



SAW Components

Data Sheet B7701, Pb Free





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B7701

Low-Loss Filter for Mobile Communication

881,5 MHz

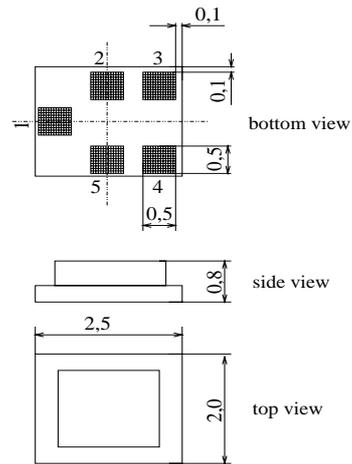
Data Sheet



Features

- Low-loss RF filter for mobile telephone AMPS system, receive path
- Low amplitude ripple
- Usable passband 25 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 200 Ω
- Suitable for GPRS class 1 to 12
- Package for **Surface Mounted Technology (SMT)**
- Pb-Free

Chip Sized SAW Package QCS5H

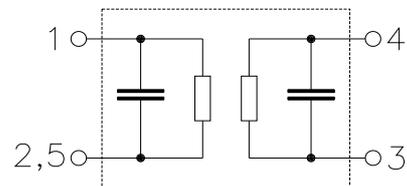


Terminals

Dimensions in mm, approx. weight 0,015g

Pin configuration

- 1 Input
- 3, 4 Balanced output
- 2, 5 Ground, to be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B7701	B39881-B7701-K910	C61157-A7-A139	F61074-V8189-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 30 / + 85	°C	Machine Model, 10 pulses peak power of GSM signal, duty cycle 4:8
Storage temperature range	T_{stg}	- 40 / + 85	°C	
DC voltage	V_{DC}	5	V	
ESD voltage	V^*_{ESD}	100*	V	
Input power at GSM850, GSM900	P_{IN}	15	dBm	
GSM1800 and GSM1900 Tx bands				

* - acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulses



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Characteristics

Operating temperature range: $T = +25\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 200\ \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
869,0 ... 894,0 MHz		—	2,3	2,6	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	0,6	1,0	dB
VSWR					
869,0 ... 894,0 MHz		—	1,8	2,0	
Output phase balance ($\phi(S_{31}) - \phi(S_{32}) + 180^\circ$)					
869,0 ... 894,0 MHz		-10,0	0	10,0	degree
Output amplitude balance (S_{31}/S_{32})					
869,0 ... 894,0 MHz		-1,0	0	1,0	dB
Attenuation	α				
0,0 ... 824,0 MHz		50,0	60,0	—	dB
824,0 ... 849,0 MHz		35,0	40,0	—	dB
914,0 ... 924,0 MHz		25,0	28,0	—	dB
924,0 ... 970,0 MHz		30,0	36,0	—	dB
970,0 ... 3000,0 MHz		50,0	70,0	—	dB
3000,0 ... 6000,0 MHz		45,0	60,0	—	dB
Tx band suppression	α				
824,0 ... 849,0 MHz		35,0	40,0	—	dB



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Characteristics

Operating temperature range: $T = -30$ to $+85$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 200 \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
	869,0 ... 894,0 MHz	—	2,6	3,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	869,0 ... 894,0 MHz	—	1,0	1,4	dB
VSWR					
	869,0 ... 894,0 MHz	—	1,8	2,0	
Output phase balance ($\phi(S_{31}) - \phi(S_{32}) + 180^\circ$)					
	869,0 ... 894,0 MHz	-10,0	0	10,0	degree
Output amplitude balance (S_{31}/S_{32})					
	869,0 ... 894,0 MHz	-1,0	0	1,0	dB
Attenuation	α				
	0,0 ... 824,0 MHz	50,0	60,0	—	dB
	824,0 ... 849,0 MHz	35,0	40,0	—	dB
	914,0 ... 924,0 MHz	22,0	26,0	—	dB
	924,0 ... 970,0 MHz	30,0	36,0	—	dB
	970,0 ... 3000,0 MHz	50,0	70,0	—	dB
	3000,0 ... 6000,0 MHz	45,0	60,0	—	dB
Tx band suppression	α				
	824,0 ... 849,0 MHz	35,0	40,0	—	dB



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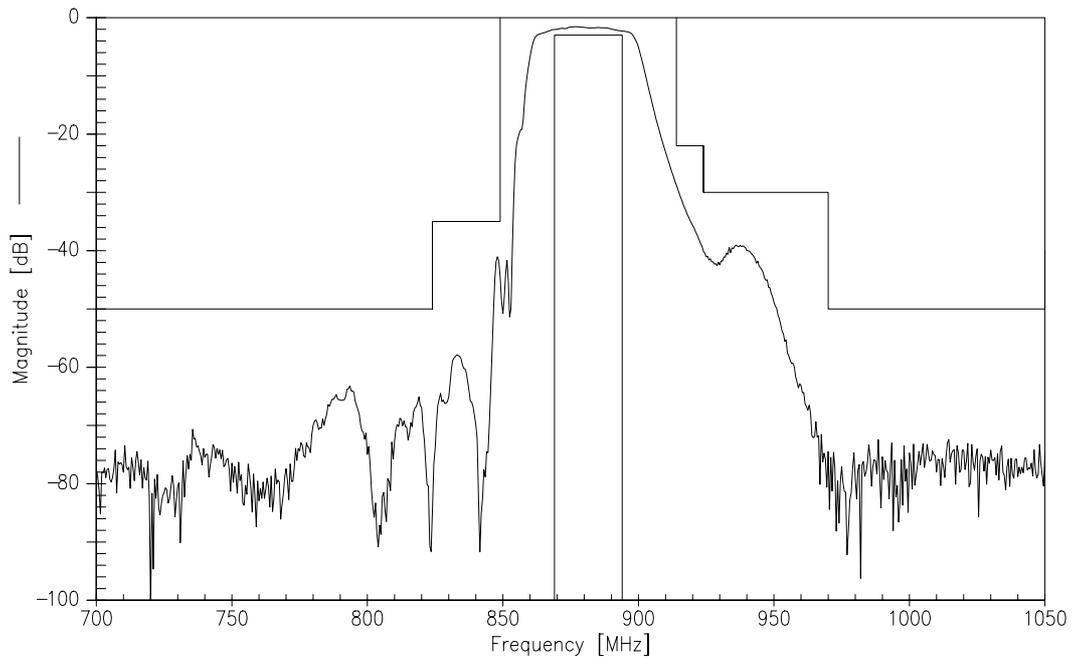
Characteristics

Operating temperature range: $T = -40$ to $+85$ °C
 Terminating source impedance: $Z_S = 50$ Ω
 Terminating load impedance: $Z_L = 200$ Ω

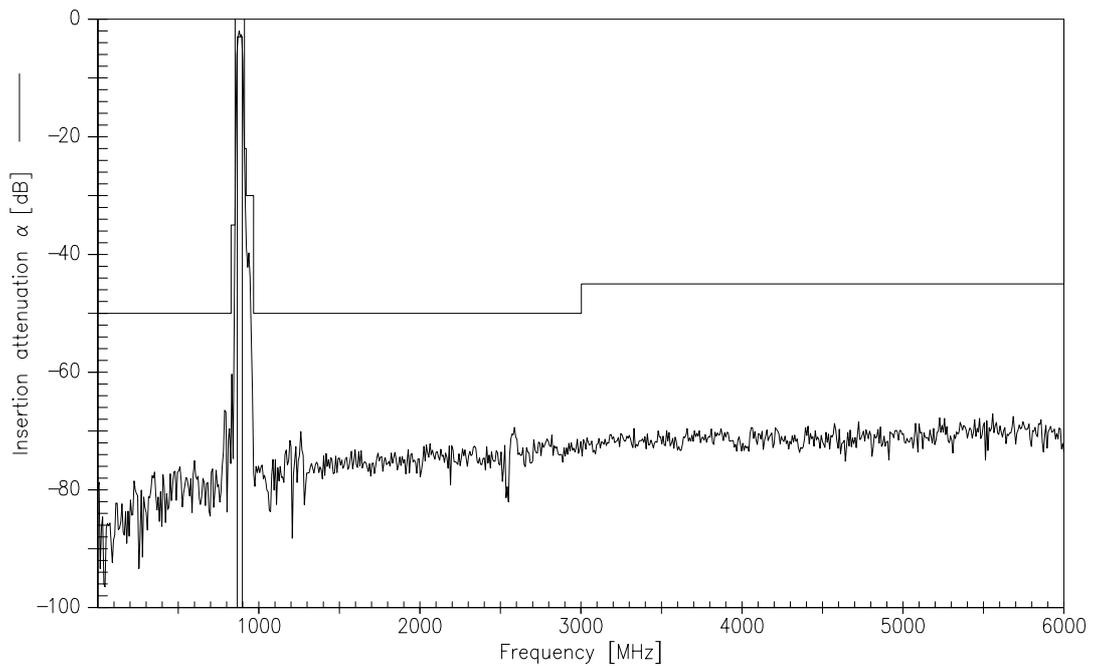
		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
	869,0 ... 894,0 MHz	—	2,6	3,1	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	869,0 ... 894,0 MHz	—	1,0	1,5	dB
VSWR					
	869,0 ... 894,0 MHz	—	1,8	2,2	
Output phase balance ($\phi(S_{31}) - \phi(S_{32}) + 180^\circ$)					
	869,0 ... 894,0 MHz	-10,0	0	10,0	degree
Output amplitude balance (S_{31}/S_{32})					
	869,0 ... 894,0 MHz	-1,0	0	1,0	dB
Attenuation	α				
	0,0 ... 824,0 MHz	50,0	60,0	—	dB
	824,0 ... 849,0 MHz	35,0	40,0	—	dB
	914,0 ... 924,0 MHz	22,0	26,0	—	dB
	924,0 ... 970,0 MHz	30,0	36,0	—	dB
	970,0 ... 3000,0 MHz	50,0	70,0	—	dB
	3000,0 ... 6000,0 MHz	45,0	60,0	—	dB
Tx band suppression	α				
	824,0 ... 849,0 MHz	35,0	40,0	—	dB



Transfer function (narrowband measurement)



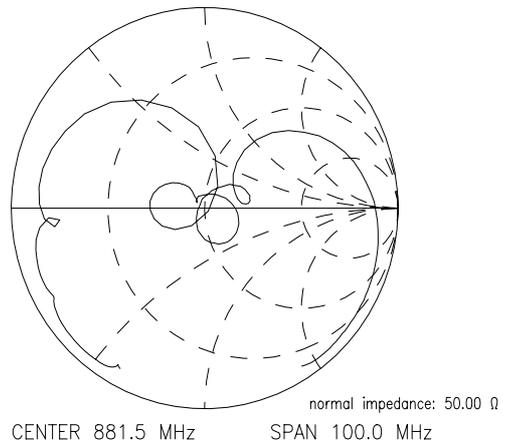
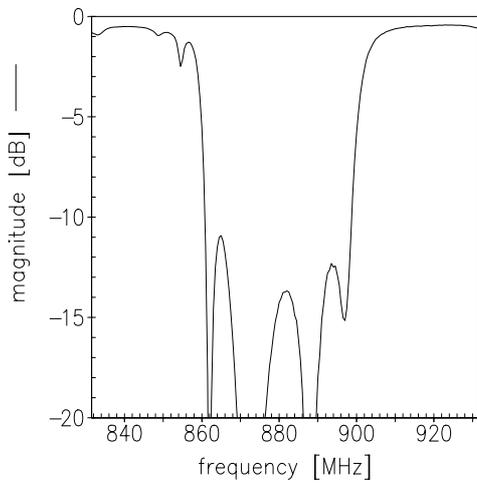
Transfer function (wideband measurement)



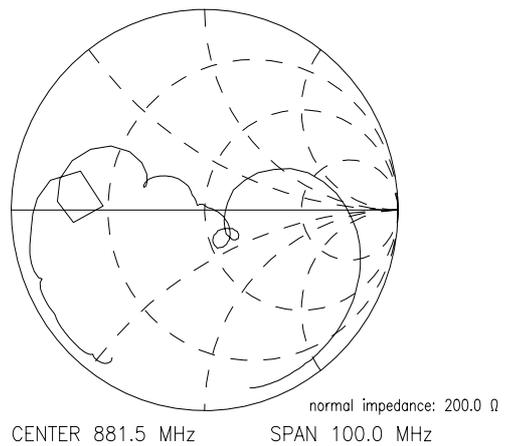
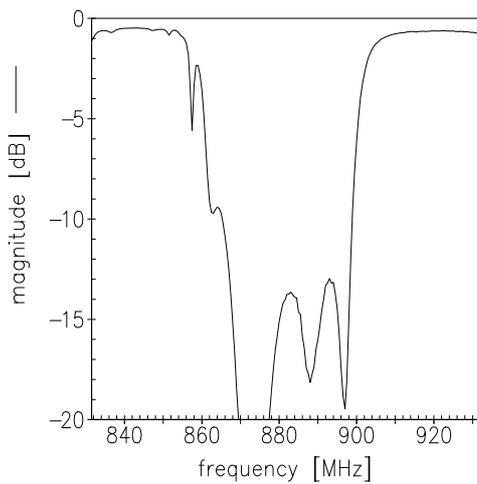


Reflection functions (measurement)

S_{11}

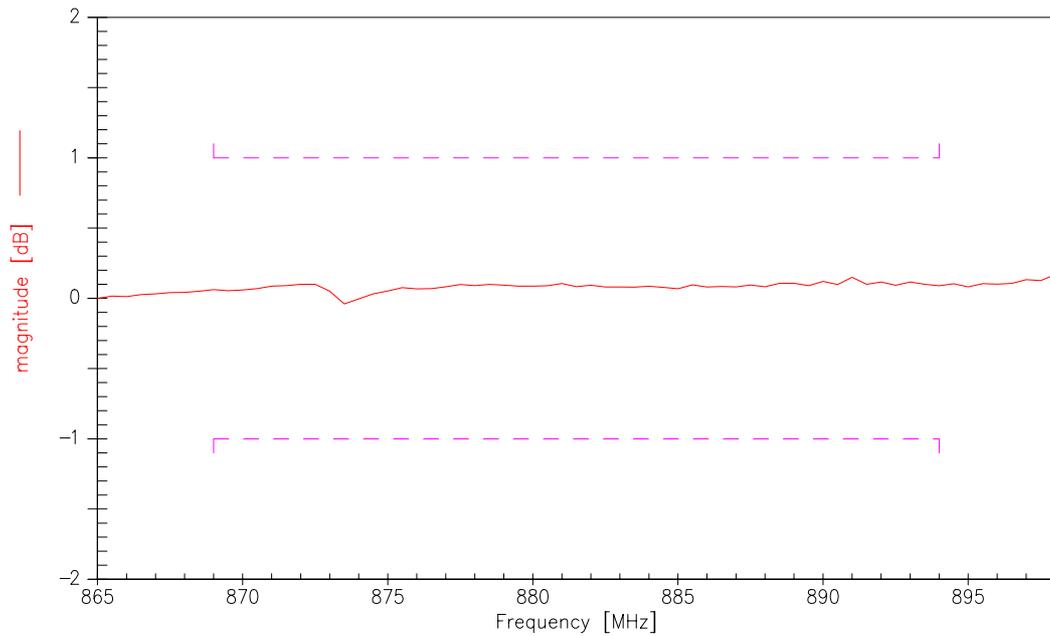


S_{22}

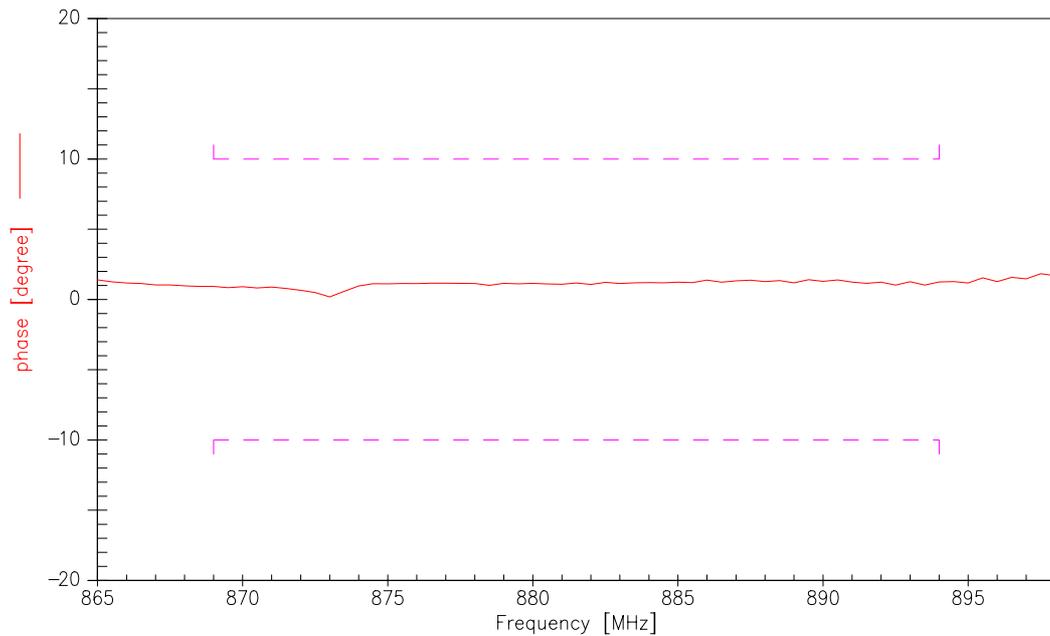




Output amplitude balance ($|S_{31}/S_{21}|$; measurement)



Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$; measurement)





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