



SAW Components

Data Sheet B7705, Pb-Free





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B7705

Low-Loss Filter for Mobile Communication

942,5 MHz

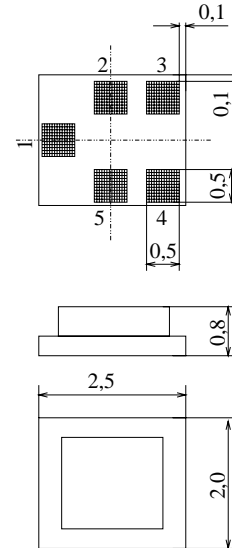
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Features

- Low-loss RF filter for mobile telephone EGSM system, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- Excellent symmetry
- Impedance transformation from 50 Ω to 150 Ω
- Ceramic package for **Surface Mounted Technology (SMT)**
- Pb-free

Chip sized SAW package QCS5H



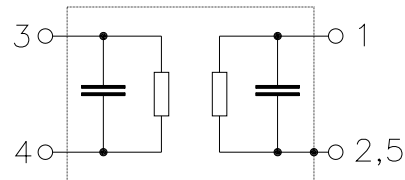
Dimensions in mm, approx. weight 0,015 g

Terminals

- Ni, gold-plated

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B7705	B39941-B7705-K910	C61157-A7-A71	F61074-V8104-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 25 / + 85	°C	source impedance 50Ω, load impedance 150Ω; CW input for min. 2000h
Storage temperature range	T_{stg}	- 40 / + 85	°C	
DC voltage	V_{DC}	3,5	V	
ESD voltage	V_{ESD}^*	100*	V	
Input power max.	P_{IN}		dBm	
880 ... 915 MHz		18		
925 ... 960 MHz		8		
1710 ...1910 MHz		18		
1920 ...1980 MHz		10		
2402 ...2480 MHz		4		
elsewhere		0	dBm	

* - 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: $Z_L = 150\ \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}	—	2,7	3,2	dB
925,0 ... 960,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,9	1,6	dB
925,0 ... 960,0 MHz					
Input VSWR		—	2,2	2,4	
925,0 ... 960,0 MHz					
Output VSWR		—	2,2	2,3	
925,0 ... 960,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-5	0	5	degree
925,0 ... 960,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-0,5	0	0,5	dB
925,0 ... 960,0 MHz					
Attenuation	α	50	75	—	dB
0,0 ... 880,0 MHz					
880,0 ... 905,0 MHz		30	45	—	
905,0 ... 915,0 MHz		23	27	—	
980,0 ... 1050,0 MHz		23	26	—	
1050,0 ... 6000,0 MHz		50	60	—	



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Characteristics

Operating temperature range: $T = -10$ to $+80$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 150 \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}	—	2,8	3,5	dB
925,0 ... 960,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,0	1,9	dB
925,0 ... 960,0 MHz					
Input VSWR		—	2,2	2,4	
925,0 ... 960,0 MHz					
Output VSWR		—	2,2	2,3	
925,0 ... 960,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-5	0	5	degree
925,0 ... 960,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-0,5	0	0,5	dB
925,0 ... 960,0 MHz					
Attenuation	α	50	75	—	dB
0,0 ... 880,0 MHz					
880,0 ... 905,0 MHz		30	40	—	
905,0 ... 915,0 MHz		18	27	—	
980,0 ... 1050,0 MHz		23	25	—	
1050,0 ... 6000,0 MHz		50	60	—	



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Characteristics

Operating temperature range: $T = -20$ to $+80$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 150 \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}	—	2,9	3,7	dB
925,0 ... 960,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,0	2,1	dB
925,0 ... 960,0 MHz					
Input VSWR		—	2,2	2,4	
925,0 ... 960,0 MHz					
Output VSWR		—	2,2	2,3	
925,0 ... 960,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-5	0	5	degree
925,0 ... 960,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-0,5	0	0,5	dB
925,0 ... 960,0 MHz					
Attenuation	α				
0,0 ... 880,0 MHz		50	75	—	dB
880,0 ... 905,0 MHz		30	40	—	dB
905,0 ... 915,0 MHz		18	27	—	dB
980,0 ... 1050,0 MHz		22	25	—	dB
1050,0 ... 6000,0 MHz		50	60	—	dB



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Characteristics

Operating temperature range: $T = -25$ to $+85$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 150 \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}	—	3,5	4,0	dB
925,0 ... 960,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,5	2,4	dB
925,0 ... 960,0 MHz					
Input VSWR		—	2,2	2,5	
925,0 ... 960,0 MHz					
Output VSWR		—	2,2	2,4	
925,0 ... 960,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-5	0	5	degree
925,0 ... 960,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-0,5	0	0,5	dB
925,0 ... 960,0 MHz					
Attenuation	α				
0,0 ... 880,0 MHz		50	75	—	dB
880,0 ... 905,0 MHz		30	40	—	dB
905,0 ... 915,0 MHz		10	15	—	dB
980,0 ... 1050,0 MHz		21	23	—	dB
1050,0 ... 6000,0 MHz		50	60	—	dB



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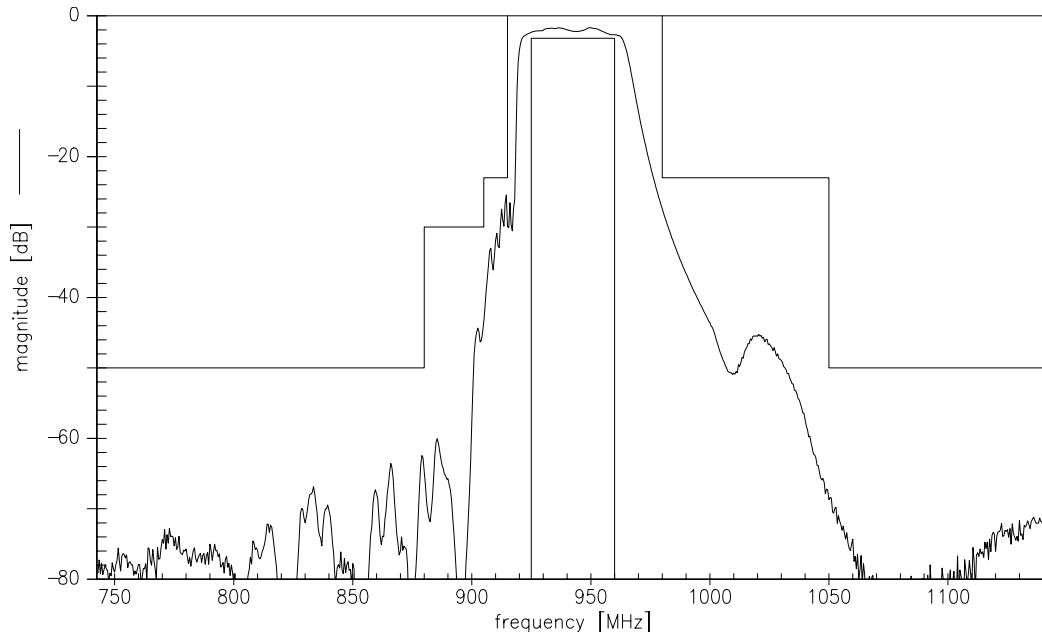
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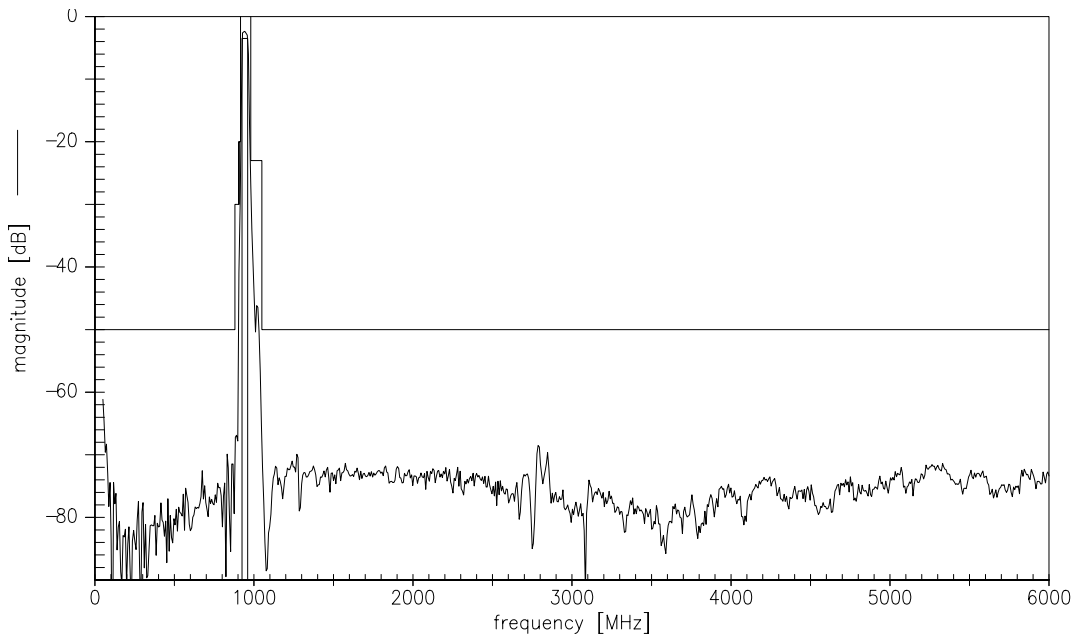
Data Sheet



Transfer function

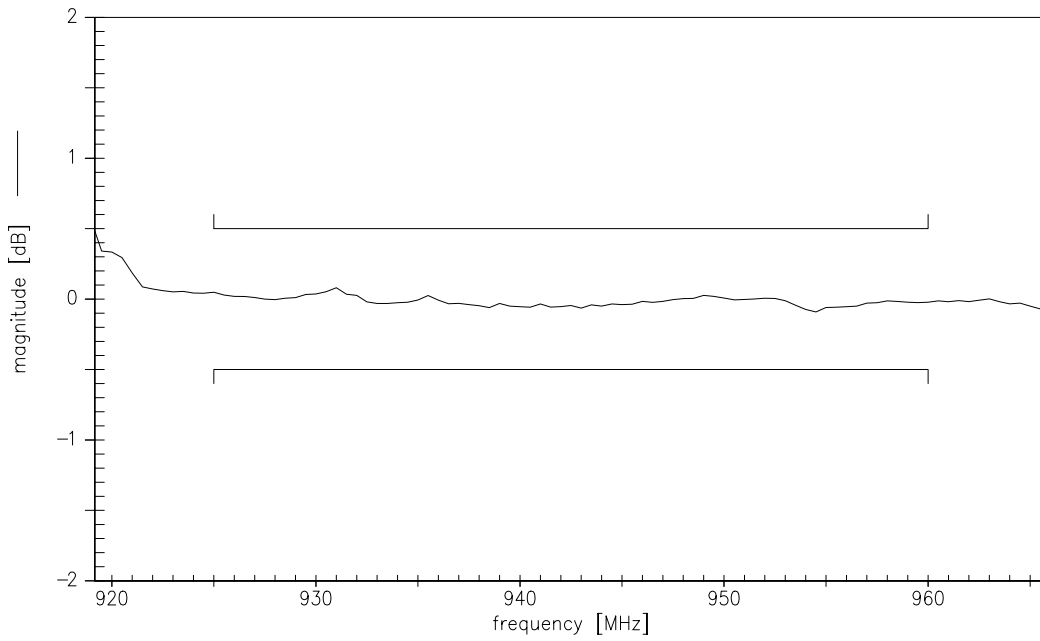


Transfer function (wideband)

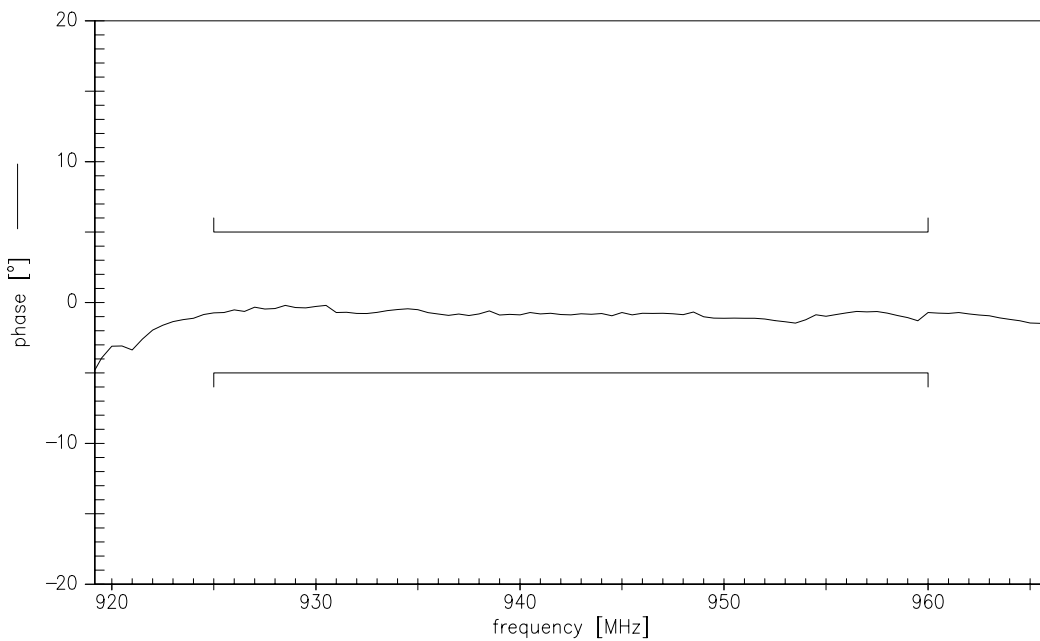




Output amplitude balance ($|S_{31}|/|S_{21}|$)



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





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