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EPCOS

SAW Components

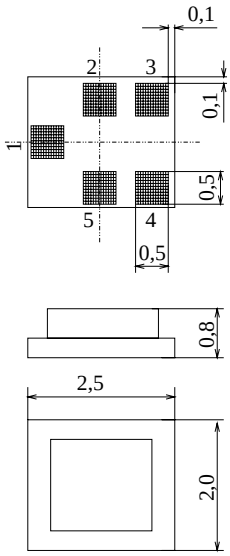
Data Sheet B7705

Data Sheet SMD

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 **S**urface **M**ounted **T**echnology (**SMT**)

Chip sized SAW package QCS5A



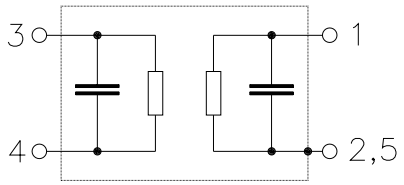
Dimensions in mm, approx. weight 0,015 g

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-B610	C61157-A7-A71	F61074-V8104-Z000

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

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

Characteristics

Operating temperature range: T = +25 ˚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		—	2,7	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 ($\lvert S_{31}/S_{21}\rvert$)					
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

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 ($\lvert S_{31}/S_{21}\rvert$)					
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

Characteristics

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

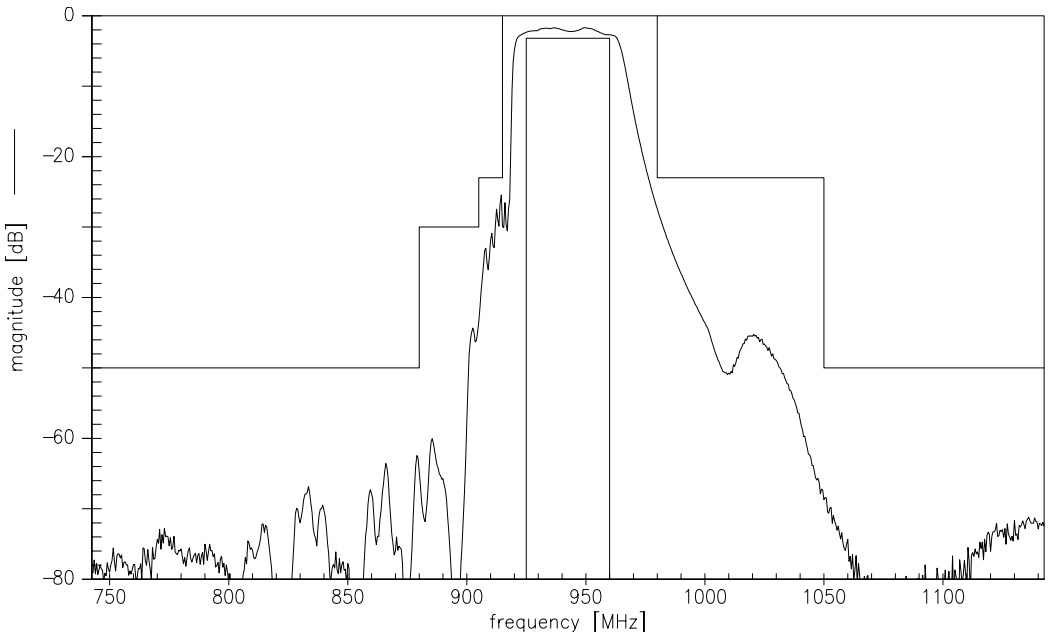
		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
925,0 ... 960,0 MHz		—	2,9	3,7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,0	2,1	dB
Input VSWR					
925,0 ... 960,0 MHz		—	2,2	2,4	
Output VSWR					
925,0 ... 960,0 MHz		—	2,2	2,3	
Output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

Characteristics

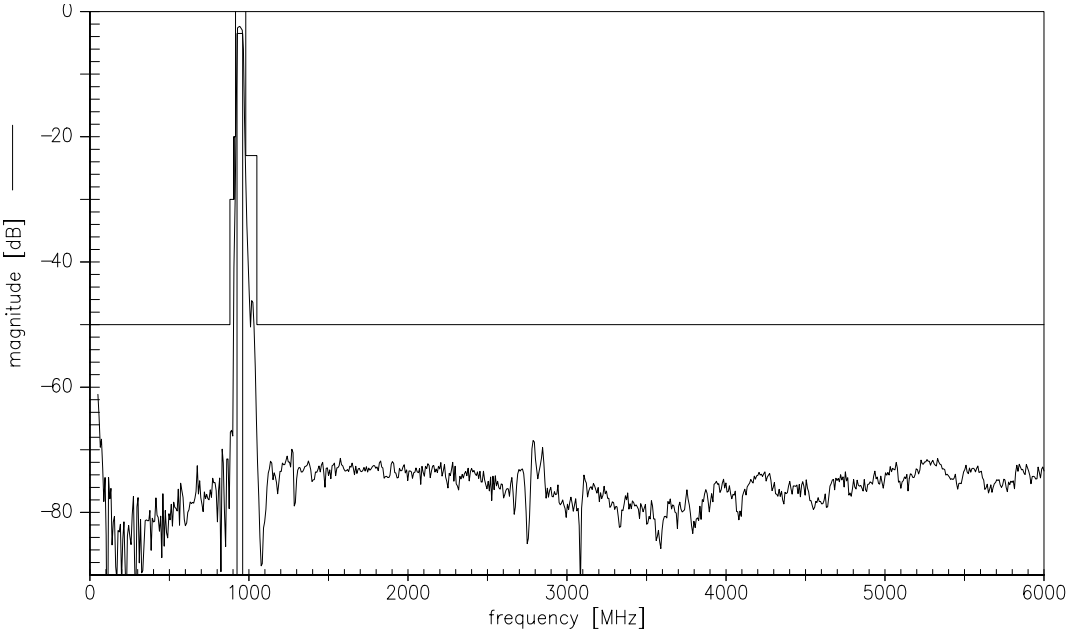
Operating temperature range: T = -30 to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω

		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	2,5	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^\circ$)					
925,0 ... 960,0 MHz		-5	0	5	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
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

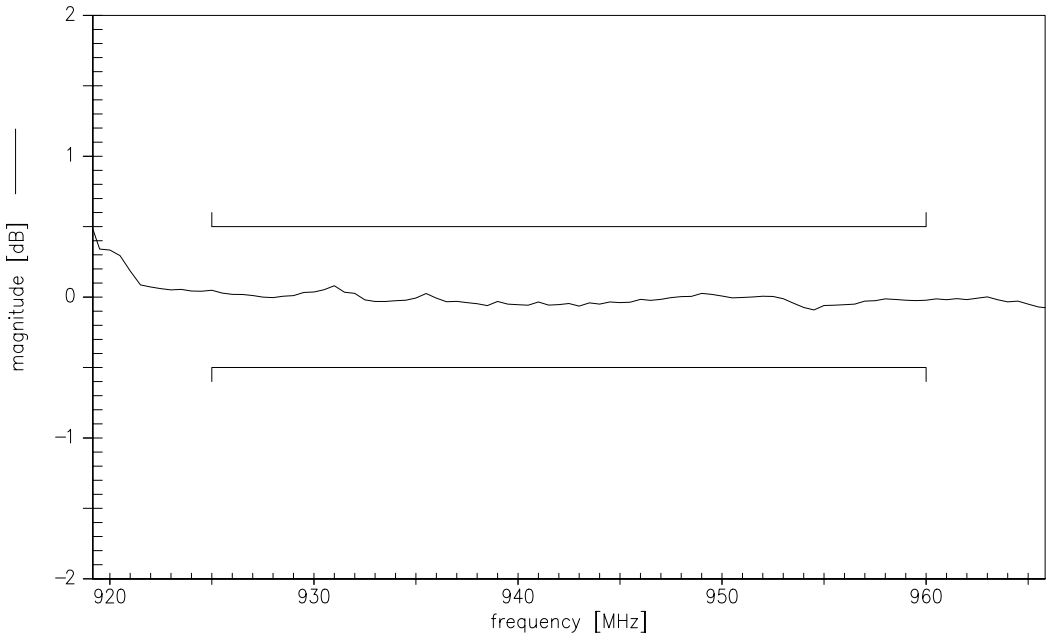
Transfer function



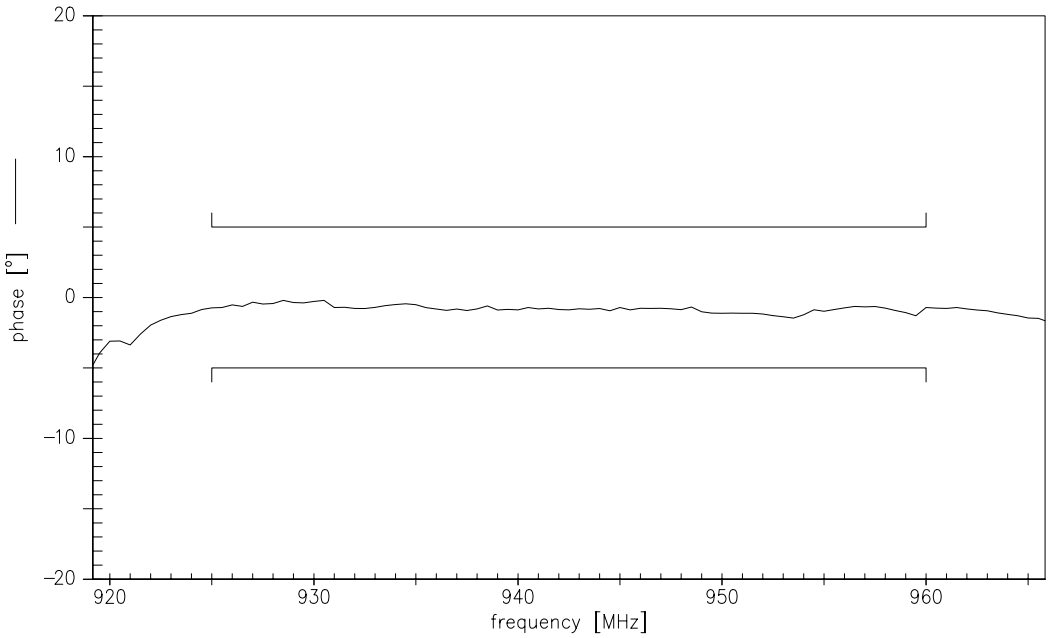
Transfer function (wideband)



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



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



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