

RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

SAW Components

SAW RF low loss filter

Satellite CSS

| | |
|----------------|-------------------|
| Series/type: | B1666 |
| Ordering code: | B39142-B1666-U510 |
| Date: | October 01, 2010 |
| Version: | 2.0 |

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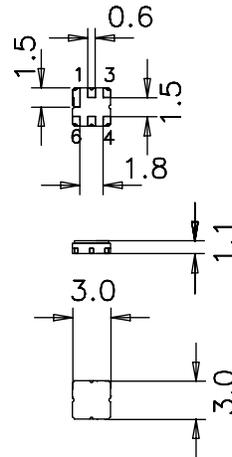
Data sheet


Application

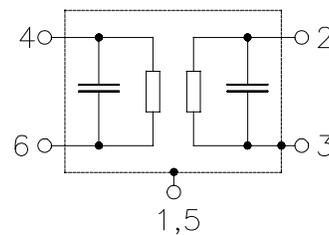
- Low-loss RF filter for digital video
- Impedance transformation from 200 Ω to 50 Ω
- Balanced to unbalanced operation
- Usable passband 60.0 MHz


Features

- Package size 3.0 x3.0 x 1.1 mm³
- Maximum height of 1.225 mm
- Package code DCC6D
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- AEC-Q200 qualified component family


Pin configuration

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



SAW Components
B1666
SAW RF low loss filter
1420.00 MHz

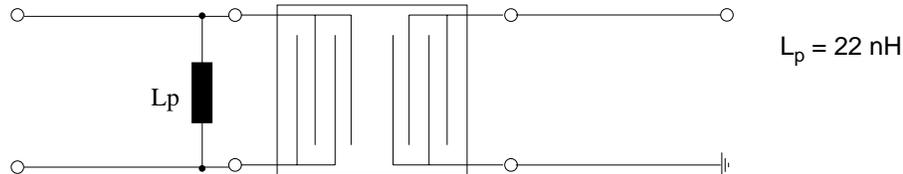
Data sheet


Characteristics

Temperature range for specification: $T = -40\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 200\Omega$ (balanced) and matching network
 Terminating load impedance: $Z_L = 50\Omega$

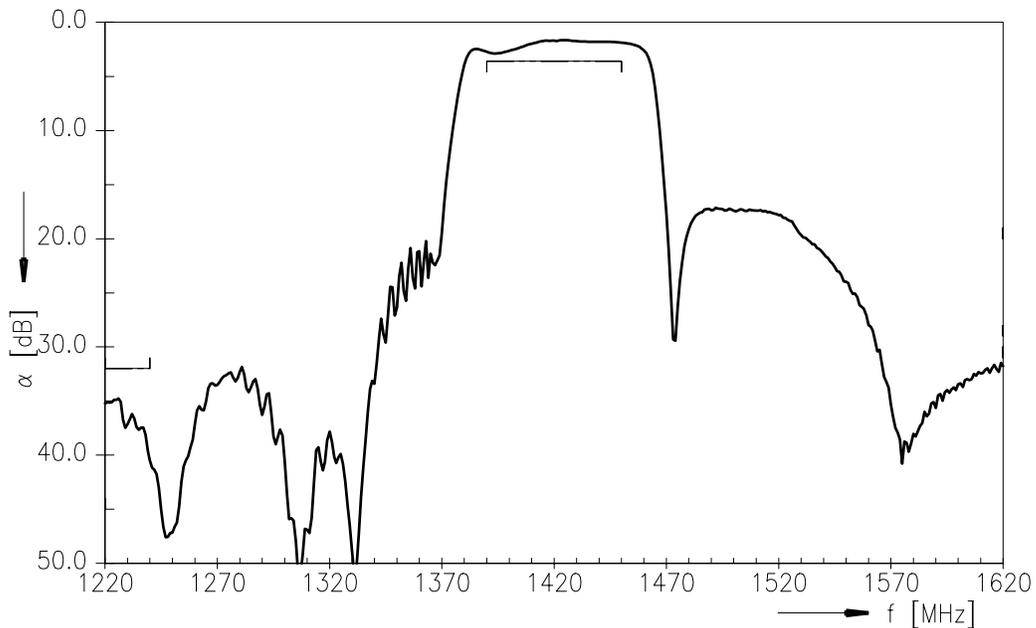
| | | min. | typ. @ 25 °C | max. | |
|--|-----------------|------|-----------------|------|-----|
| Nominal frequency | f_N | — | 1420.00 | — | MHz |
| Maximum insertion attenuation 1390.0 ... 1450.0 MHz | α_{\max} | — | 2.6 | 3.6 | dB |
| Amplitude ripple in any 30MHz band (p-p) 1390.0 ... 1450.0 MHz | $\Delta\alpha$ | — | 1.2 | 2.0 | dB |
| Amplitude ripple (p-p) 1390.0 ... 1450.0 MHz | $\Delta\alpha$ | — | 1.2 | 2.0 | dB |
| Differential to common mode ratio ($ S_{dd21}/S_{cd21} $) 1390.0 ... 1450.0 MHz | | 18.0 | 21.0 | — | dB |
| Input return loss | | 6.0 | 8.0 | — | dB |
| Output return loss | | 6.0 | 8.0 | — | dB |
| Attenuation | α | | | | |
| 50.0 ... 900.0 MHz | | 45 | 48 | — | dB |
| 1180.0 ... 1240.0 MHz | | 32 | 35 | — | dB |
| 1650.0 ... 1710.0 MHz | | 29 | 32 | — | dB |
| 1710.0 ... 2070.0 MHz | | 31 | 34 | — | dB |
| 2070.0 ... 5000.0 MHz | | 20 | 25 | — | dB |
| Group delay ripple (p-p) 1390.0 ... 1450.0 MHz | | — | 15 | 30 | ns |

Data sheet


Matching Network (element values depend on PCB layout)

Maximum ratings

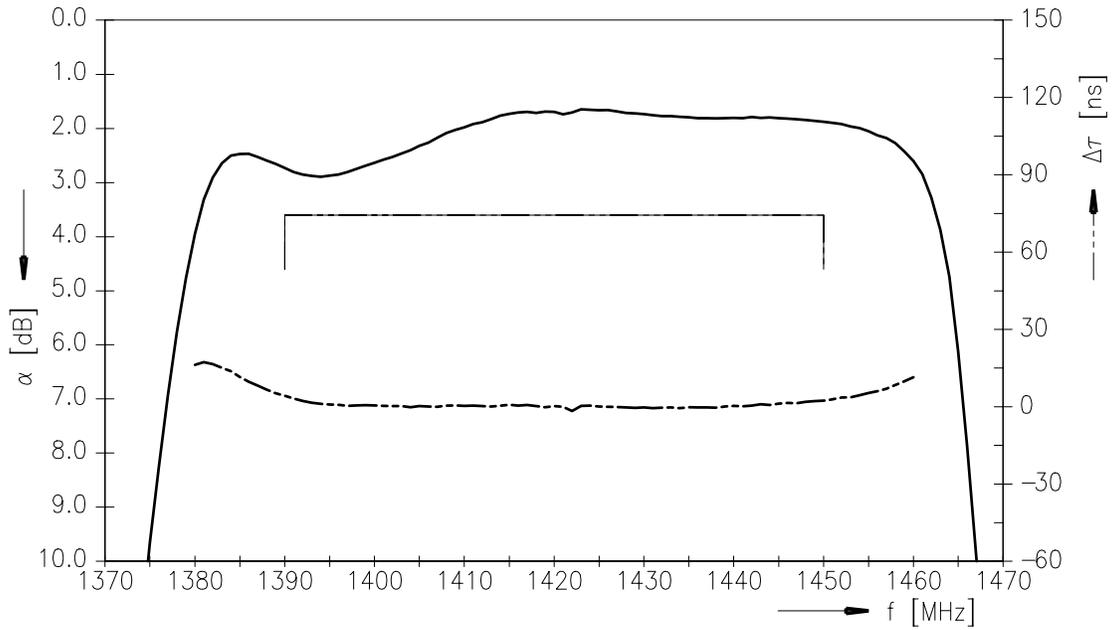
| | | | | |
|---|------------------|------------------|-----|------------------------|
| Operable temperature range | T | -40/+85 | °C | |
| Storage temperature range | T _{stg} | -40/+85 | °C | |
| DC voltage | V _{DC} | 0 | V | |
| ESD voltage | V _{ESD} | 50 ¹⁾ | V | machine model, 1 pulse |
| Input power at 1390.0 MHz...1450.0 MHz | P _{IN} | 0 | dBm | source impedance 200 Ω |

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

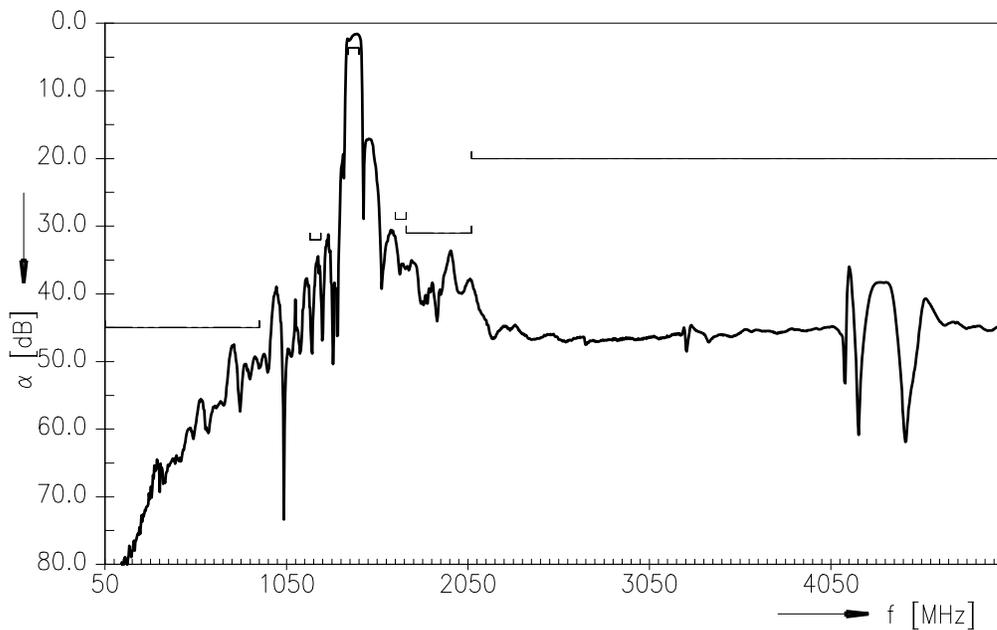
Transfer function




Transfer function (passband)



Transfer function (wideband)



| | |
|-------------------------------|--------------------|
| SAW Components | B1666 |
| SAW RF low loss filter | 1420.00 MHz |

Data sheet



References

| | |
|----------------------------|--|
| Type | B1666 |
| Ordering code | B39142-B1666-U510 |
| Marking and package | C61157-A7-A68 |
| Packaging | F61074-V8168-Z000 |
| Date codes | L_1126 |
| S-parameters | B1666_NB.s3p B1666_WB.s3p see file header for port/pin assignment table. |
| 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." |
| 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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