW RF low loss filter

Satellite CSS

| | |
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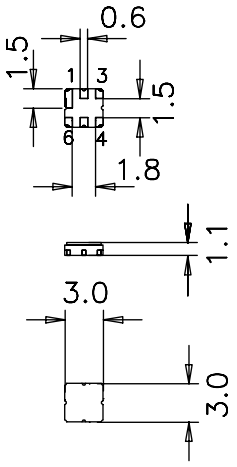
Data sheet SMD

## Application

- Low-loss RF filter for digital video
- Impedance transformation from 200 Ω to 50 Ω
- Balanced to unbalanced operation
- Usable passband 60.0 MHz

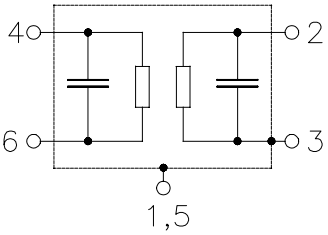
## Features

- Package size 3.0 x3.0 x 1.1 mm$^3$
- Maximum height of 1.225 mm
- Package code DCC6D
- RoHS compatible
- Approximate weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- AEC-Q200 qualified component family
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)




## Pin configuration

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



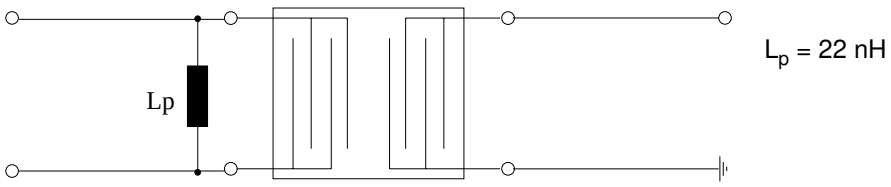
Data sheet SMD

**Characteristics**

Temperature range for specification: T = –40 ˚C to +85 ˚C
Terminating source impedance: $Z_S$ = 200Ω (balanced) and matching network
Terminating load impedance: $Z_L$ = 50Ω

| | | min. | typ. @ 25 ˚C | max. | |
|---|---|---|---|---|---|
| **Nominal frequency** | $f_N$ | — | 2040.00 | — | MHz |
| **Maximum insertion attenuation** | $\alpha_{max}$ | | | | |
| 2010.0 ... 2070.0 MHz | | — | 3.0 | 4.0 | dB |
| **Amplitude ripple in any 30MHz band** (p-p) | $\Delta\alpha$ | | | | |
| 2010.0 ... 2070.0 MHz | | — | 1.1 | 2.5 | dB |
| **Amplitude ripple** (p-p) | $\Delta\alpha$ | | | | |
| 2010.0 ... 2070.0 MHz | | — | 1.2 | 2.5 | dB |
| **Differential to common mode ratio** ($\lvert S_{dd21}/S_{cd21}\rvert$) | | | | | |
| 2010.0 ... 2070.0 MHz | | 16.0 | 19.0 | — | dB |
| **Input return loss** | | 6.0 | 8.0 | — | dB |
| **Output return loss** | | 6.0 | 9.0 | — | dB |
| **Attenuation** | $\alpha$ | | | | |
| 50.0 ... 900.0 MHz | | 35 | 45 | — | dB |
| 1180.0 ... 1650.0 MHz | | 30 | 40 | — | dB |
| 1650.0 ... 1710.0 MHz | | 30 | 35 | — | dB |
| 2140.0 ... 5000.0 MHz | | 16 | 20 | — | dB |
| **Group delay ripple** (p-p) | | | | | |
| 2010.0 ... 2070.0 MHz | | — | 15 | 35 | ns |

**Matching Network (element values depend on PCB layout)**

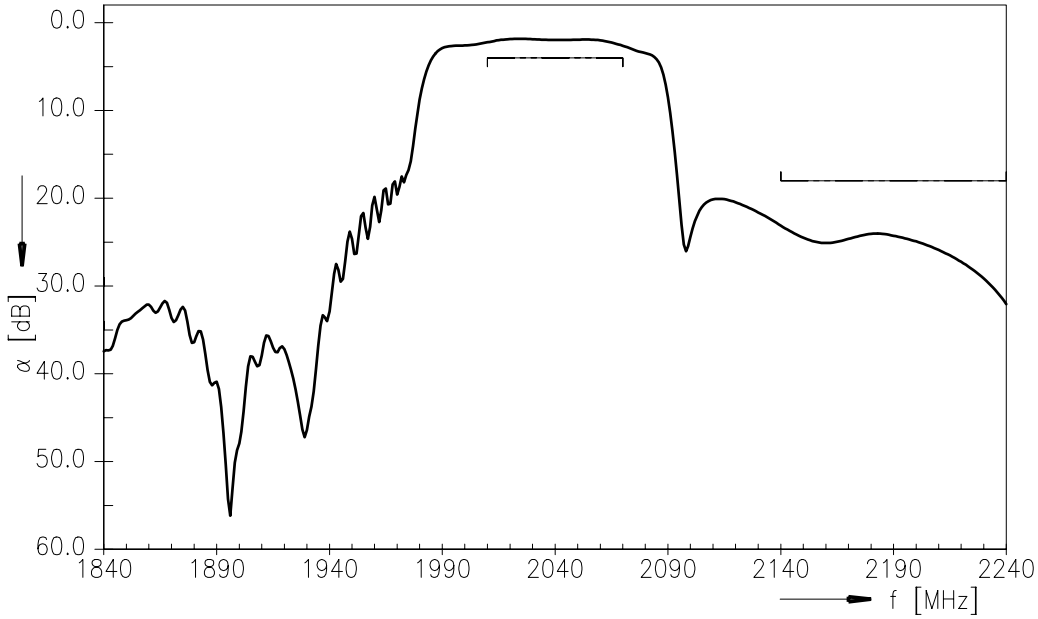



**Maximum ratings**

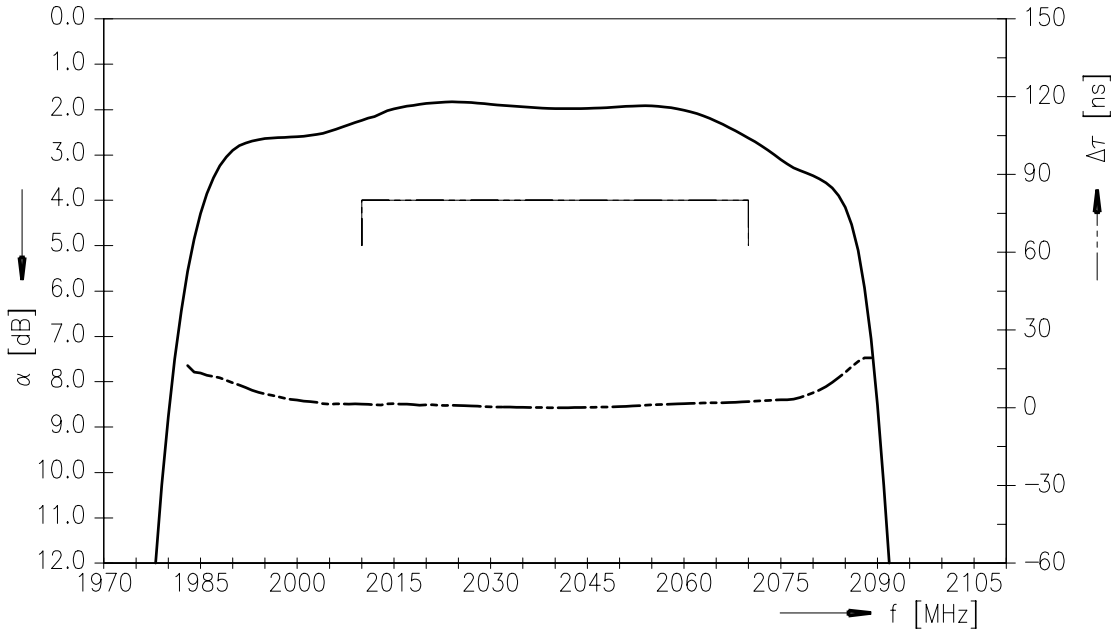
| | | | | |
|---|---|---|---|---|
| Operable temperature range | T | –40/+85 | ˚C | |
| Storage temperature range | $T_{stg}$ | –40/+85 | ˚C | |
| DC voltage | $V_{DC}$ | 0 | V | |
| ESD voltage | $V_{ESD}$ | 50[1)] | V | machine model, 1 pulse |
| Input power at | | | | |
| 2010.0 ...2070.0 MHz | $P_{IN}$ | 0 | dBm | source impedance 200 Ω |

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

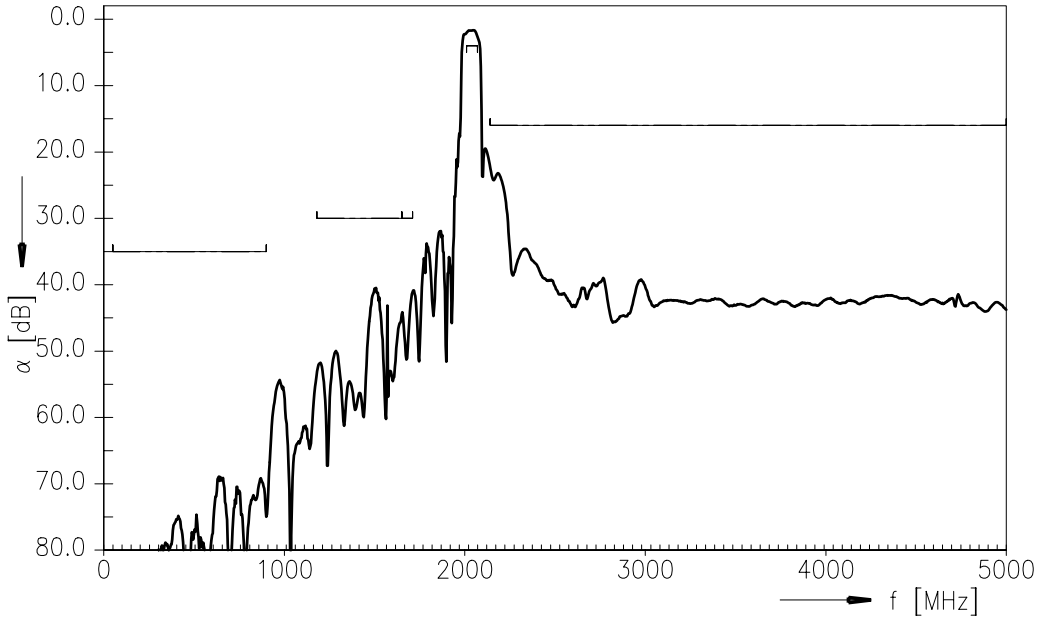
**Transfer function**



**Transfer function** (passband)




**Transfer function** (wideband)



## References

| | |
|---|---|
| **Type** | B1668 |
| **Ordering code** | B39212-B1668-U510 |
| **Marking and package** | C61157-A7-A68 |
| **Packaging** | F61074-V8168-Z000 |
| **Date codes** | L_1126 |
| **S-parameters** | B1668_NB.s3p<br>B1668_WB.s3p<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 Inductor pdf-catalog<br>http://www.tdk.co.jp/tefe02/coil.htm#aname1<br>and Data Library for circuit simulation<br>http://www.tdk.co.jp/etvcl/index.htm |

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