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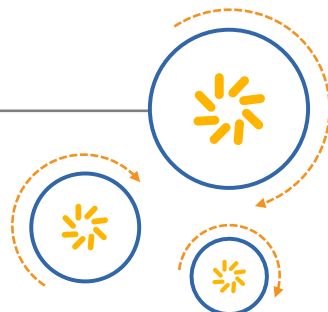
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RF360 Europe GmbH

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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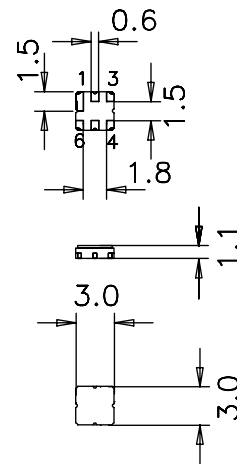
Data sheet


**Application**

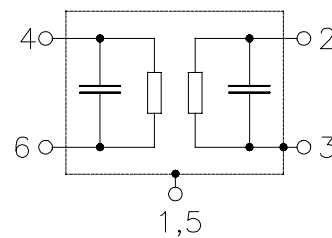
- Low-loss RF filter for digital video
- Impedance transformation from 200 Ω to 50 Ω
- Balanced to unbalanced operation
- Usable passband 60.0 MHz


**Features**

- Package size 3.0 x3.0 x 1.1 mm<sup>3</sup>
- 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

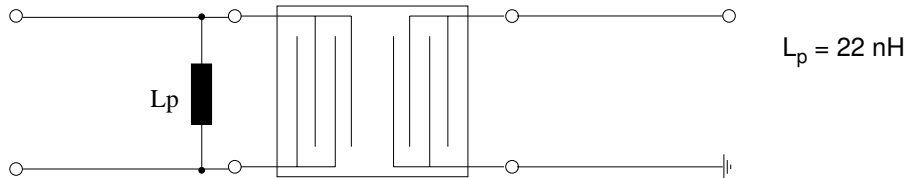

**Characteristics**

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

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	$f_N$	—	1420.00	—	MHz
<b>Maximum insertion attenuation</b> 1390.0 ... 1450.0 MHz	$\alpha_{\max}$	—	2.6	3.6	dB
<b>Amplitude ripple in any 30MHz band (p-p)</b> 1390.0 ... 1450.0 MHz	$\Delta\alpha$	—	1.2	2.0	dB
<b>Amplitude ripple (p-p)</b> 1390.0 ... 1450.0 MHz	$\Delta\alpha$	—	1.2	2.0	dB
<b>Differential to common mode ratio</b> ( $ S_{dd21}/S_{cd21} $ ) 1390.0 ... 1450.0 MHz		18.0	21.0	—	dB
<b>Input return loss</b>		6.0	8.0	—	dB
<b>Output return loss</b>		6.0	8.0	—	dB
<b>Attenuation</b>	$\alpha$				
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
<b>Group delay ripple (p-p)</b> 1390.0 ... 1450.0 MHz		—	15	30	ns

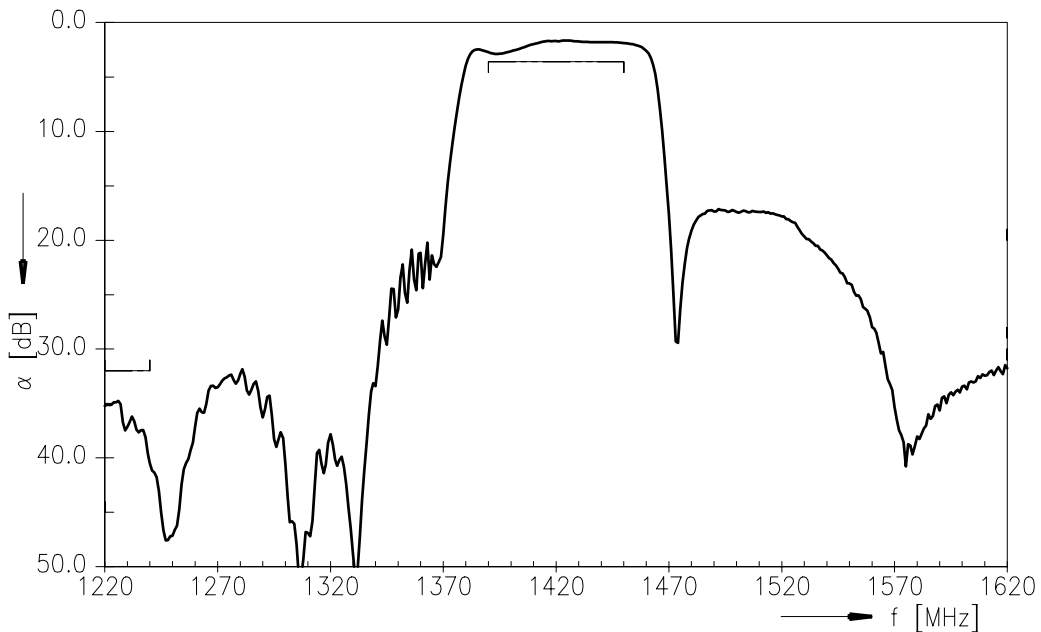


Data sheet


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

**Maximum ratings**

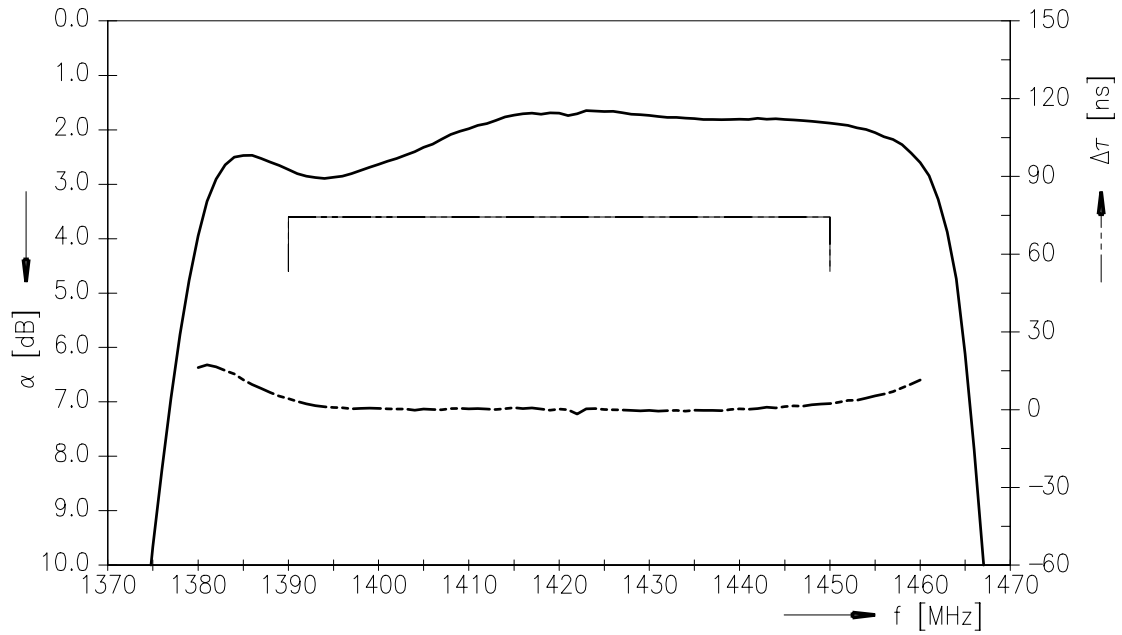
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input power at 1390.0 MHz...1450.0 MHz	P <sub>IN</sub>	0	dBm	source impedance 200 Ω

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

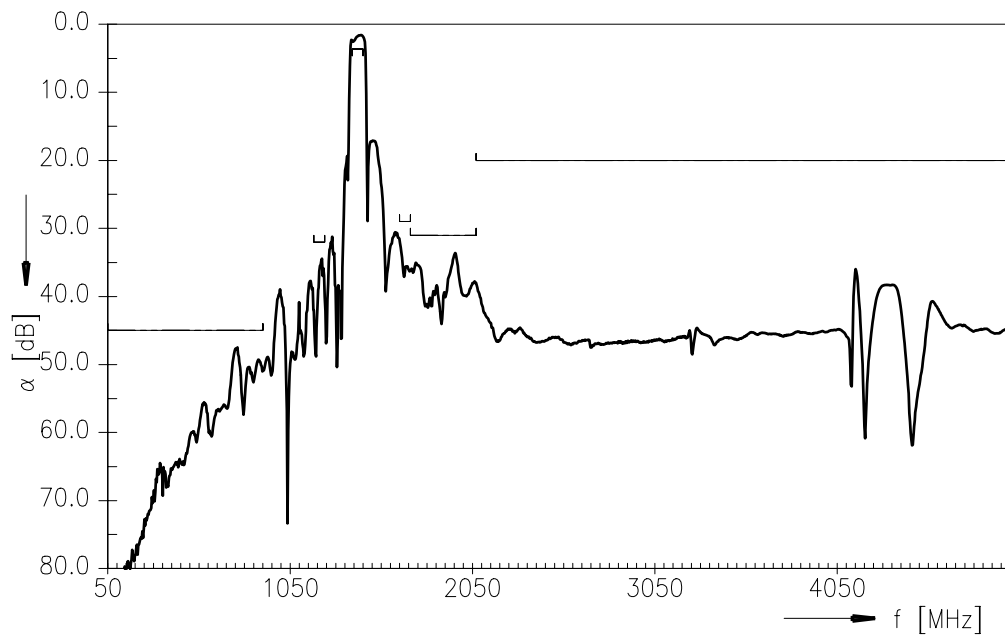
**Transfer function**




Transfer function (passband)



Transfer function (wideband)





<b>SAW Components</b>	<b>B1666</b>
<b>SAW RF low loss filter</b>	<b>1420.00 MHz</b>

Data sheet



## References

<b>Type</b>	B1666
<b>Ordering code</b>	B39142-B1666-U510
<b>Marking and package</b>	C61157-A7-A68
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B1666_NB.s3p B1666_WB.s3p 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: "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 <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> and Data Library for circuit simulation <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a>

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