EPCOS

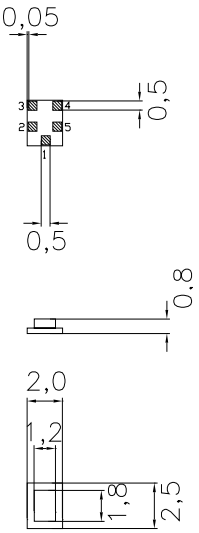
SAW Components

Data Sheet B7701

Chip **S**ized **S**AW **P**ackage **QCS5A**

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



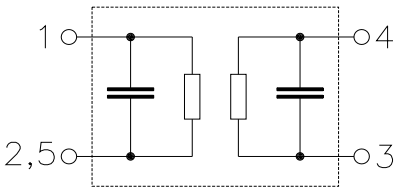
Dimensions in mm, approx. weight 0,015g

Terminals

- Ni, gold-plated

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

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

Maximum ratings

Operable temperature range	T	– 40 / + 85	˚C	
Storage temperature range	T_{stg}	– 40 / + 85	˚C	
DC voltage	V_{DC}	5	V	
Input power at GSM850, GSM900, GSM1800 and GSM1900 Tx bands	P_{IN}	15	dBm	peak power of GSM signal, duty cycle 4:8

Characteristics

Operating temperature range: T = +25 °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		—	2,3	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 ($\phi(S_{31})-\phi(S_{32})+180°$)					
869,0 ... 894,0 MHz		-10,0	0	10,0	degree
Output amplitude balance ($\lvert S_{31}/S_{32}\rvert$)					
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

Characteristics

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

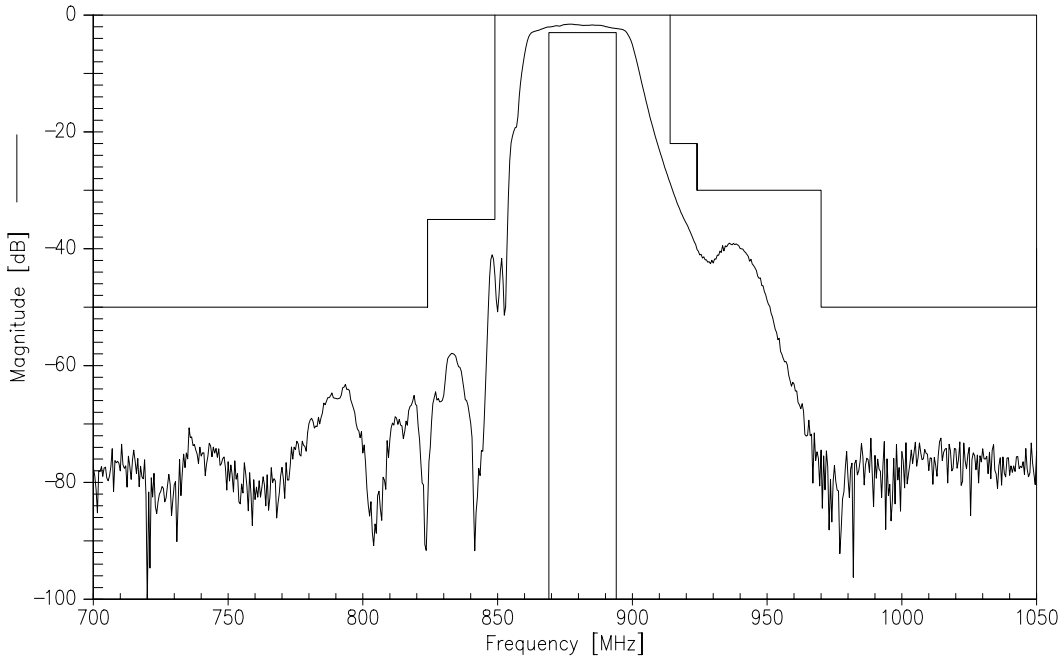
		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
869,0 ... 894,0 MHz		—	2,6	3,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	1,0	1,4	dB
VSWR					
869,0 ... 894,0 MHz		—	1,8	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{32})+180°$)					
869,0 ... 894,0 MHz		-10,0	0	10,0	degree
Output amplitude balance ($\lvert S_{31}/S_{32}\rvert$)					
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

Characteristics

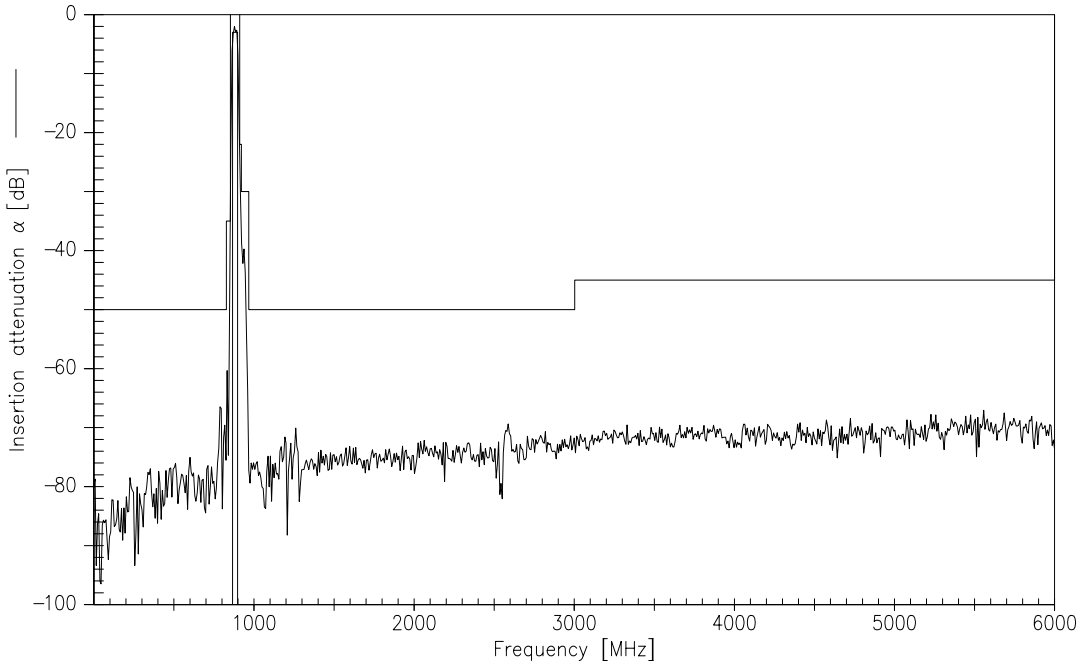
Operating temperature range: T = -40 to +85 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 200 Ω

		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 ($\phi(S_{31})-\phi(S_{32})+180°$)					
869,0 ... 894,0 MHz		-10,0	0	10,0	degree
Output amplitude balance ($\lvert S_{31}/S_{32}\rvert$)					
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)

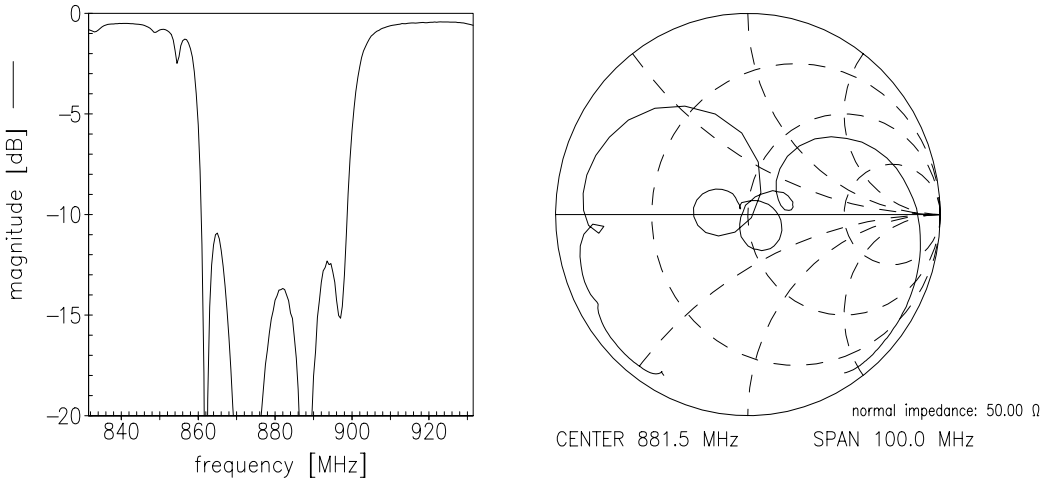


Transfer function (wideband measurement)

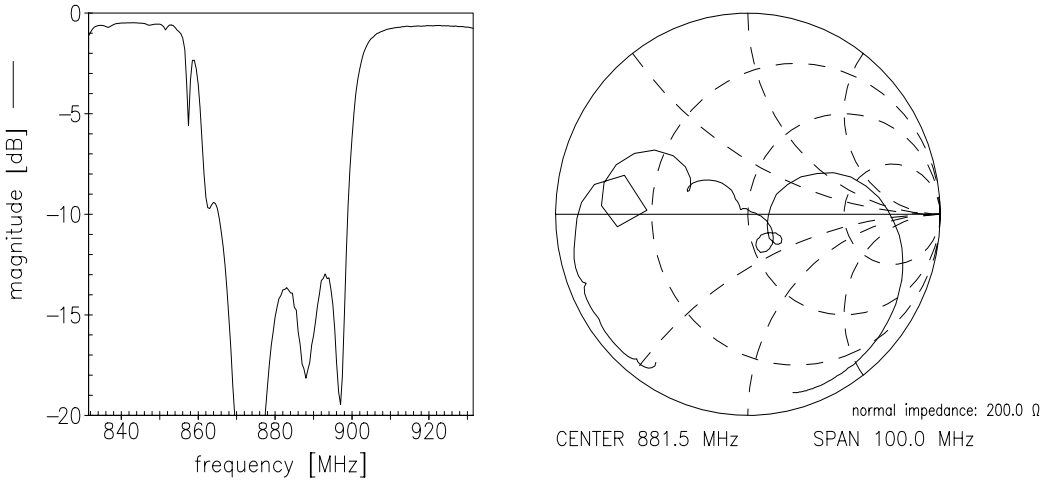


Reflection functions (measurement)

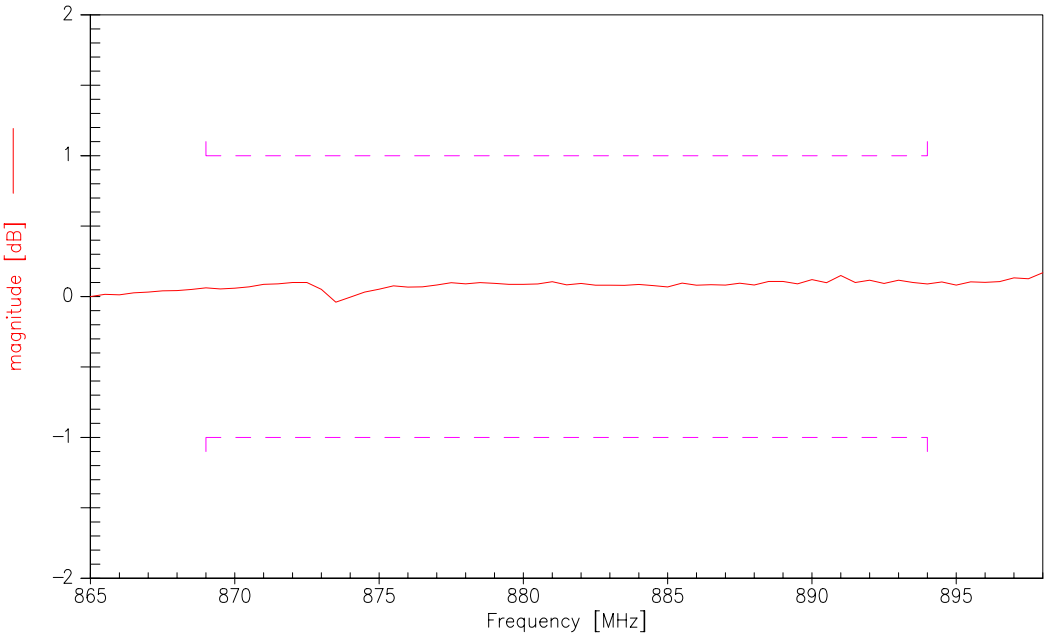
S_{11}



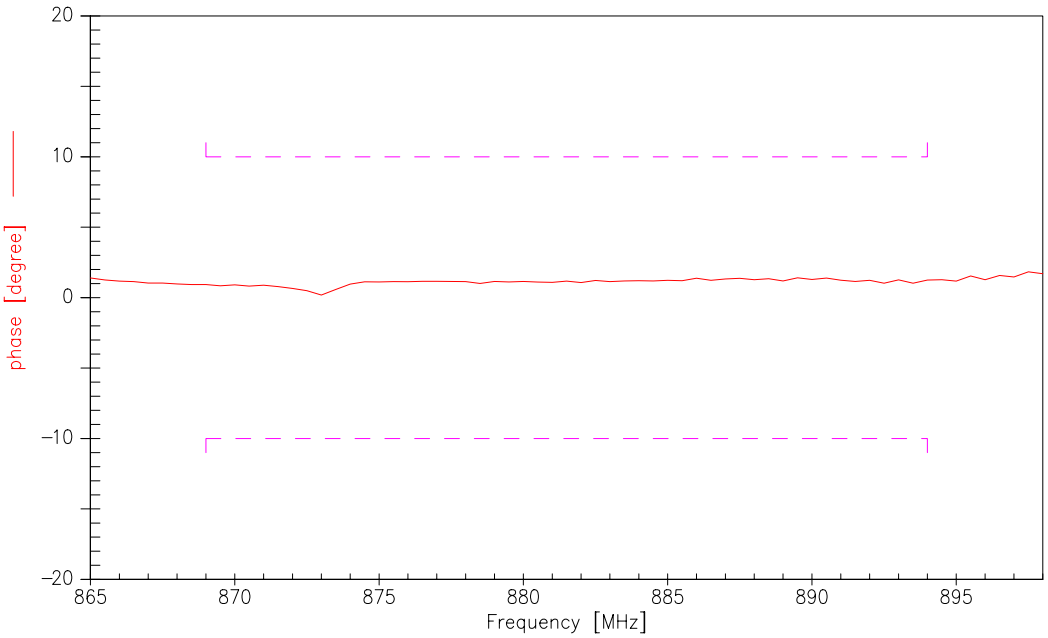
S_{22}



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



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



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