EPCOS

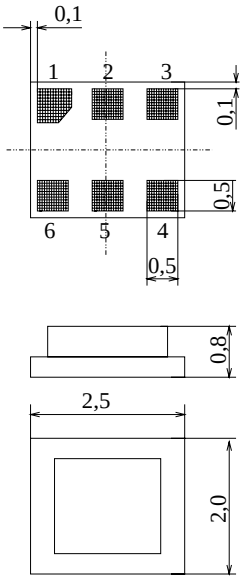
SAW Components

Data Sheet B7719

Chip sized SAW package DCS6I

Features

- Low-loss RF filter for mobile telephone GSM850 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
- Ceramic package for **S**urface **M**ounted **T**echnology (**SMT**)



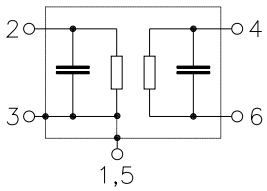
Dimensions in mm, approx. weight 0,014g

Terminals

- Ni, gold-plated

Pin configuration

2	Unbalanced input
4, 6	Balanced output
1, 3, 5	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B7719	B39881-B7719-C610	C61157-A7-A76	F61074-V8112-Z000

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

Maximum ratings

Operable temperature range	T	– 30 / + 85	˚C	
Storage temperature range	T_{stg}	– 40 / + 85	˚C	
DC voltage	V_{DC}	5	V	
ESD	V_{ESD}	50	V	
Input power at GSM850, GSM900, GSM1800 and GSM1900 Tx bands	P_{IN}	15	dBm	peak power of GSM signal, duty cycle 4:8

Data Sheet SMD

Characteristics

Operating temperature range: T = 25 ± 2 °C
Terminating source impedance: Z_S = 50 Ω (unbalanced)
Terminating load impedance: Z_L = 200 Ω (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
869,0 ... 894,0 MHz		—	2,6	2,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	1,0	1,2	dB
Unbalanced input VSWR					
869,0 ... 894,0 MHz		—	1,6	2,0	
Balanced output VSWR					
869,0 ... 894,0 MHz		—	1,7	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
869,0 ... 894,0 MHz		-10	—	+10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
869,0 ... 894,0 MHz		-2,0	—	2,0	dB
Common mode Suppression	S_{sc12}				
0,1 ... 849,0 MHz		20	45	—	
869,0 ... 894,0 MHz		20	25	—	
914,0 ...6000,0 MHz		20	30	—	
Attenuation	α				
0,0 ... 824,0 MHz		40	60	—	dB
824,0 ... 849,0 MHz		40	57	—	dB
914,0 ... 935,0 MHz		28	33	—	dB
935,0 ...1135,0 MHz		30	45	—	dB
1135,0 ...1175,0 MHz		40	65	—	dB
1175,0 ...2500,0 MHz		35	45	—	dB
2500,0 ...4000,0 MHz		30	34	—	dB
4000,0 ...6000,0 MHz		15	25	—	dB

Data Sheet SMD

Characteristics

Operating temperature range: T = -20 to +80 °C
Terminating source impedance: Z_S = 50 Ω (unbalanced)
Terminating load impedance: Z_L = 200 Ω (balanced)

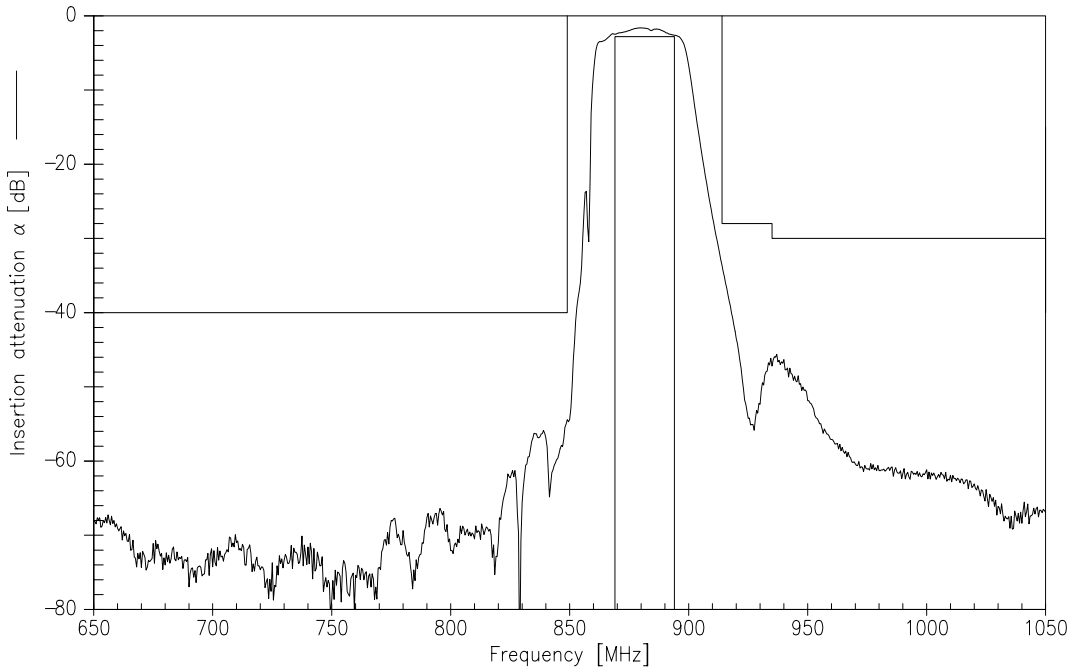
		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
869,0 ... 894,0 MHz		—	2,8	3,1	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	1,2	1,5	dB
Unbalanced input VSWR					
869,0 ... 894,0 MHz		—	1,6	2,0	
Balanced output VSWR					
869,0 ... 894,0 MHz		—	1,7	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
869,0 ... 894,0 MHz		-10	—	+10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
869,0 ... 894,0 MHz		-2,0	—	2,0	dB
Common mode Suppression	S_{sc12}				
0,1 ... 849,0 MHz		20	45	—	
869,0 ... 894,0 MHz		20	25	—	
914,0 ...6000,0 MHz		20	30	—	
Attenuation	α				
0,0 ... 824,0 MHz		40	60	—	dB
824,0 ... 849,0 MHz		38	54	—	dB
914,0 ... 935,0 MHz		26	31	—	dB
935,0 ...1135,0 MHz		30	45	—	dB
1135,0 ...1175,0 MHz		40	65	—	dB
1175,0 ...2500,0 MHz		35	45	—	dB
2500,0 ...4000,0 MHz		30	34	—	dB
4000,0 ...6000,0 MHz		15	25	—	dB

Characteristics

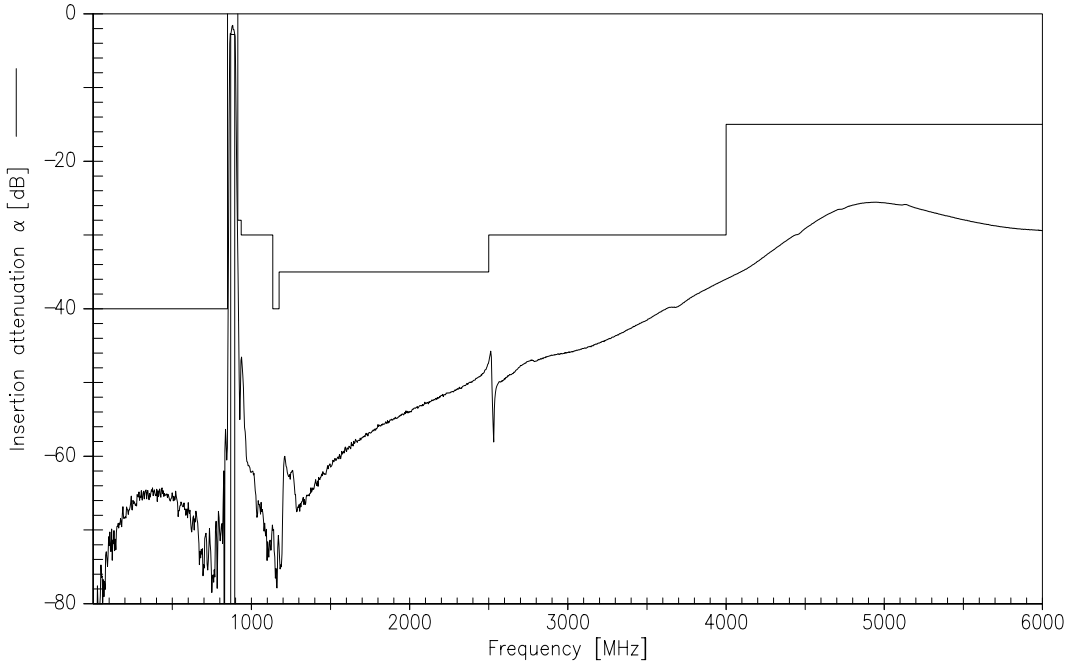
Operating temperature range: T = -30 to +85 °C
Terminating source impedance: Z_S = 50 Ω (unbalanced)
Terminating load impedance: Z_L = 200 Ω (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
869,0 ... 894,0 MHz		—	2,8	3,2	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	1,2	1,6	dB
Unbalanced input VSWR					
869,0 ... 894,0 MHz		—	1,6	2,0	
Balanced output VSWR					
869,0 ... 894,0 MHz		—	1,7	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
869,0 ... 894,0 MHz		-10	—	+10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
869,0 ... 894,0 MHz		-2,0	—	2,0	dB
Common mode Suppression	S_{sc12}				
0,1 ... 849,0 MHz		20	45	—	
869,0 ... 894,0 MHz		20	25	—	
914,0 ...6000,0 MHz		20	30	—	
Attenuation	α				
0,0 ... 824,0 MHz		40	60	—	dB
824,0 ... 849,0 MHz		38	54	—	dB
914,0 ... 935,0 MHz		26	31	—	dB
935,0 ...1135,0 MHz		30	45	—	dB
1135,0 ...1175,0 MHz		40	65	—	dB
1175,0 ...2500,0 MHz		35	45	—	dB
2500,0 ...4000,0 MHz		30	34	—	dB
4000,0 ...6000,0 MHz		15	25	—	dB

Transfer function (spec at 25 ˚C)

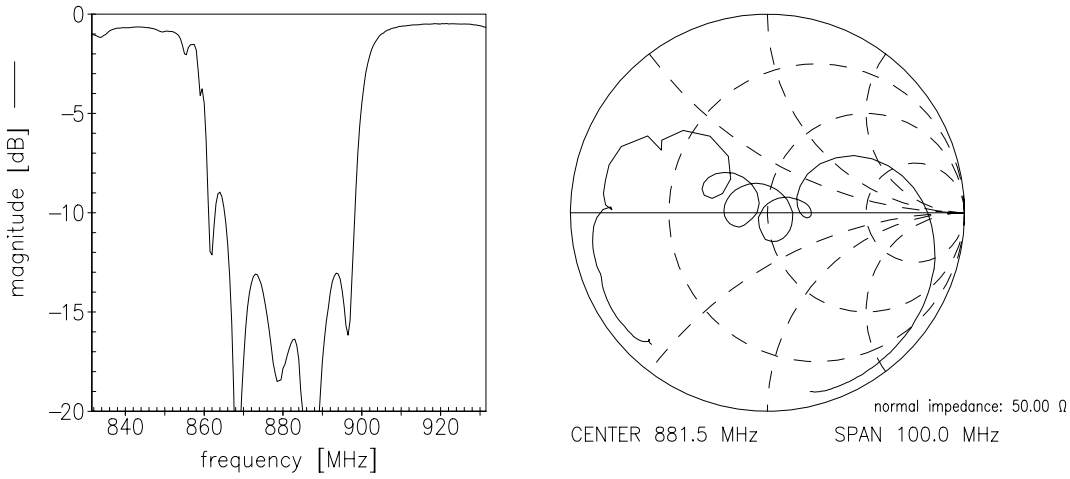


Transfer function (wideband)

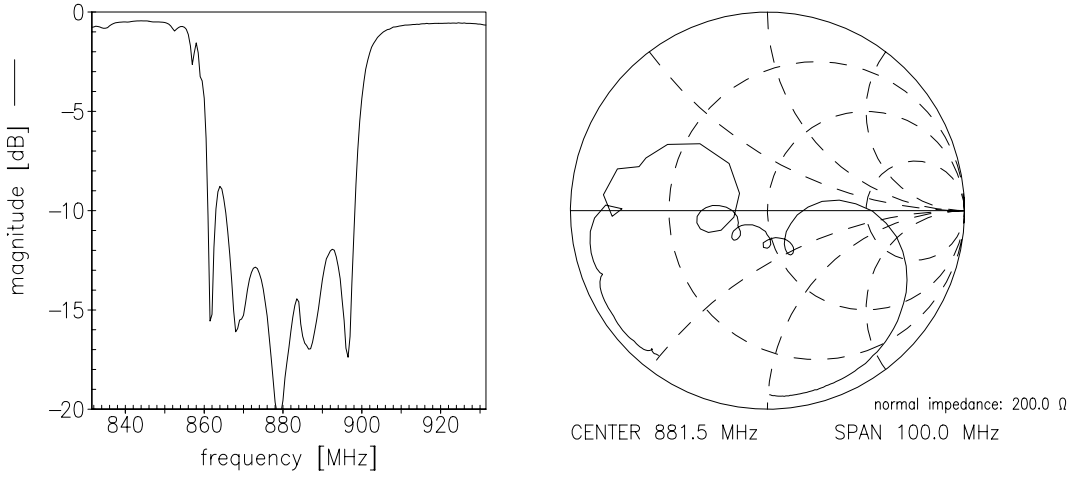


Matching (measurement; S22 is balanced output)

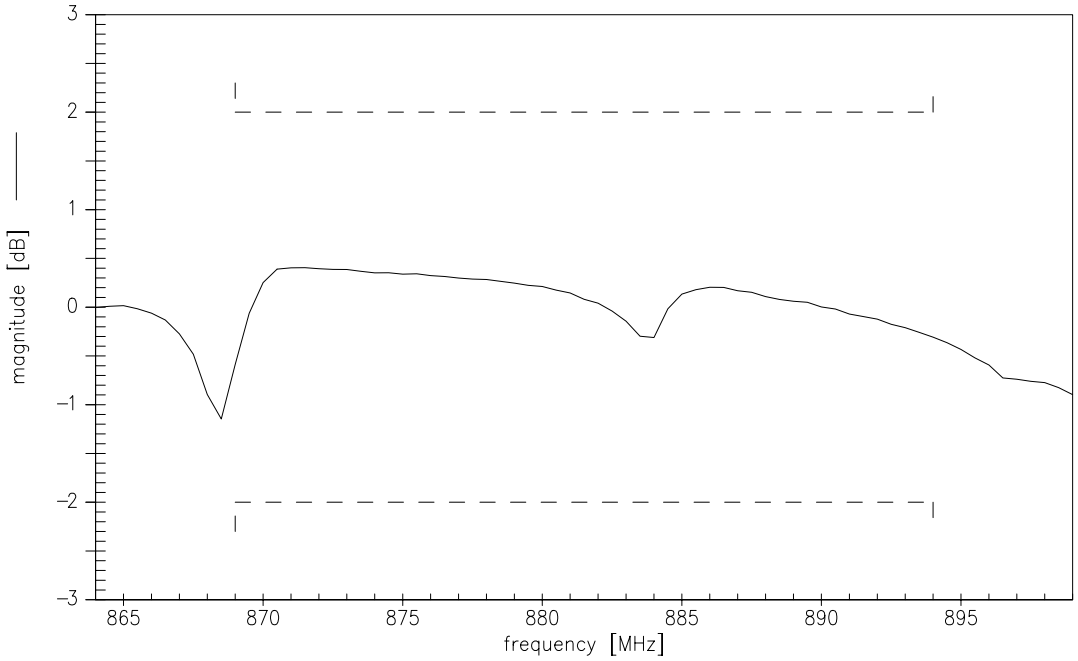
S_{11}



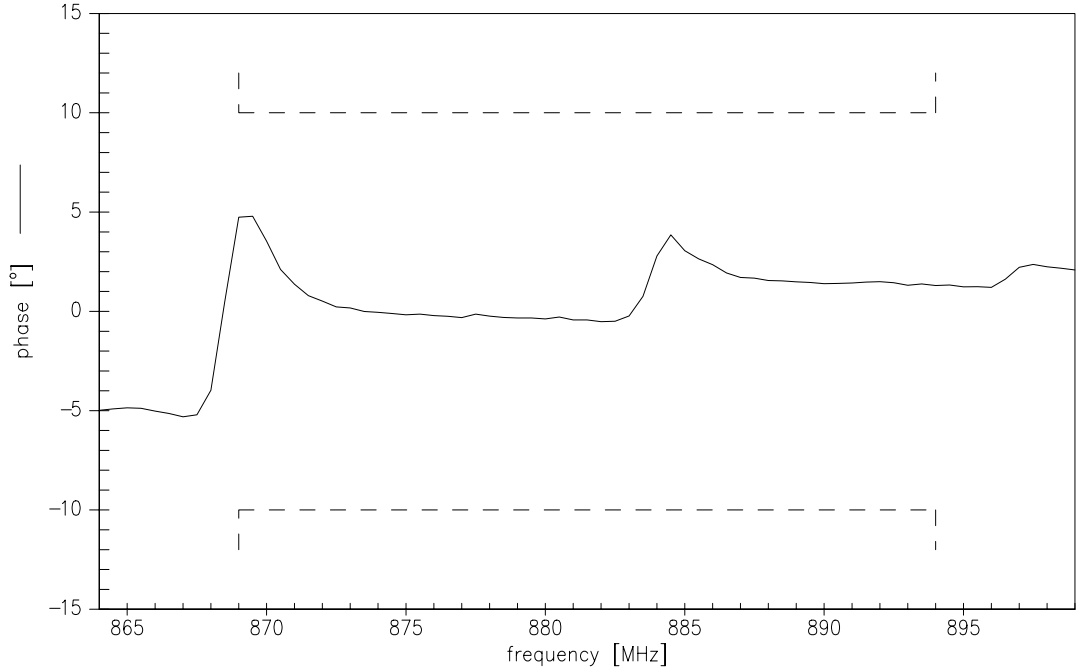
S_{22}



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



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



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