



SAW Components

SAW filter

TD-SCDMA

Series/type:

B7853

Ordering code:

B39202B7853C710

Date:

March 01, 2006

Version:

2.1

SAW Components

B7853

SAW filter

2017.5 MHz

Data sheet



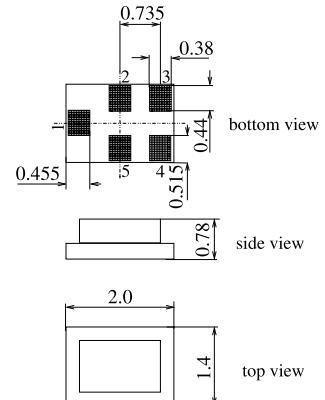
Application

- Low-loss RF filter for mobile telephone TD-SCDMA systems
- Unbalanced to unbalanced operation
- Low amplitude ripple
- No matching network required for operation at $50\ \Omega$
- Usable passband 15 MHz



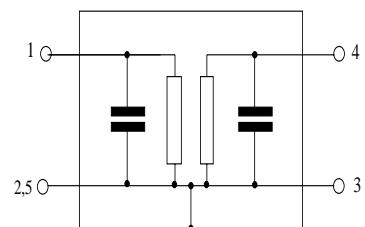
Features

- Package size $2.0 \times 1.4 \times 0.78\ \text{mm}^3$
- Package code QCS5C
- RoHS compatible
- Approx. weight 0.009 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals



Pin configuration

- 1 Input, unbalanced
- 4 Output unbalanced
- 2,3,5 To be grounded



**SAW Components****B7853****SAW filter****2017.5 MHz****Data sheet****Characteristics**Operating temperature range: $T = -35^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ Terminating source impedance: $Z_S = 50 \Omega$ Terminating load impedance: $Z_L = 50 \Omega$

			min.	typ. @ 25 °C	max.	
Center frequency		f_C	—	2017.5	—	MHz
Maximum insertion attenuation		α_{max}				
2010.0 ... 2025.0	MHz		—	2.1	2.8 ¹⁾	dB
Amplitude ripple (p-p)		$\Delta\alpha$				
2010.0 ... 2025.0	MHz		—	0.2	0.9 ²⁾	dB
Input VSWR						
2010.0 ... 2025.0	MHz		—	1.8	2.1	
Output VSWR						
2010.0 ... 2025.0	MHz		—	1.9	2.2	
Group delay ripple (p-p)						
2010.0 ... 2025.0	MHz		—	3	10	ns
Attenuation		α				
0.0 ... 1840.0	MHz		43	48	—	dB
1840.0 ... 1950.0	MHz		35	44	—	dB
1950.0 ... 1980.0	MHz		14 ³⁾	19	—	dB
1980.0 ... 1990.0	MHz		4.5 ⁴⁾	12	—	dB
2045.0 ... 2050.0	MHz		7 ⁵⁾	16	—	dB
2050.0 ... 2085.0	MHz		17	25	—	dB
2085.0 ... 2120.0	MHz		26	30	—	dB
2120.0 ... 2160.0	MHz		33	37	—	dB
2160.0 ... 4000.0	MHz		38	42	—	dB
4000.0 ... 6000.0	MHz		25	33	—	dB

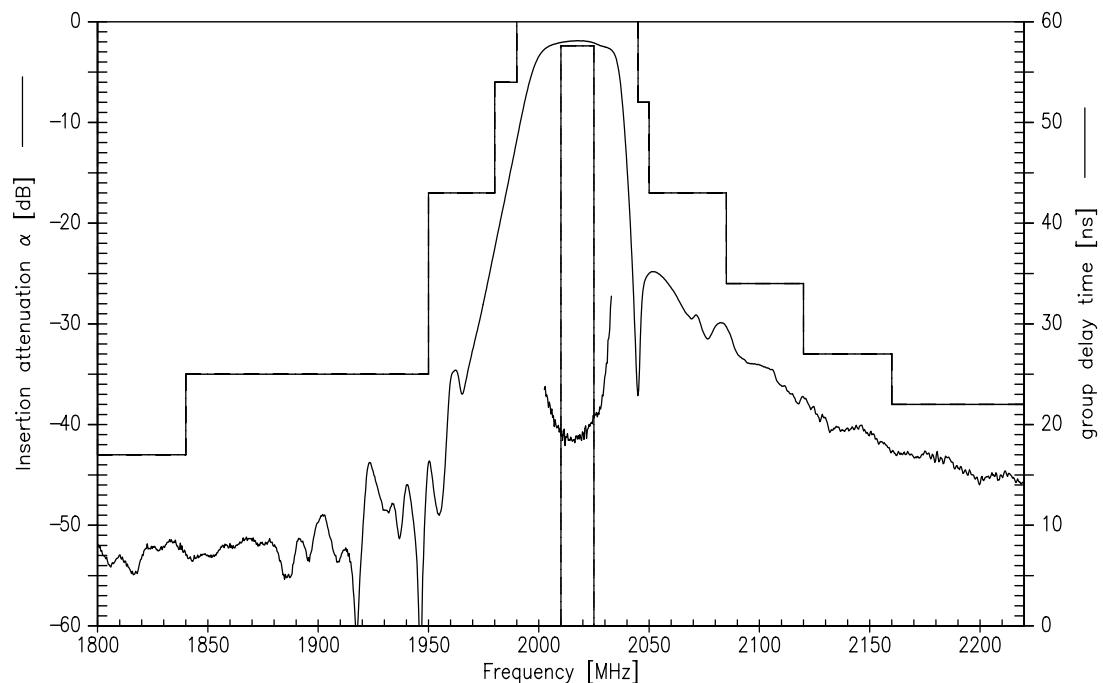
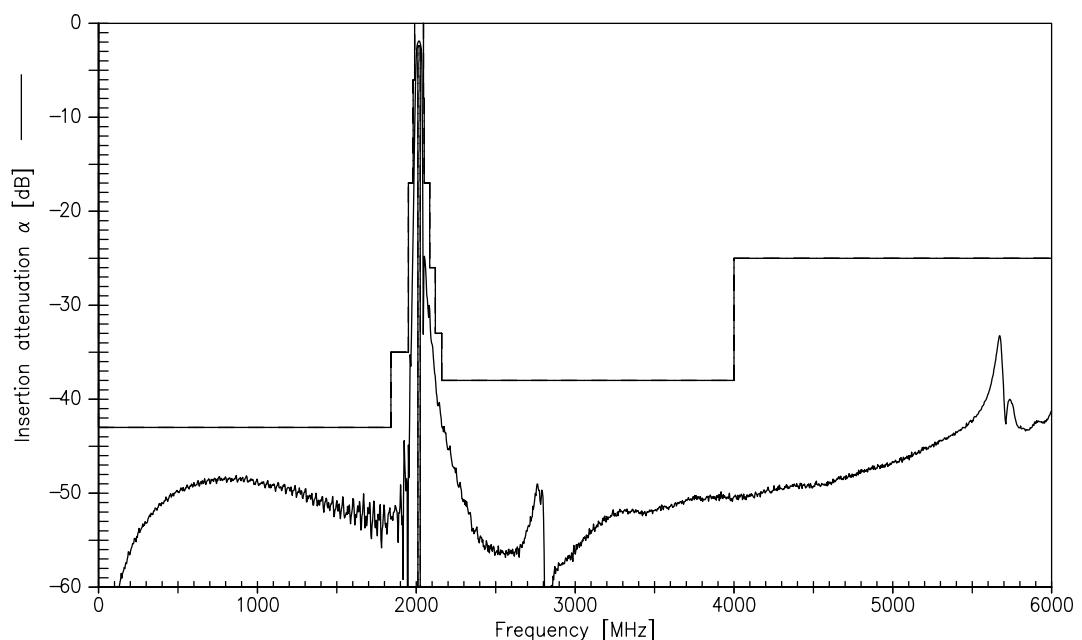
¹⁾ 2.5 dB at 25 °C²⁾ 0.6 dB at 25 °C³⁾ 17 dB attenuation at 25 °C⁴⁾ 6 dB attenuation at 25 °C⁵⁾ 8 dB attenuation at -25 °C ... +85 °C

**SAW Components****B7853****SAW filter****2017.5 MHz****Data sheet****Maximum ratings**

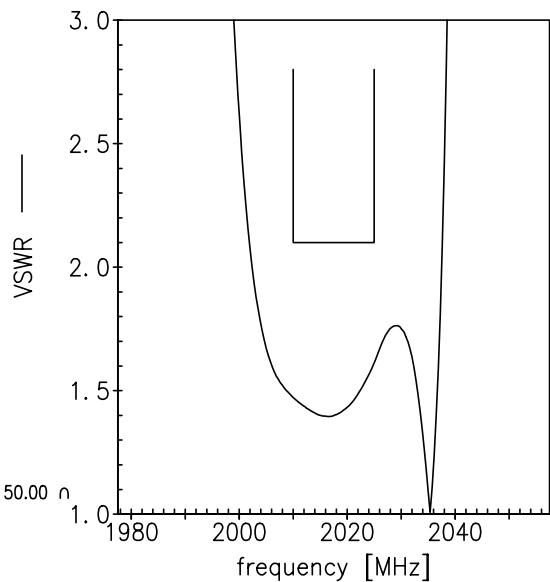
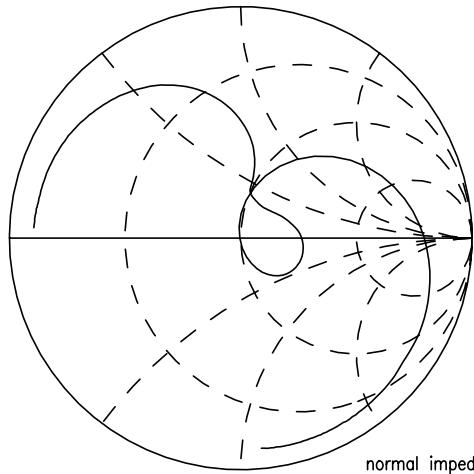
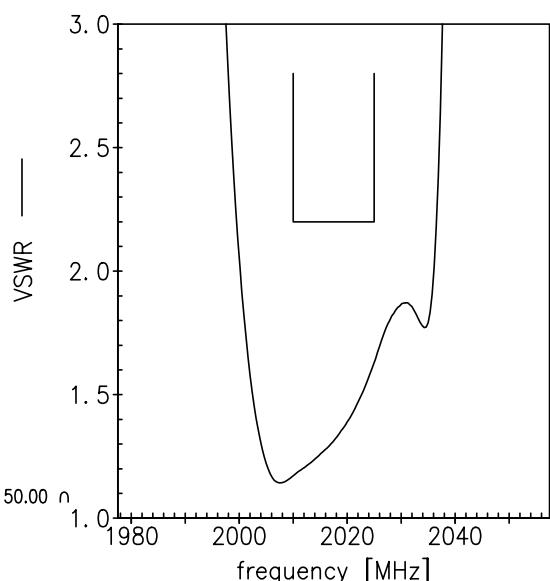
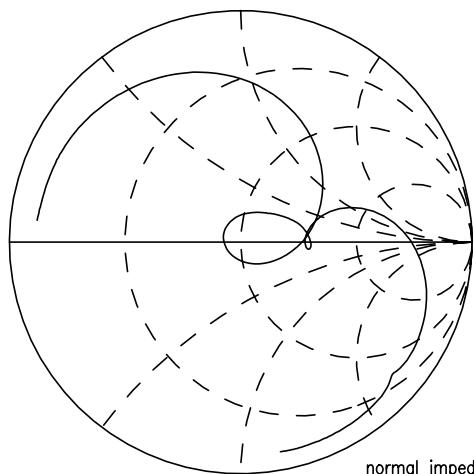
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	5	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 10 pulses
Input power at 2010.0...2025.0 MHz	P _{IN}	7	dBm	continuous wave, 2000 hours, 85 °C

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

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

Transfer function

Transfer function (wideband)


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Smith charts
 S_{11} function

 S_{22} function


**SAW Components****B7853****SAW filter****2017.5 MHz****Data sheet****References**

Type	B7853
Ordering code	B39202B7853C710
Marking and package	C61157-A7-A111
Packaging	F61074-V8151-Z000
Date codes	L_1126
S-parameters	B7853_NB.s2p B7853_WB.s2p
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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Please read *cautions and warnings and important notes* at the end of this document.



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