



SAW Components

SAW Filter

Low-Loss Filter for TD-SCDMA

Series/Type:	B9453
Ordering code:	B39202B9453P810
Date:	Dec 01, 2009
Version:	2.1



Data sheet



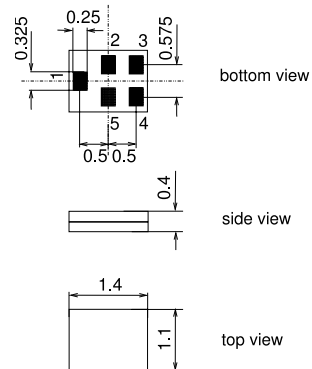
Application

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



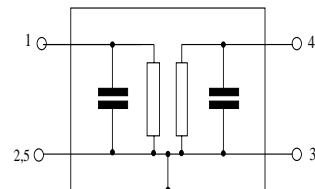
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- Package code QCS5U
- RoHS compatible
- Approx. weight 0.003g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

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



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



Data sheet



Characteristics

Temperature range for specification: $T = -30\text{ °C to }+85\text{ °C}$
 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}		—	1.9	2.6	dB CTQ
	2010.0 ... 2025.0	MHz					
Amplitude ripple (p-p)		$\Delta\alpha$		—	0.3	1.0	dB
	2010.0 ... 2025.0	MHz					
Input VSWR				—	1.5	2.0	
	2010.0 ... 2025.0	MHz					
Output VSWR				—	1.5	2.0	
	2010.0 ... 2025.0	MHz					
Group delay ripple (p-p)				—	6	20	ns
	2010.0 ... 2025.0	MHz					
Attenuation		α					
	0 ... 1840.0	MHz		38	42	—	dB
	1840.0 ... 1950.0	MHz		33	36	—	
	1950.0 ... 1980.0	MHz		14	24	—	dB
	1980.0 ... 1990.0	MHz		4 ¹⁾	12	—	
	2045.0 ... 2050.0	MHz		3	18	—	dB
	2050.0 ... 2085.0	MHz		15	18	—	
	2085.0 ... 2120.0	MHz		23	26	—	dB
	2120.0 ... 2160.0	MHz		28	32	—	
	2160.0 ... 2500.0	MHz		28	33	—	dB
	2500.0 ... 4000.0	MHz		34	37	—	
	4000.0 ... 6000.0	MHz		25	30	—	dB

¹⁾ 5 dB at 25 °C



SAW Components

B9453

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}	3	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 1 pulses
Input Power at 2010.0...2025.0 MHz Tx bands	P _{IN}	6	dBm	effective power in the on-state duty cycle 4:8

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



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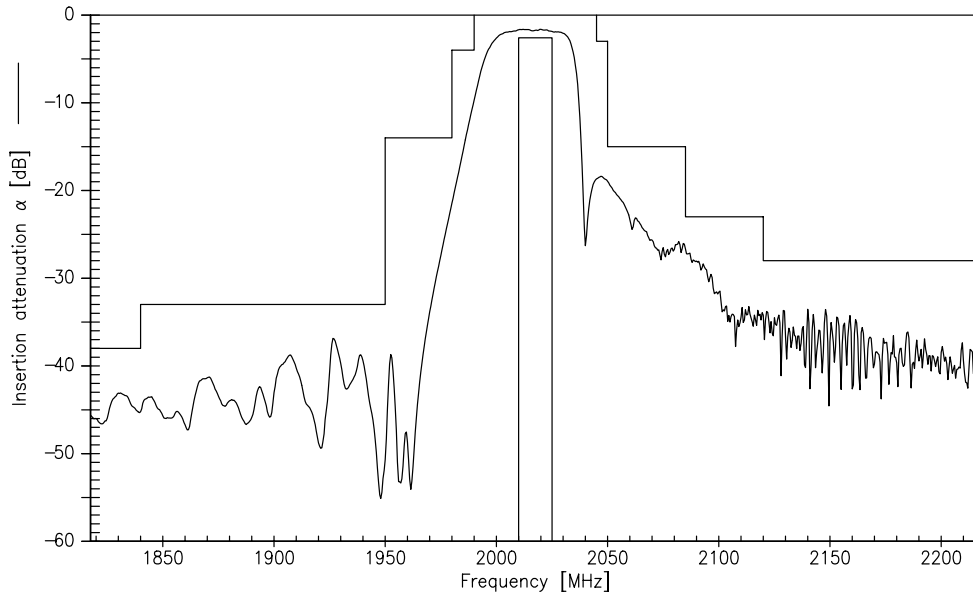
SAW Filter

2017.5 MHz

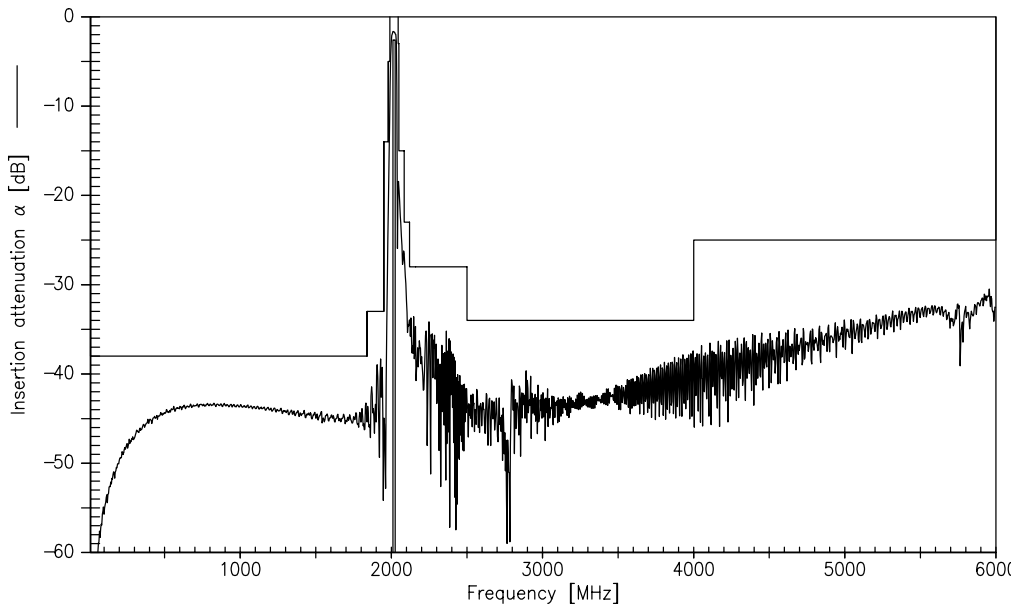
Data sheet



Transfer function (narrowband)



Transfer function (wideband)



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

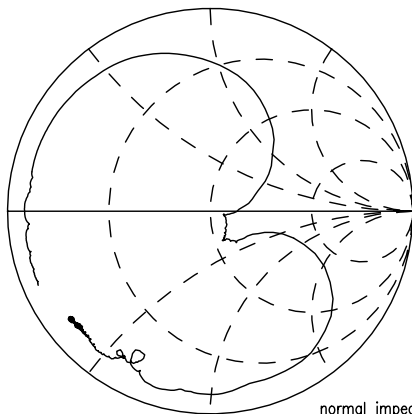


Data sheet

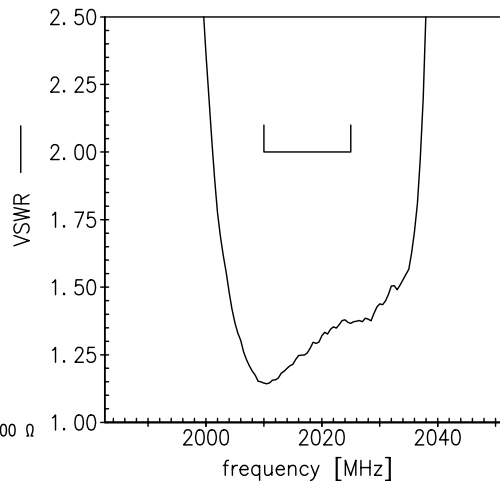


Smith charts

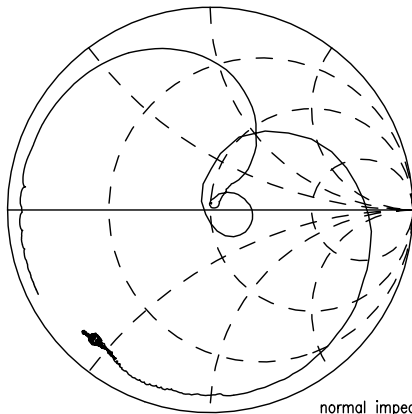
S₁₁ function



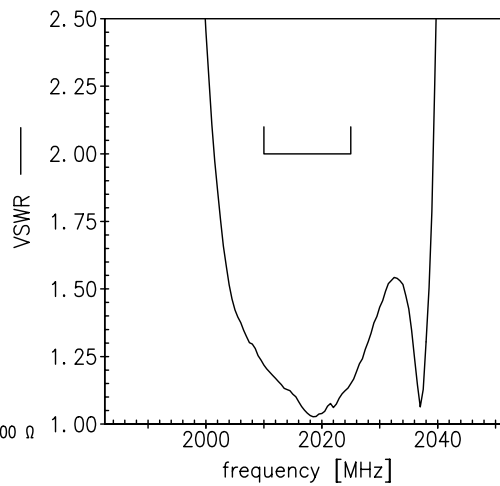
normal impedance: 50.00 Ω



S₂₂ function



normal impedance: 50.00 Ω



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SAW Components	B9453
SAW Filter	2017.5 MHz
Data sheet	

References

Type	B9453
Ordering code	B39202B9453P810
Marking and package	C61157-A8-A14
Packaging	F61074-V8237-Z000
Date codes	L_1126
S-parameters	B9453_NB.s2p B9453_WB.s2p 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."
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.

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

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