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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Revision History: Changes compared to previous iteration issue

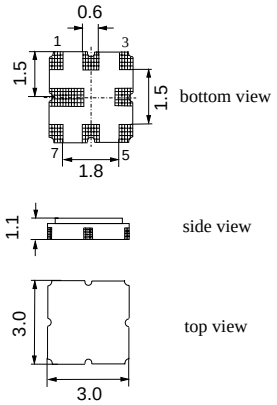
ISSUE	ORIGINATOR	DETAIL SPEC CHANGES	DATE
DGLW74S01			
0.1	HuA	Initial release	01.03.2010
LW74A			
1.0	QuekJ	First sample run release	12.05.2010
LW74C			
1.0	QuekJ	Improvement of CMDR and passband performance	10.01.2011
1.1	HuA	Revision history page included	17.10.2011
2.0	HuA	Mass Production release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

Application

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

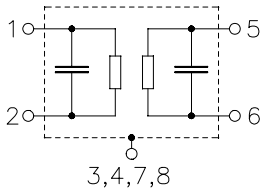
Features

- Package size 3.0 x 3.0 x 1.1 mm^3
- Maximum height of 1.225 mm
- Package code QCC8F
- 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

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



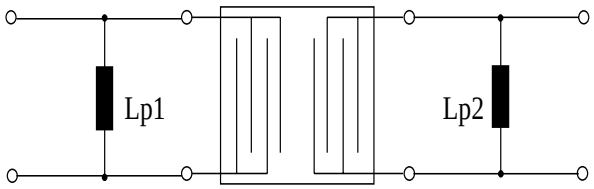
Data sheet

Characteristics

Temperature range for specification: T = –40 ˚C to +85 ˚C
Terminating source impedance: Z_S = 150 Ω (balanced) and matching network
Terminating load impedance: Z_L = 150 Ω (balanced) and matching network

		min.	typ. @ 25 ˚C	max.	
Nominal frequency	f_N	—	1420.0	—	MHz
Maximum insertion attenuation	α_{max}				
1390.0 ... 1450.0 MHz		—	4.6	5.5	dB
Pass bandwidth					
$\alpha_{rel} \leq 1.5$ dB	$B_{1.5\ dB}$	—	68.0	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
1390.0 ... 1450.0 MHz		—	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)	$\Delta\tau$				
1390.0 ... 1450.0 MHz		—	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	α				
50.0 ... 1320.0 MHz		40	44	—	dB
1530.0 ... 3000.0 MHz		40	44	—	dB
3000.0 ... 6000.0 MHz		30	49	—	dB

Matching network (element values depend on PCB layout)



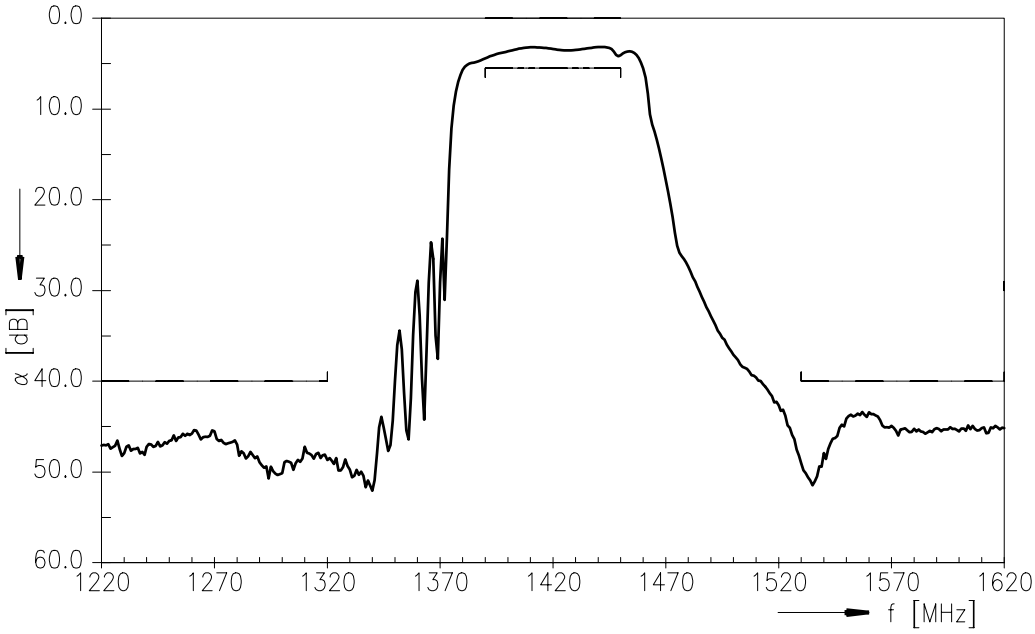
L_{p1} = 18 nH
L_{p2} = 20 nH

Maximum ratings

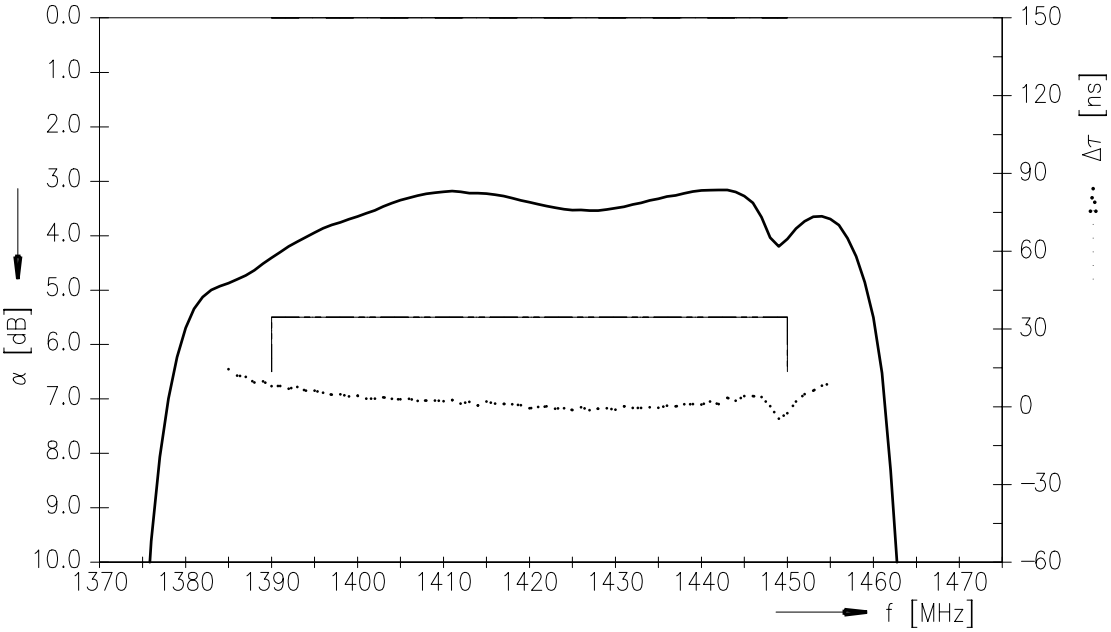
Operable temperature range	T	–40/+85	°C	
Storage temperature range	T_{stg}	–40/+85	°C	
DC voltage	V_{DC}	0	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 1 pulse
Input power at				
1390.0... 1450.0 MHz	P_{IN}	0	dBm	source impedance 150 Ω

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

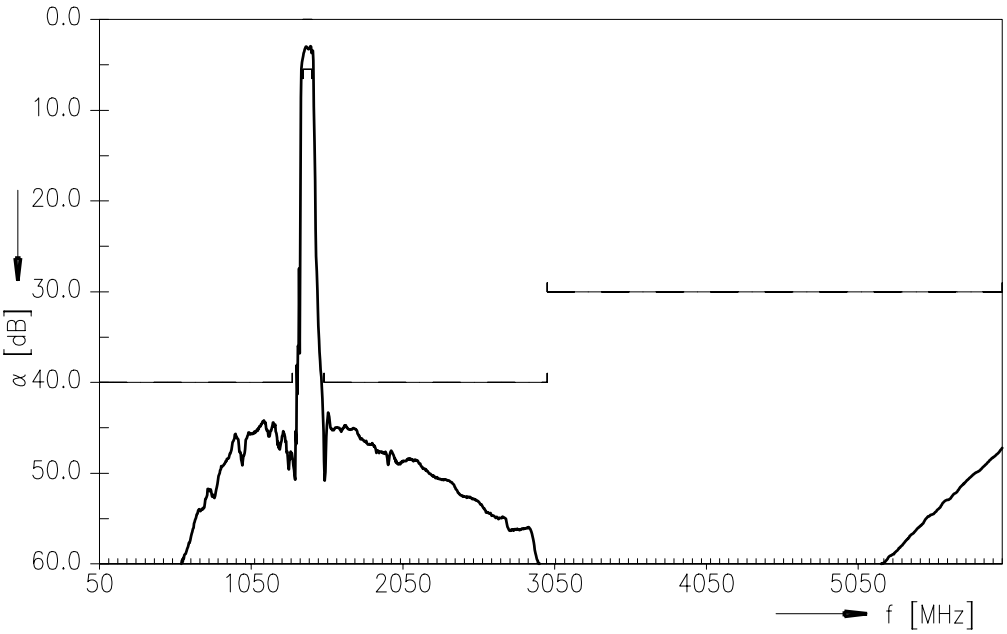
Transfer function S_{dd21}



Transfer function S_{dd21} (passband)



Transfer function S_{dd21} (wideband)



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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