



SAW Components

SAW RF low loss filter

Satellite CSS

Series/type:	B1656
Ordering code:	B39152-B1656-B510
Date:	September 15, 2009
Version:	2.0

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Data Sheet



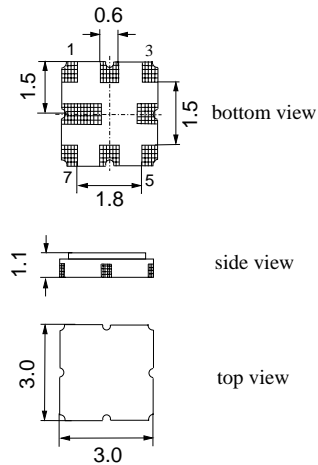
Application

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



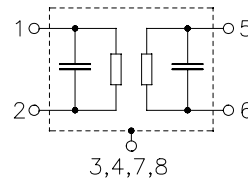
Features

- 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



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



Data Sheet



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	—	1484.30	—	MHz
Maximum insertion attenuation 1464.30 ... 1504.30 MHz	α_{max}	—	3.0	4.0	dB
Pass bandwidth $\alpha_{rel} \leq 3.0\text{ dB}$	$B_{3.0\text{ dB}}$	—	57.0	—	MHz
Amplitude ripple (p-p) 1464.30 ... 1504.30 MHz	$\Delta\alpha$	—	1.5	2.0	dB
Input return loss		8.0	11.0	—	dB
Output return loss		8.0	11.0	—	dB
Group delay ripple (p-p) 1464.30 ... 1504.30 MHz	$\Delta\tau$	—	15.0	30.0	ns
Differential to common mode ratio ($ S_{dd21}/S_{cd21} $) 1464.30 ... 1504.30 MHz		22.0	30.0	—	dB
Deviation from linear phase (rms) in any 30 MHz band 1464.30 ... 1504.30 MHz		—	7.0	8.0	°
Relative attenuation	α				
50.00 ... 1402.20 MHz		48.0	52.0	—	dB
1566.40 ... 3500.00 MHz		34.0	39.0	—	dB
3500.00 ... 6000.00 MHz		17.0	—	—	dB



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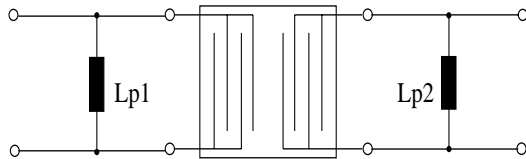
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1484.30 MHz

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Matching network (element values depend on PCB layout)



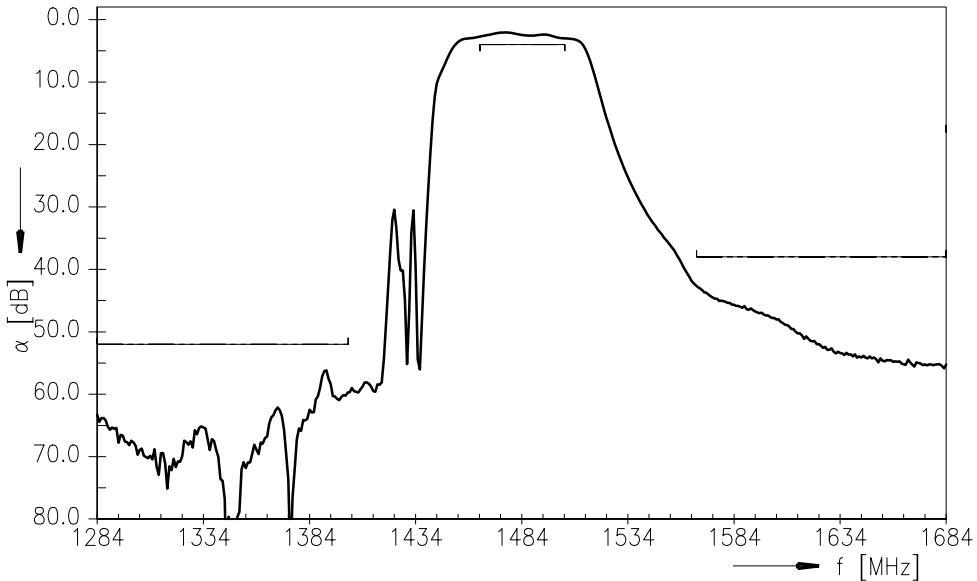
$L_{p1} = 47\text{nH}$
 $L_{p2} = 47\text{nH}$

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 1484.30... 1504.30 MHz	P _{IN}	0	dBm	source impedance 150 Ω

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

Transfer function



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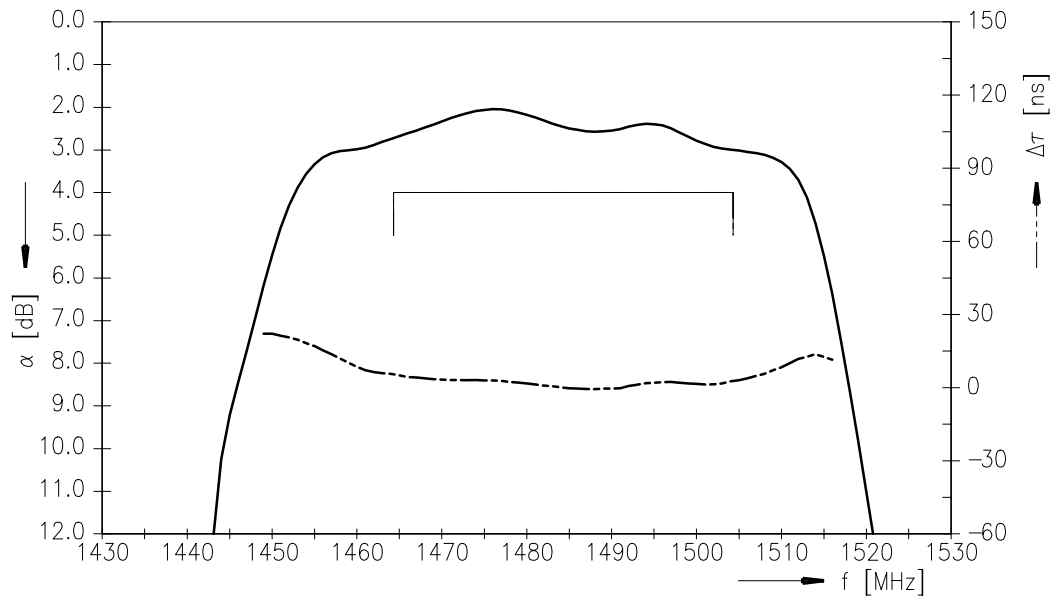
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Transfer function (passband)



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**References**

Type	B1656
Ordering code	B39152-B1656-B510
Marking and package	C61157-A7-A72
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B1656_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."

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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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