



SAW Components

Data Sheet B7705, Pb-Free

Data Sheet

A large, stylized, 3D-rendered version of the EPCOS logo is centered on a dark, textured background. The logo is white and appears to be floating or emerging from the surface. The background also features the same repeating watermark as the top section of the page.



SAW Components

B7705

Low-Loss Filter for Mobile Communication

942,5 MHz

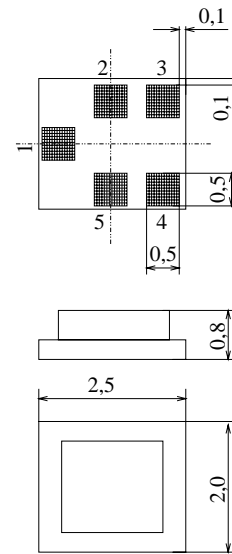
Data Sheet



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



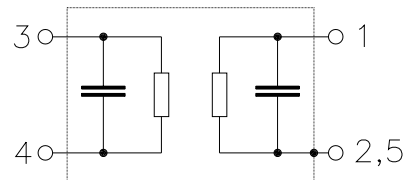
Dimensions in mm, approx. weight 0,015 g

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



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Characteristics

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

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



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Characteristics

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

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
	925,0 ... 960,0 MHz	—	2,9	3,7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	925,0 ... 960,0 MHz	—	1,0	2,1	dB
Input VSWR					
	925,0 ... 960,0 MHz	—	2,2	2,4	
Output VSWR					
	925,0 ... 960,0 MHz	—	2,2	2,3	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)					
	925,0 ... 960,0 MHz	-5	0	5	degree
Output amplitude balance ($ S_{31}/S_{21} $)					
	925,0 ... 960,0 MHz	-0,5	0	0,5	dB
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: $Z_S = 50$ Ω
 Terminating load impedance: $Z_L = 150$ Ω

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
	925,0 ... 960,0 MHz	—	3,5	4,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	925,0 ... 960,0 MHz	—	1,5	2,4	dB
Input VSWR					
	925,0 ... 960,0 MHz	—	2,2	2,5	
Output VSWR					
	925,0 ... 960,0 MHz	—	2,2	2,4	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)					
	925,0 ... 960,0 MHz	-5	0	5	degree
Output amplitude balance (S_{31}/S_{21})					
	925,0 ... 960,0 MHz	-0,5	0	0,5	dB
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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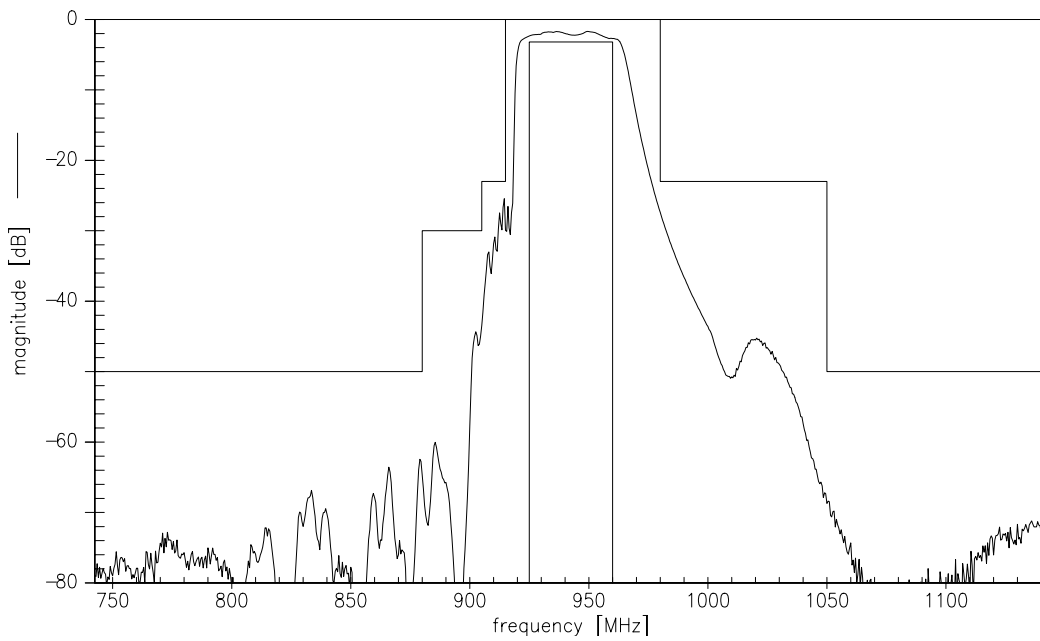
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942,5 MHz

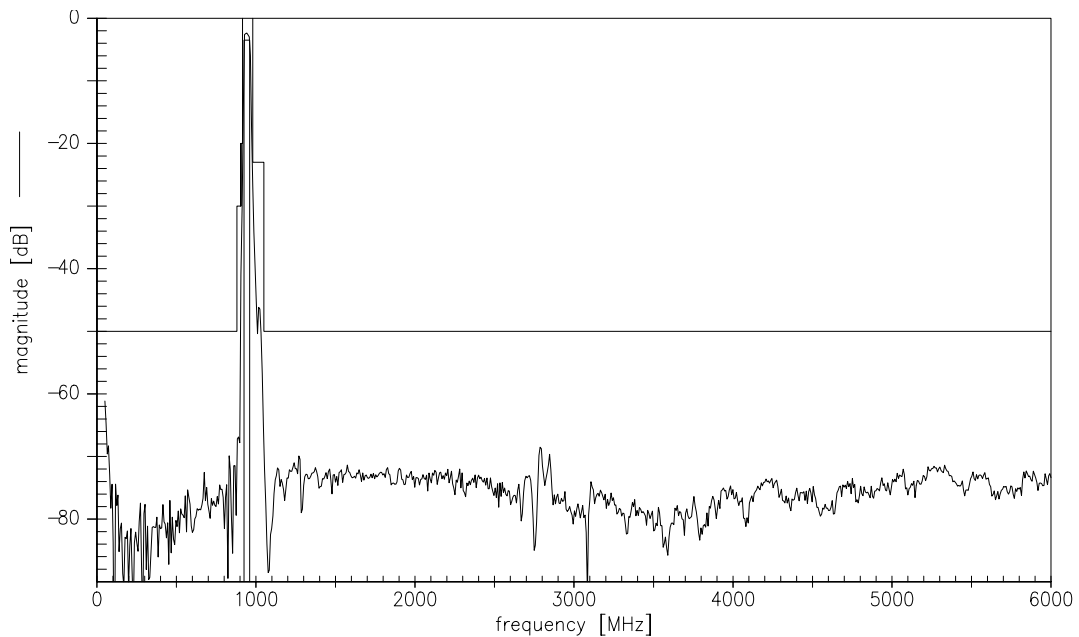
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Transfer function

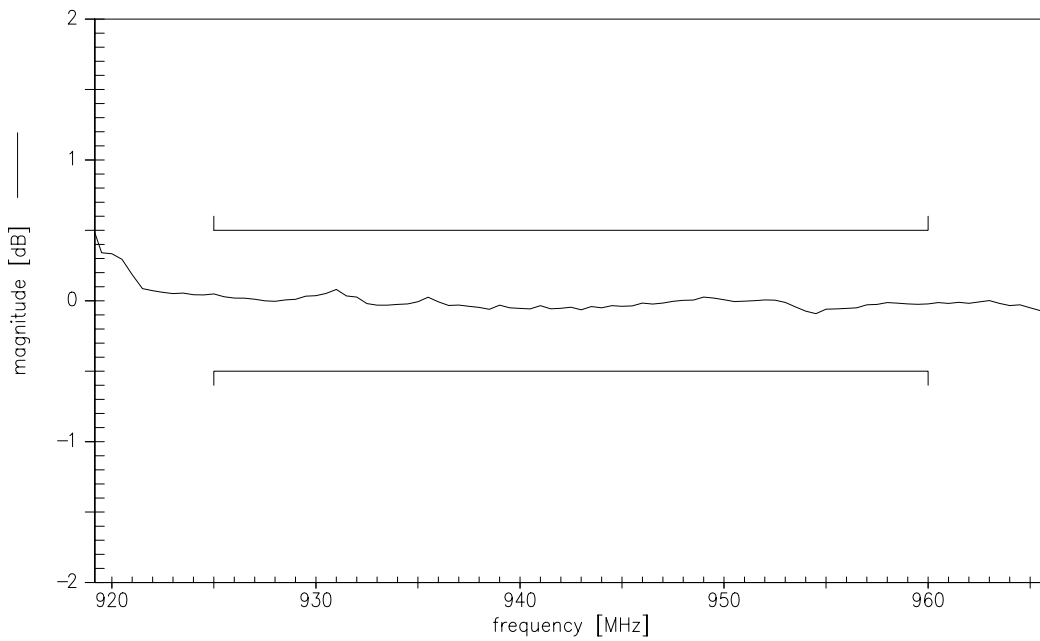


Transfer function (wideband)

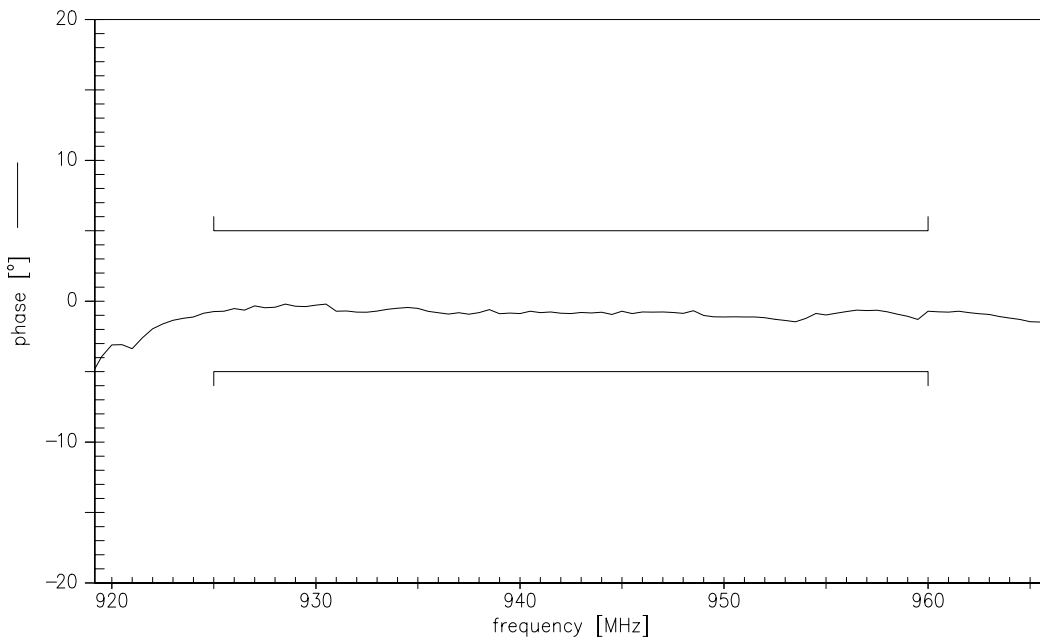




Output amplitude balance ($|S_{31}/S_{21}|$)



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





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Data Sheet	The SMD logo is a stylized, bold, sans-serif font with a horizontal line through the middle of the letters, giving it a modern, technical appearance.

Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC PD
P.O. Box 80 17 09, D-81617 München

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