



RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

SAW Components

SAW RF low loss filter

Satellite CSS

| | |
|----------------|-------------------|
| Series/type: | B1675 |
| Ordering code: | B39142B1675B510 |
| Date: | December 10, 2012 |
| Version: | 2.0 |

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SAW Components**B1675****SAW RF low loss filter****1420.0 MHz**

Data sheet

**Revision History: Changes compared to previous iteration issue**

| ISSUE | ORIGINATOR | DETAIL SPEC CHANGES | DATE |
|-----------|------------|--|------------|
| DGLW74S01 | | | |
| 0.1 | HuA | Initial release | 01.03.2010 |
| LW74A | | | |
| 1.0 | QuekJ | First sample run release | 12.05.2010 |
| LW74C | | | |
| 1.0 | QuekJ | Improvement of CMDR and passband performance | 10.01.2011 |
| 1.1 | HuA | Revision history page included | 17.10.2011 |
| 2.0 | HuA | Mass Production release | 10.12.2012 |

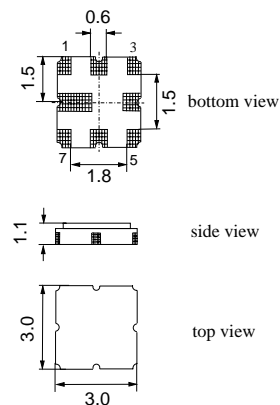
Data sheet


Application

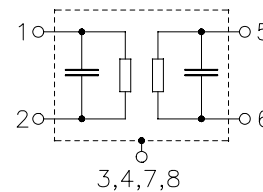
- Low loss RF filter for satellite CSS
- Usable passband 60.0 MHz
- Balanced to balanced operation


Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Maximum height of 1.225 mm
- Package code QCC8F
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**


Pin configuration

- 1 Input
- 2 Input
- 5 Output
- 6 Output
- 3,7 To be grounded
- 4,8 Case ground, to be grounded



SAW Components
B1675
SAW RF low loss filter
1420.0 MHz

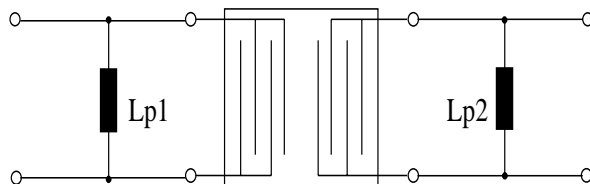
Data sheet


Characteristics

Temperature range for specification: $T = -40\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 150\ \Omega$ (balanced) and matching network
 Terminating load impedance: $Z_L = 150\ \Omega$ (balanced) and matching network

| | | min. | typ. @ 25 °C | max. | |
|---|---------------------|----------------|-----------------|-------------|----------------|
| Nominal frequency | f_N | — | 1420.0 | — | MHz |
| Maximum insertion attenuation 1390.0 ... 1450.0 MHz | α_{\max} | — | 4.6 | 5.5 | dB |
| Pass bandwidth $\alpha_{\text{rel}} \leq 1.5\text{ dB}$ | $B_{1.5\text{ dB}}$ | — | 68.0 | — | MHz |
| Amplitude ripple (p-p) 1390.0 ... 1450.0 MHz | $\Delta\alpha$ | — | 1.6 | 2.5 | dB |
| Input return loss | | 7.4 | 10.0 | — | dB |
| Output return loss | | 7.4 | 11.0 | — | dB |
| Group delay ripple (p-p) 1390.0 ... 1450.0 MHz | $\Delta\tau$ | — | 20.0 | 40.0 | ns |
| CMDR 1390.0 ... 1450.0 MHz | | 20.0 | 27.0 | — | dB |
| Deviation from linear phase (rms) in any 30 MHz band 1390.0 ... 1450.0 MHz | | — | 4.0 | 6.0 | ° |
| Attenuation 50.0 ... 1320.0 MHz 1530.0 ... 3000.0 MHz 3000.0 ... 6000.0 MHz | α | 40 40 30 | 44 44 49 | — — — | dB dB dB |

Data sheet


Matching network (element values depend on PCB layout)


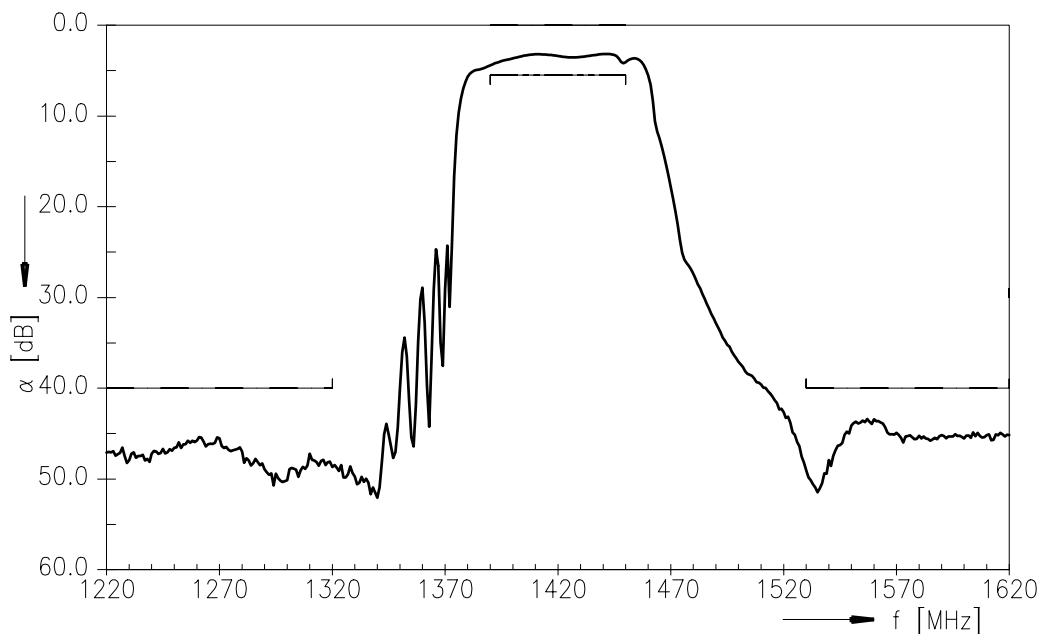
$$L_{p1} = 18 \text{ nH}$$

$$L_{p2} = 20 \text{ nH}$$

Maximum ratings

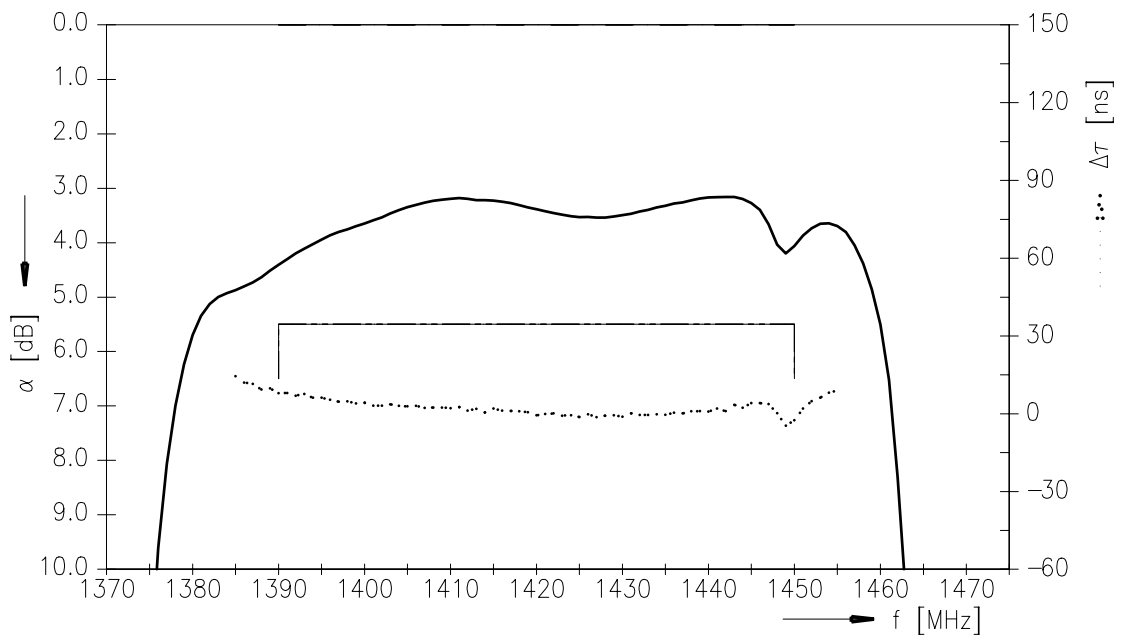
| | | | | |
|--|------------------|------------------|-----|------------------------|
| Operable temperature range | T | -40/+85 | °C | |
| Storage temperature range | T _{stg} | -40/+85 | °C | |
| DC voltage | V _{DC} | 0 | V | |
| ESD voltage | V _{ESD} | 50 ¹⁾ | V | machine model, 1 pulse |
| Input power at 1390.0... 1450.0 MHz | P _{IN} | 0 | dBm | source impedance 150 Ω |

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

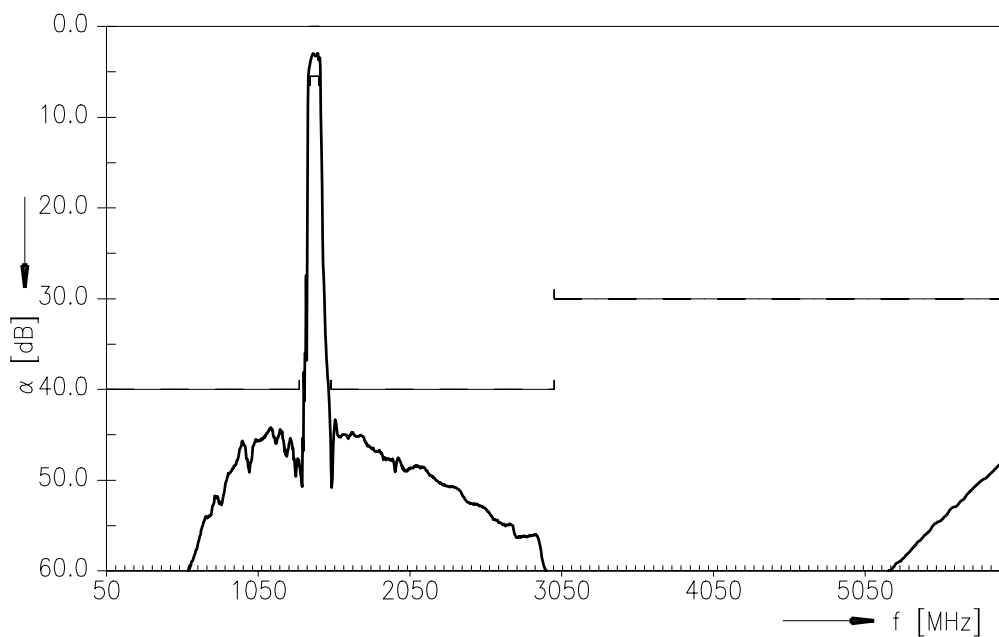
Transfer function S_{dd21}




Transfer function S_{dd21} (passband)



Transfer function S_{dd21} (wideband)



| | |
|-------------------------------|-------------------|
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| SAW RF low loss filter | 1420.0 MHz |

Data sheet



References

| | |
|----------------------------|--|
| Type | B1675 |
| Ordering code | B39142B1675B510 |
| Marking and package | C61157-A7-A72 |
| Packaging | F61074-V8168-Z000 |
| Date codes | L_1126 |
| S-parameters | B1675_NB.s4p; B1675_WB.s4p |
| Soldering profile | S_6001 |
| RoHS compatible | defined as compatible with the following documents: "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." |
| Moldability | Before using in overmolding environment, please contact your EPCOS sales office. |
| Matching coils | See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm |

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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