



SAW Components

SAW RF low loss filter
SCR

Series/type:	B1635
Ordering code:	B39152B1635U510
Date:	February 21, 2008
Version:	2.0

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SAW Components	B1635
SAW RF low loss filter	1516.0 MHz

Data Sheet



Revision History: Changes compared to previous iteration issue

ISSUE	ORIGINATOR	DETAIL SPEC CHANGES	DATE
LI17A			
1.0	P. Jameux	initial release after first prototypes	21.12.2007
B1635			
2.0	P. Jameux	no change, except ordering code definition	21.02.2008

Please read *cautions and warnings and important notes* at the end of this document.



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Data Sheet



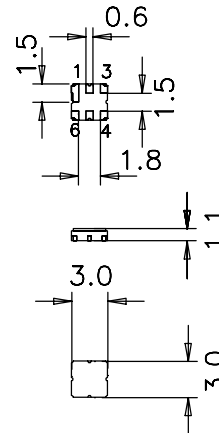
Application

- Low loss RF filter for satellite channel router
- Usable passband 40.5 MHz
- High rejection
- 200 Ω balanced to 75 Ω unbalanced operation



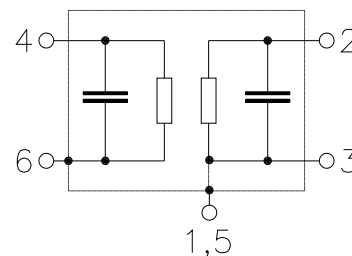
Features

- Package size 3.0 x 3.0 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)**



Pin configuration

- 4 Input
- 6 Input
- 2 Output
- 1, 3, 5 Case ground



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Characteristics

Temperature range for specification: $T = +25\text{ °C} \pm 2\text{ °C}$
 Terminating source impedance: $Z_S = 200\ \Omega$ and matching network
 Terminating load impedance: $Z_L = 75\ \Omega$

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	1516.0	—	MHz
Insertion attenuation at 1516.0 MHz	α_0	—	2.3	2.7	dB
Pass bandwidth $\alpha_{rel} \leq 1.0$ dB	$B_{1\text{ dB}}$	—	58.5	—	MHz
Amplitude ripple (p-p) 1492.2 ... 1539.7 MHz	$\Delta\alpha$	—	0.6	1.0	dB
Group delay ripple (p-p) 1497.4 ... 1534.5 MHz	$\Delta\tau$	—	6.0	10.0	ns
Relative attenuation (relative to α_0)	α_{rel}				
0.3 ... 862.0 MHz		60.0	70.0	—	dB
862.0 ... 1308.1 MHz		50.0	55.0	—	dB
1308.1 ... 1423.9 MHz		45.0	51.0	—	dB
1608.1 ... 1724.6 MHz		33.0	39.0	—	dB
1724.6 ... 2000.0 MHz		50.0	53.0	—	dB
2000.0 ... 2500.0 MHz		40.0	45.0	—	dB
2500.0 ... 3500.0 MHz		30.0	35.0	—	dB
Common Mode Rejection Ratio (CMRR) 1492.2 ... 1539.7 MHz		20.0	33.0	—	dB
Input VSWR 1492.2 ... 1539.7 MHz		—	1.7	2.0	
Output VSWR 1492.2 ... 1539.7 MHz		—	1.9	2.2	

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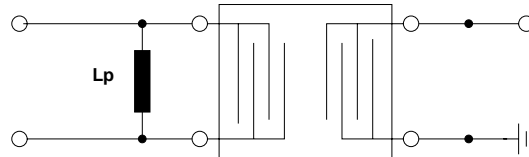
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Matching network (element value depends on PCB layout)

$L_p = 22 \text{ nH}$



Maximum ratings

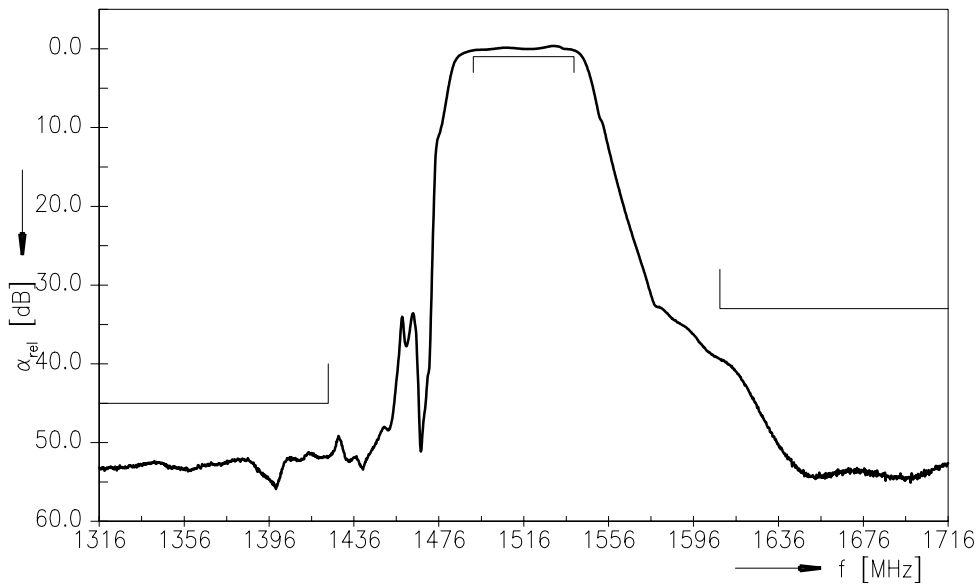
Operable temperature range	T	-30/+80	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 10 pulses
Input power at 1492.2... 1539.7 MHz	P _{IN}	0	dBm	source impedance 200 Ω

¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

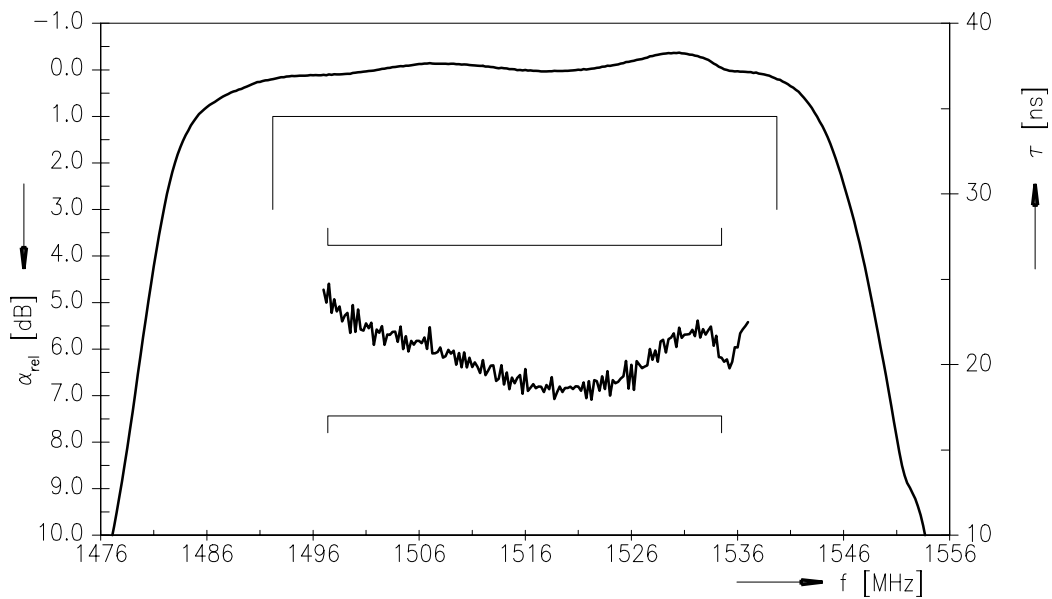
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Transfer function S_{21} with matching network



Transfer function S_{21} (passband) with matching network



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References

Type	B1635
Ordering code	B39152B1635U510
Marking and package	C61157-A7-A68
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	
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."

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