SAW Components

SAW RF low loss filter

SCR

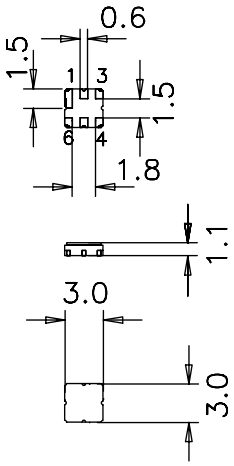
Series/type:	**B1640**
Ordering code:	**B39212B1640U510**
Date:	November 21, 2008
Version:	2.0

Application

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

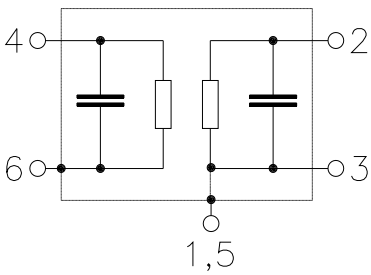
Features

- 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 **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)



Pin configuration

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



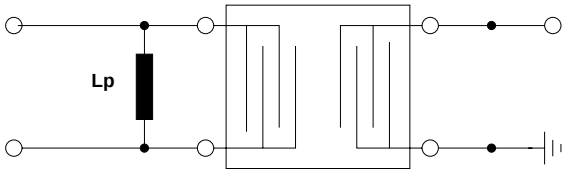
Characteristics

Temperature range for specification: T = +25 ˚C ± 2˚C
Terminating source impedance: Z_S = 200 Ω and matching network
Terminating load impedance: Z_L = 75 Ω

		min.	typ. @ 25 ˚C	max.	
Nominal frequency	f_N	—	2096.0	—	MHz
Insertion attenuation	α_0				
at 2096.0 MHz		—	2.9	3.2	dB
Pass bandwidth					
$\alpha_{rel} \leq$ 1.0 dB	$B_{1\ dB}$	—	72.3	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
2072.1 ... 2119.8 MHz		—	0.5	1.0	dB
Group delay ripple (p-p)	$\Delta\tau$				
2077.4 ... 2114.5 MHz		—	4.0	10.0	ns
Relative attenuation (relative to α_0)	α_{rel}				
0.3 ... 862.0 MHz		60.0	65.0	—	dB
862.0 ... 1887.4 MHz		45.0	49.0	—	dB
1887.4 ... 2003.6 MHz		33.0	43.0	—	dB
2190.0 ... 2300.0 MHz		25.0	29.0	—	dB
2300.0 ... 2500.0 MHz		40.0	45.0	—	dB
2500.0 ... 3500.0 MHz		30.0	37.0	—	dB
Common Mode Rejection Ratio (CMRR)					
2072.1 ... 2119.8 MHz		20.0	24.0	—	dB
Input VSWR					
2072.1 ... 2119.8 MHz		—	2.0	2.2	
Output VSWR					
2072.1 ... 2119.8 MHz		—	2.0	2.2	

Matching network (element value depends on PCB layout)

L_P = 12 nH

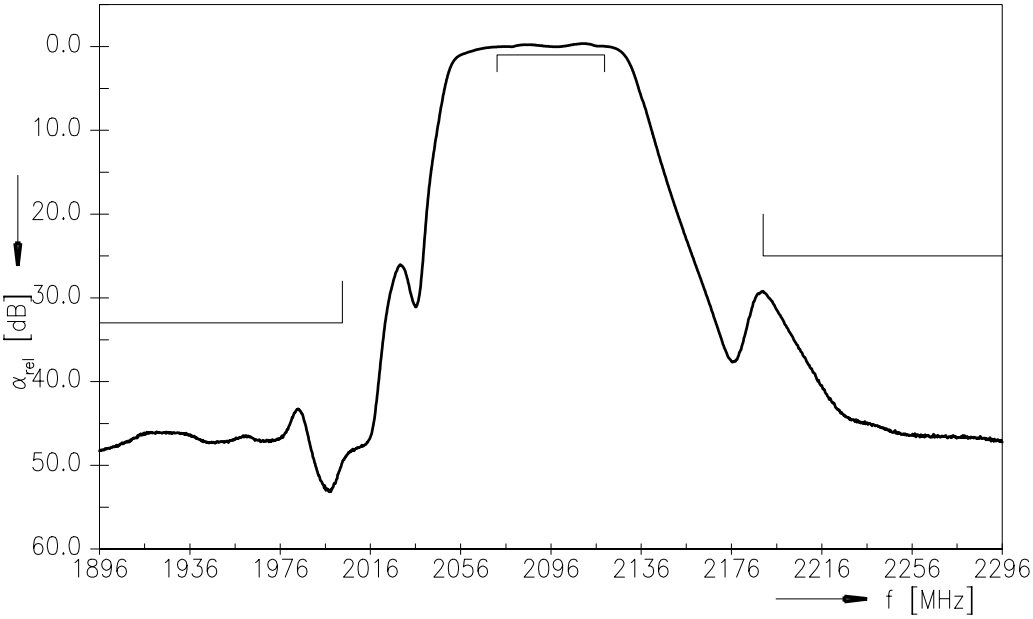


Maximum ratings

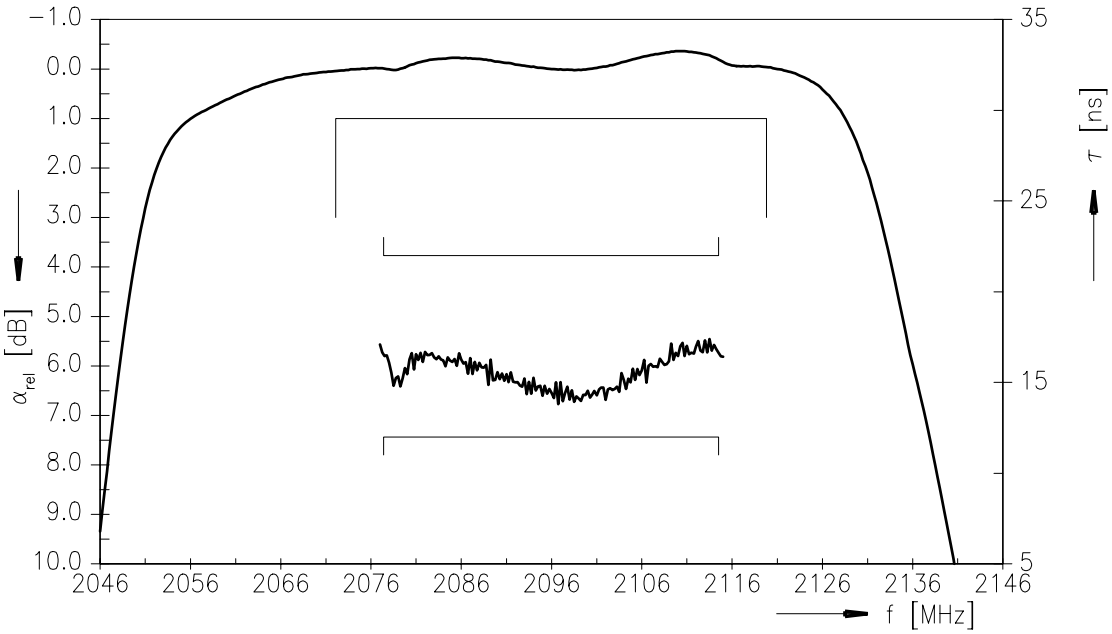
Operable temperature range	T	–30/+80	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	0	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 1 pulse
Input power at				
2072.1... 2119.8 MHz	P_{IN}	0	dBm	source impedance 200 Ω

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

Transfer function S_{21} with matching network



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



References

Type	B1640
Ordering code	B39212B1640U510
Marking and package	C61157-A7-A68
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B1640_NB_UN.s3p
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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Published by EPCOS AG
Surface Acoustic Wave Components Division
P.O. Box 80 17 09, 81617 Munich, GERMANY

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