



SAW Components

SAW RF low loss filter

Satellite CSS

Series/type:	B1652
Ordering code:	B39112-B1652-B510
Date:	January 11, 2011
Version:	2.2



Data sheet



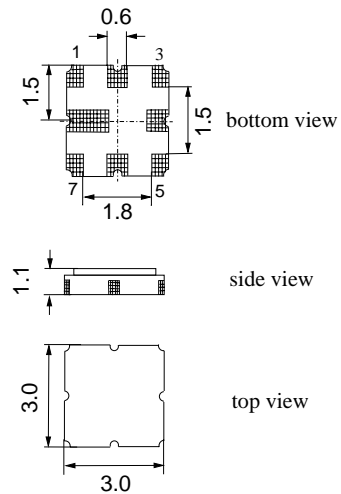
Application

- Low loss RF filter for satellite CSS
- Usable passband 40.0 MHz
- Balanced to balanced operation



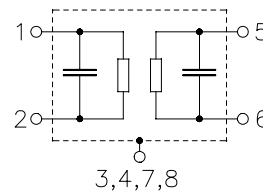
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Maximum height of 1.225 mm
- Package code QCC8F
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

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





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1076.06 MHz

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Characteristics

Temperature range for specification: $T = -40\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 150\ \Omega$ (balanced) and matching network
 Terminating load impedance: $Z_L = 150\ \Omega$ (balanced) and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	1076.06	—	MHz
Maximum insertion attenuation 1056.06 ... 1096.06 MHz	α_{max}	—	2.6	4.0	dB
Pass bandwidth $\alpha_{rel} \leq 1.5\text{ dB}$	$B_{1.5\text{ dB}}$	—	53.6	—	MHz
Amplitude ripple (p-p) 1056.06 ... 1096.06 MHz	$\Delta\alpha$	—	1.5	2.0	dB
Input return loss		8.0	12.0	—	dB
Output return loss		8.0	12.0	—	dB
Group delay ripple (p-p) 1056.06 ... 1096.06 MHz	$\Delta\tau$	—	15.0	40.0	ns
Differential to common mode ratio ($ S_{dd21}/S_{cd21} $) 1056.06 ... 1096.06 MHz		25.0	30.0	—	dB
Deviation from linear phase (rms) in any 30 MHz band 1056.06 ... 1096.06 MHz		—	5.5	7.0	°
Relative attenuation	α				
50.00 ... 994.04 MHz		47.0	54.0	—	dB
1158.20 ... 3150.00 MHz		38.0	42.0	—	dB
3150.00 ... 6000.00 MHz		25.0	40.0	—	dB



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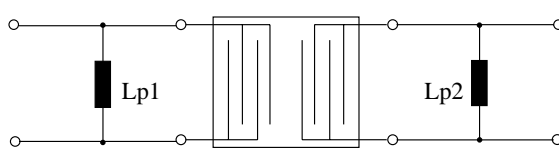
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Matching network (element values depend on PCB layout)



$$L_{p1} = 33\text{nH}$$

$$L_{p2} = 33\text{nH}$$

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 1056.06... 1096.06 MHz	P _{IN}	0	dBm	source impedance 150 Ω

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



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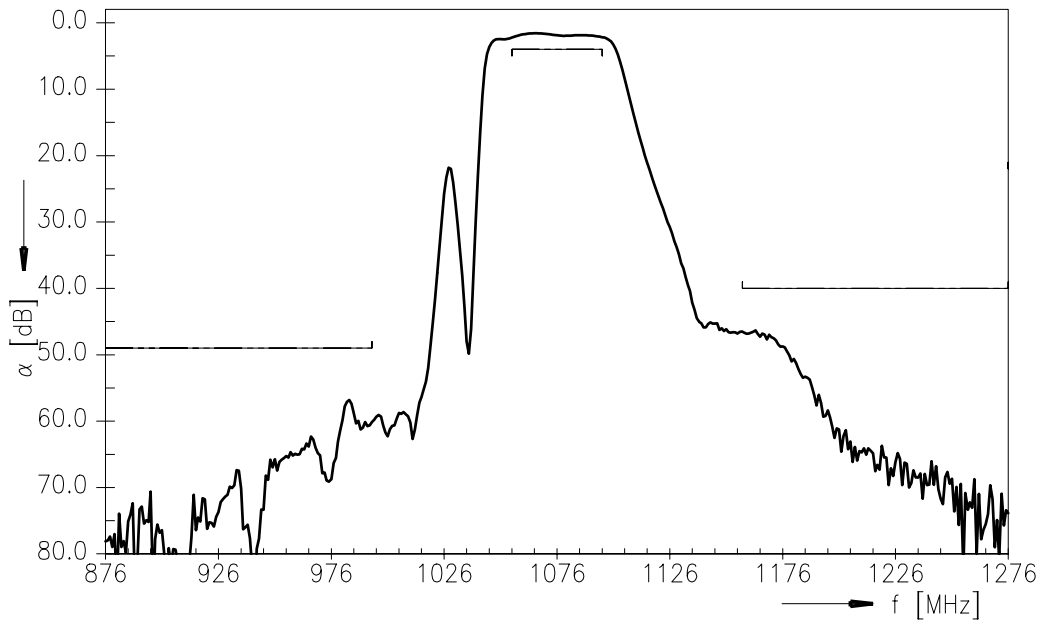
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1076.06 MHz

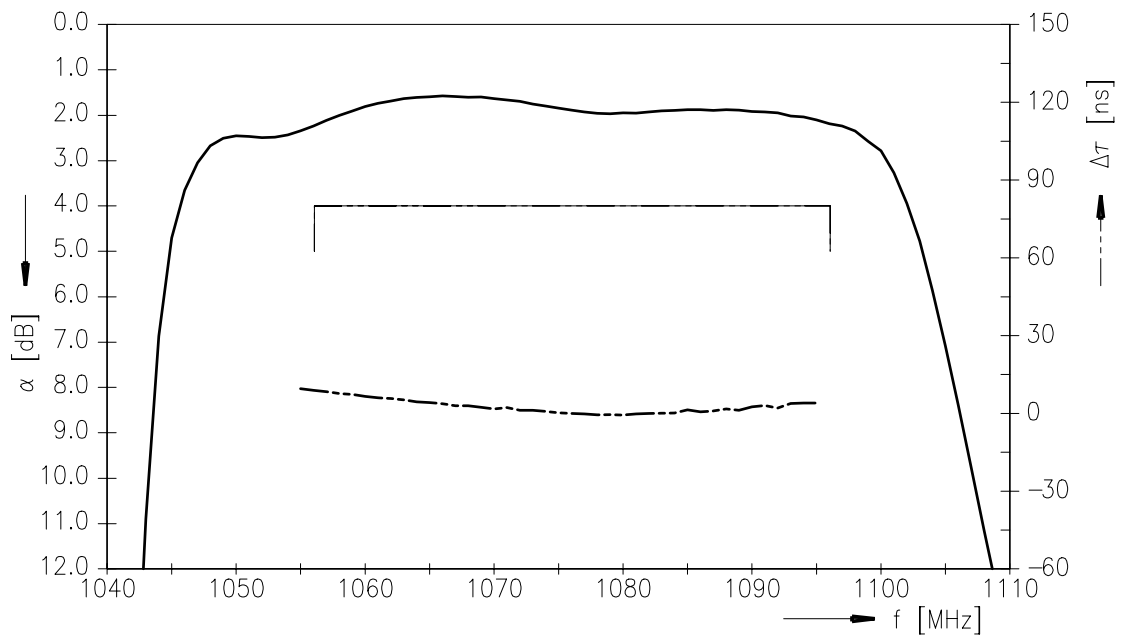
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Transfer function



Transfer function (passband)



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



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References

Type	B1652
Ordering code	B39112-B1652-B510
Marking and package	C61157-A7-A72
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B1652_NB.s4p 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

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