



SAW Components

SAW Rx Filter

K-PCS

Series/type:	B7901
Ordering code:	B39182B7901K410
Date:	May 10, 2006
Version:	2.0



SAW Components

B7901

SAW Rx Filter

1855.0 MHz

Data Sheet



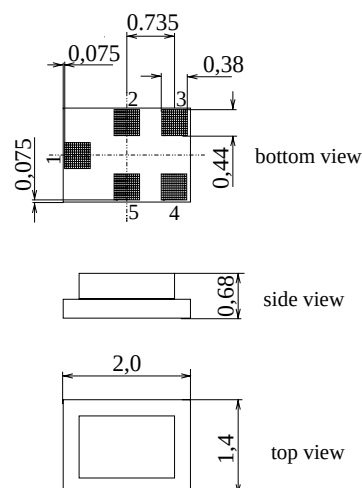
Application

- Low loss RF filter for mobile telephone K-PCS systems, receive path (Rx)
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 30.0 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 100 Ω



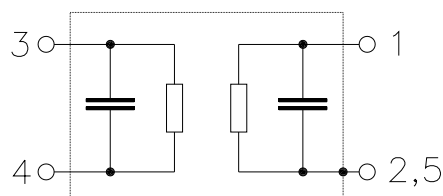
Features

- Package size 2.0 x 1.4 x 0.68 mm³
- Package code QCS5E
- RoHS compatible
- Approx. weight 0.007g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)



Pin configuration

- 1 Input, unbalanced
- 3,4 Output, balanced
- 2,5 Case-ground




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Characteristics

Temperature range for specification: $T = -30\text{ }^{\circ}\text{C to } +85\text{ }^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\text{ }\Omega$
 Terminating load impedance: $Z_L = 100\text{ }\Omega$ (balanced)

		min.	typ. @ 25°C	max.	
Center frequency	f_C	—	1855.0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	1.6	2.4 ¹⁾	dB
1840.0 ... 1870.0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0.3	0.8	dB
1840.0 ... 1870.0 MHz					
Input VSWR		—	1.4	1.8	
1840.0 ... 1870.0 MHz					
Output VSWR		—	1.5	1.9	
1840.0 ... 1870.0 MHz					
Output amplitude balance (S_{31}/S_{21})		—1.0	-0.3/0.3	1.0	dB
1840.0 ... 1870.0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		-10	-5/+5	10	°
1840.0 ... 1870.0 MHz					
Attenuation	α				
10.0 ... 1750.0 MHz		42	49	—	dB
1750.0 ... 1780.0 MHz		37	40	—	dB
1930.0 ... 1975.0 MHz		28	32	—	dB
1975.0 ... 2020.0 MHz		36	42	—	dB
2020.0 ... 2100.0 MHz		40	46	—	dB
2100.0 ... 2500.0 MHz		45	49	—	dB
2500.0 ... 2650.0 MHz		42	45	—	dB
2650.0 ... 4000.0 MHz		45	60	—	dB

¹⁾ 2.2 dB max. at 25 °C



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Maximum ratings

Operable temperature range	T	−40/+85	°C	
Storage temperature range	T _{stg}	−40/+85	°C	
DC voltage	V _{DC}	5	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 10 pulses
Input Power at 1750...1780 MHz Tx band	P _{IN}	5	dBm	continuous wave

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



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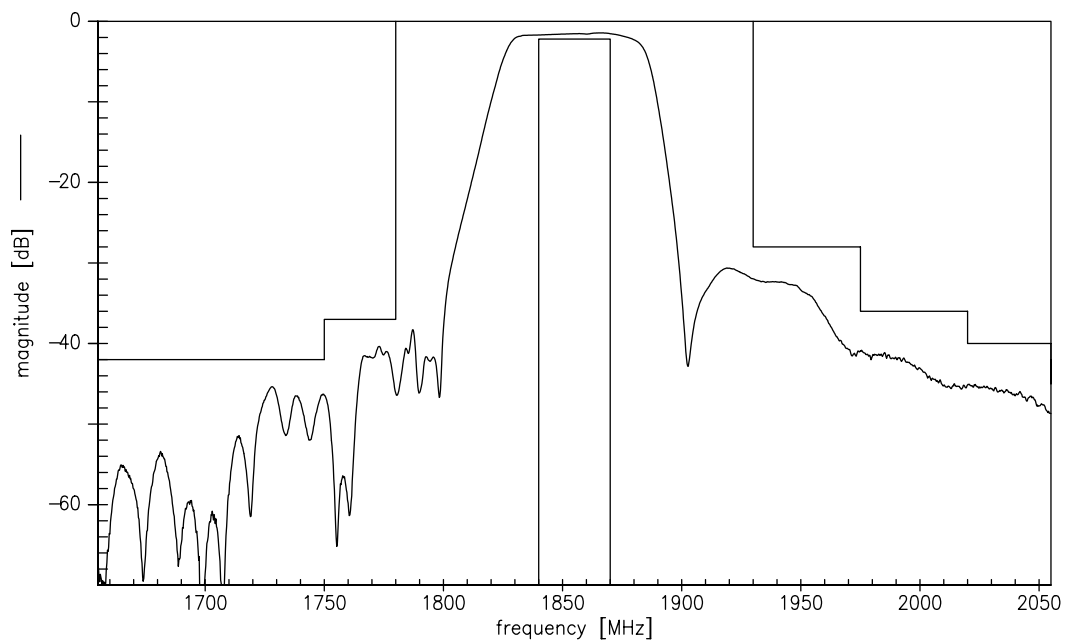
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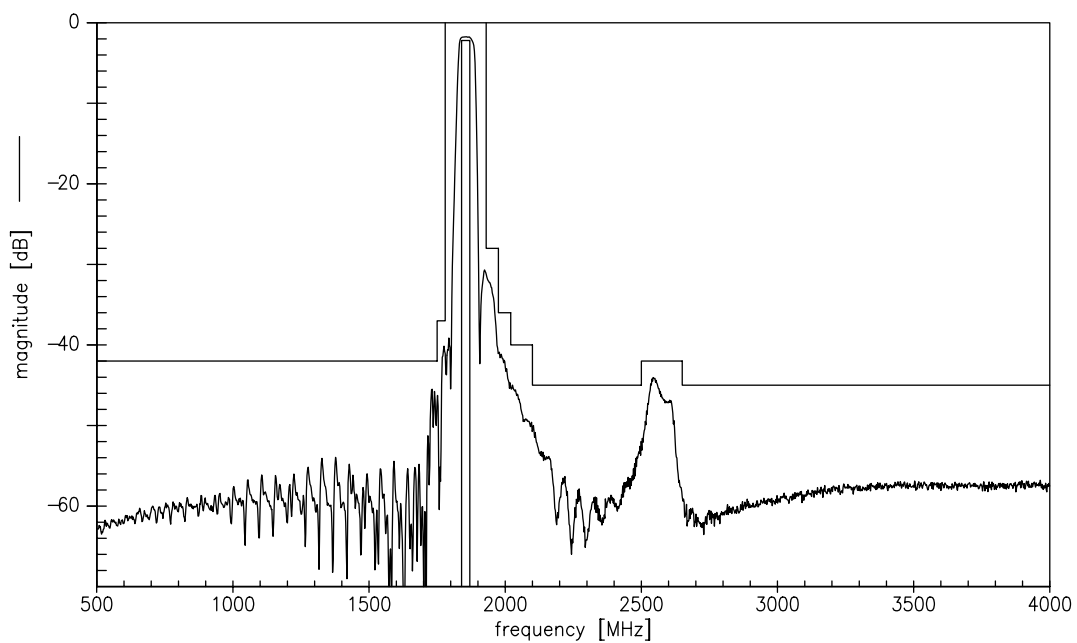
Data Sheet



Transfer function (narrowband)



Transfer function (wideband)



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



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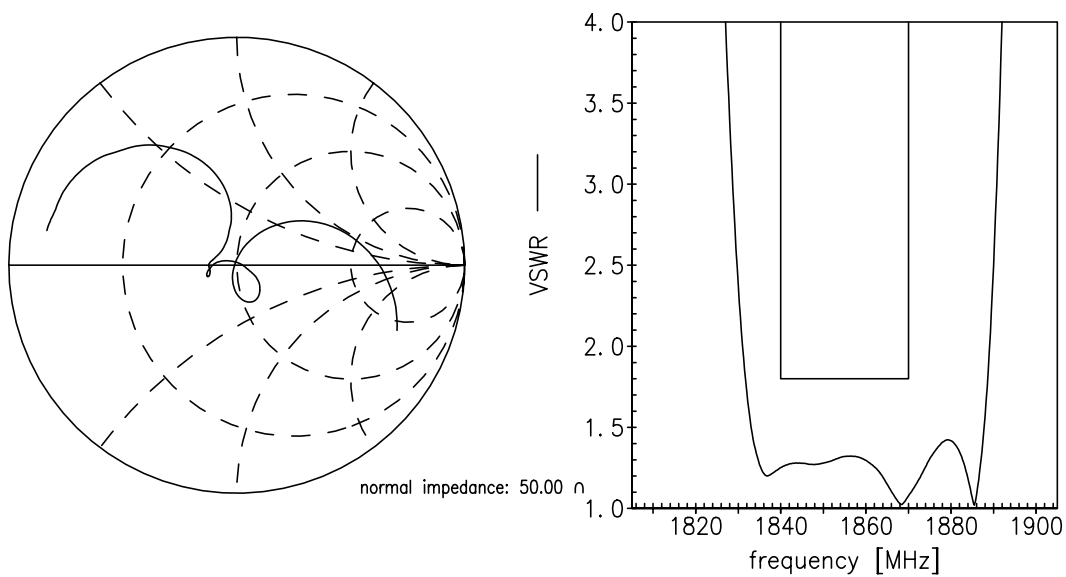
1855.0 MHz

Data Sheet

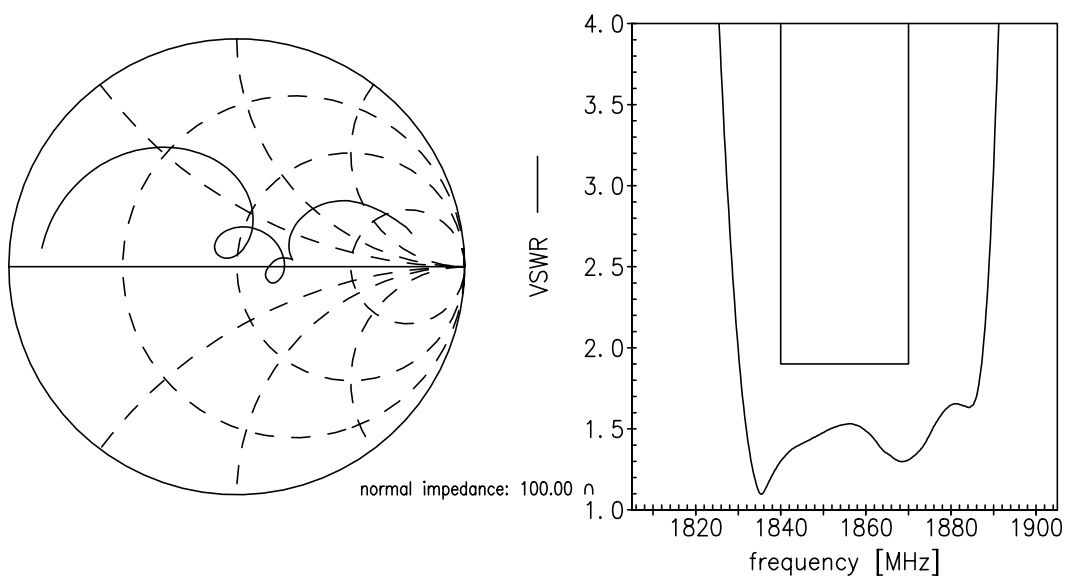


Smith chart

S_{11} function



S_{22} function





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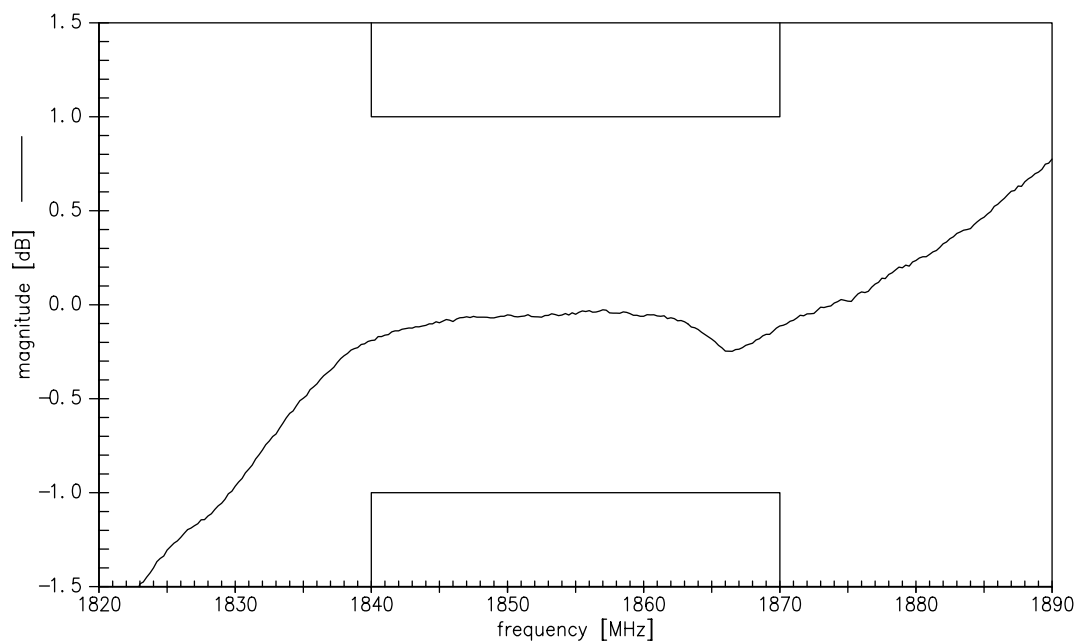
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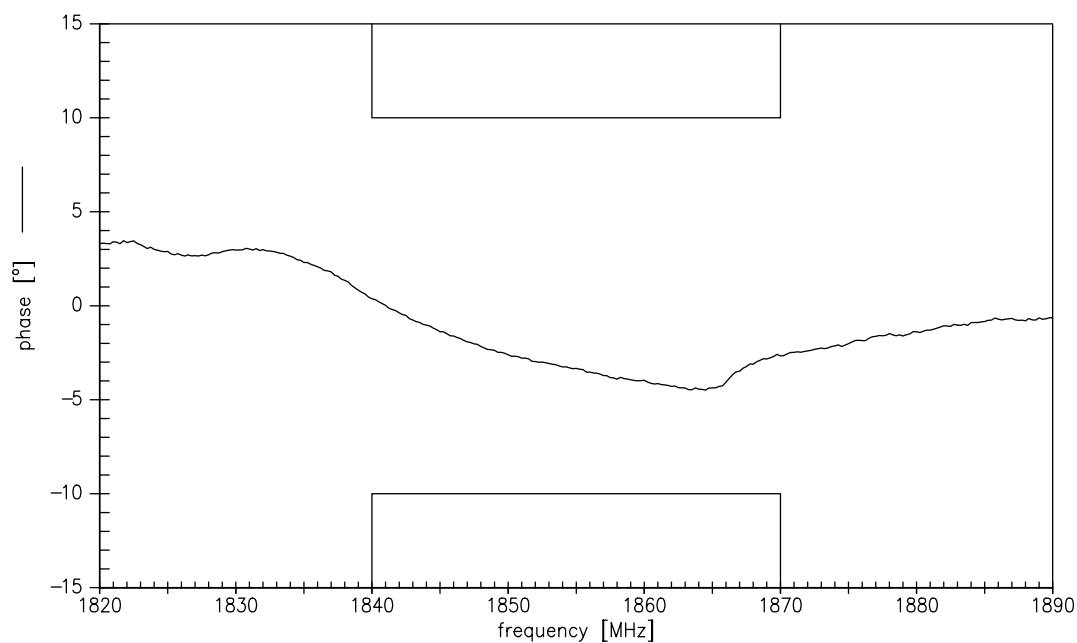
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Amplitude balance



Phase balance





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References

Type	B7901
Ordering code	B39182B7901K410
Marking and package	C61157-A7-A131
Packaging	F61074-V8152-Z000
Date codes	L_1126
S-parameters	B7901_NB.s3p B7901_WB.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."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

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