SAW Components

Data Sheet B7723

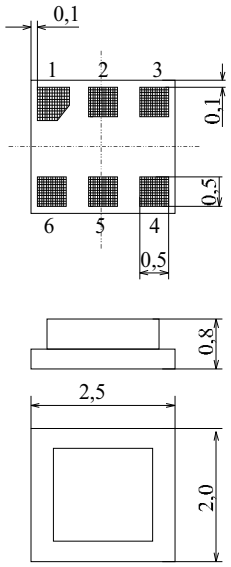
Features

- Low-loss RF filter for mobile telephone GSM 850 systems, transmit path
- Low amplitude ripple
- Usable passband 25 MHz
- Balanced to unbalanced operation
- Impedance transformation from 200 Ω to 50 Ω
- Ceramic package for **S**urface **M**ounted **T**echnology (**SMT**)

Terminals

- Ni, gold-plated

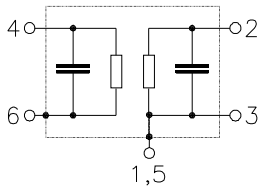
Chip sized SAW package DCS6l



Dimensions in mm, approx. weight 0,014g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B7723	B39841-B7723-C610	C61157-A7-A76	F61074-V8112-Z000

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

Maximum ratings

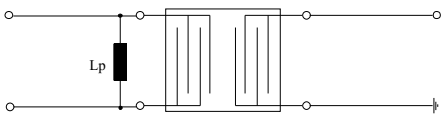
Operable temperature range	T	– 30 / + 85	˚C	
Storage temperature range	T_{stg}	– 40 / + 85	˚C	
DC voltage	V_{DC}	5	V	
ESD	V_{ESD}	50	V	
Input power max.	P_{IN}	15	dBm	Source impedance 200 Ω peak power of GSM 850 signal, duty cycle 1:4

Characteristics

Operating temperature range: T = 25 ± 2˚C
Terminating source impedance: Z_S = 200 Ω // 56 nH (balanced)
Terminating load impedance: Z_L = 50 Ω (unbalanced)

		min.	typ.	max.	
Center frequency	f_C	—	836,5	—	MHz
Maximum insertion attenuation	α_{max}				
824,0 ... 849,0 MHz		—	2,1	2,3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
824,0 ... 849,0 MHz		—	0,6	0,8	dB
Balanced input VSWR					
824,0 ... 849,0 MHz		—	1,7	2,0	
Unbalanced output VSWR					
824,0 ... 849,0 MHz		—	1,7	2,0	
Differential to Common mode Suppression	S_{sc12}				
0,1 ... 804,0 MHz		20	50	—	dB
824,0 ... 849,0 MHz		20	25	—	dB
869,0 ...6000,0 MHz		20	35	—	dB
Attenuation	α				
0,0 ... 800,0 MHz		42	54	—	dB
869,0 ... 894,0 MHz		27	30	—	dB
894,0 ...1000,0 MHz		30	40	—	dB
1000,0 ...3000,0 MHz		40	46	—	dB
3000,0 ...4000,0 MHz		30	36	—	dB
4000,0 ...6000,0 MHz		23	28	—	dB
Rx band suppression	α				
869,0 ... 894,0 MHz		27	30	—	dB

Test matching network



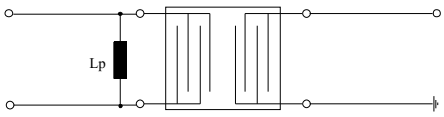
L_p = 56 nH

Characteristics

Operating temperature range: T = -30 to 85 ˚C
Terminating source impedance: Z_S = 200 Ω // 56 nH (balanced)
Terminating load impedance: Z_L = 50 Ω (unbalanced)

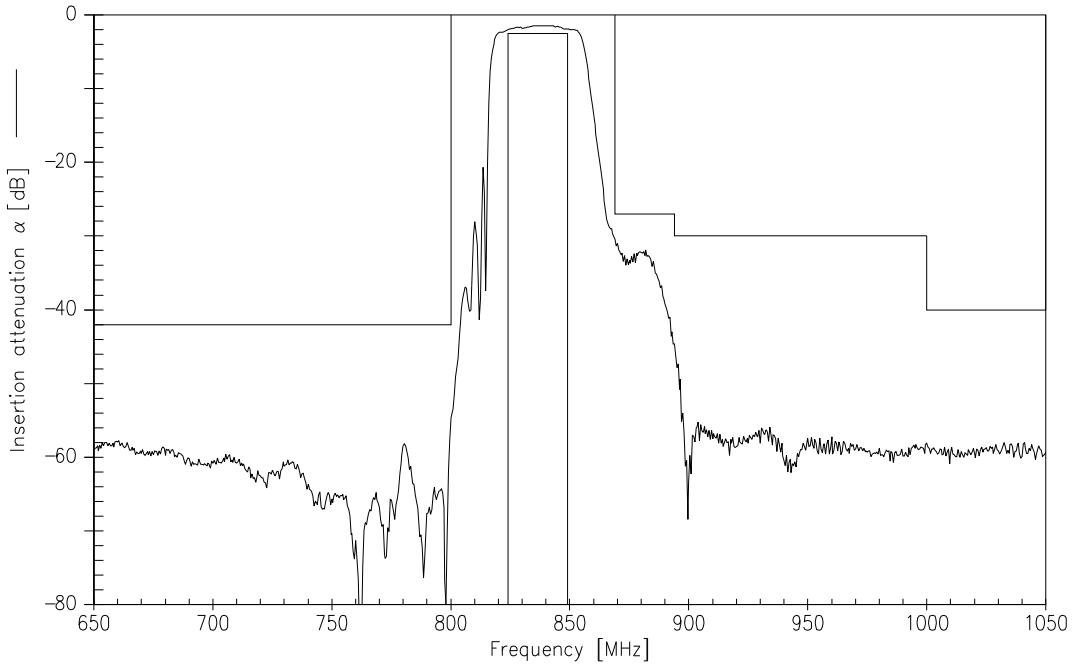
		min.	typ.	max.	
Center frequency	f_C	—	836,5	—	MHz
Maximum insertion attenuation	α_{max}				
824,0 ... 849,0 MHz		—	2,3	2,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
824,0 ... 849,0 MHz		—	0,8	1,0	dB
Balanced input VSWR					
824,0 ... 849,0 MHz		—	1,7	2,0	
Unbalanced output VSWR					
824,0 ... 849,0 MHz		—	1,7	2,0	
Differential to Common mode Suppression	S_{sc12}				
0,1 ... 804,0 MHz		20	50	—	dB
824,0 ... 849,0 MHz		20	25	—	dB
869,0 ...6000,0 MHz		20	35	—	dB
Attenuation	α				
0,0 ... 800,0 MHz		40	54	—	dB
869,0 ... 894,0 MHz		25	30	—	dB
894,0 ...1000,0 MHz		30	40	—	dB
1000,0 ...3000,0 MHz		40	46	—	dB
3000,0 ...4000,0 MHz		30	36	—	dB
4000,0 ...6000,0 MHz		23	28	—	dB
Rx band suppression	α				
869,0 ... 894,0 MHz		25	30	—	dB

Test matching network

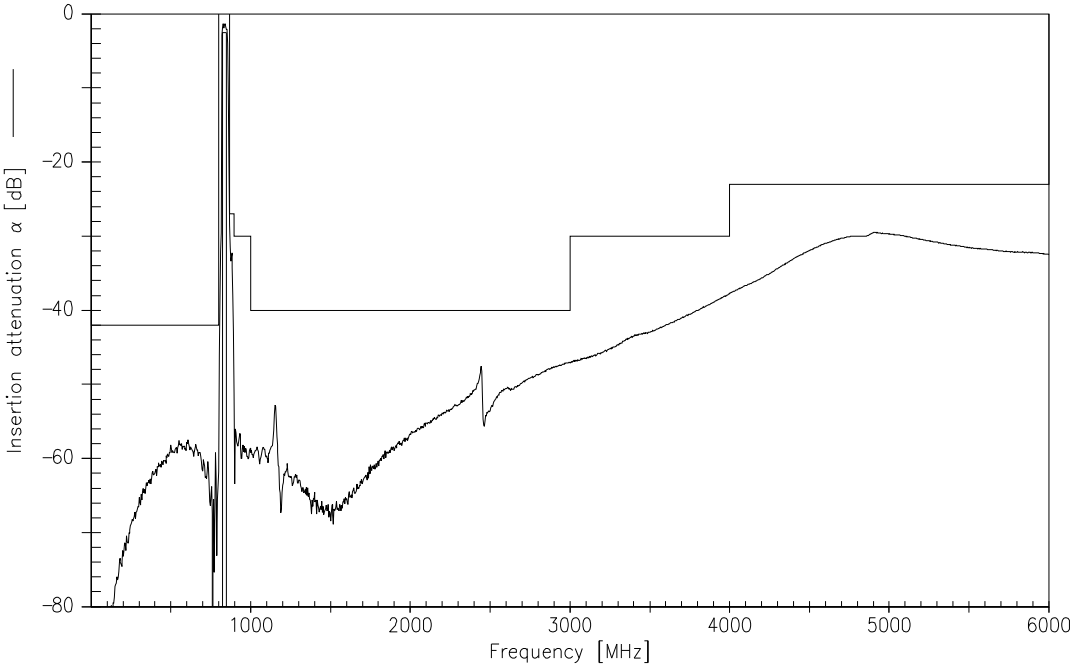


L_p = 56 nH

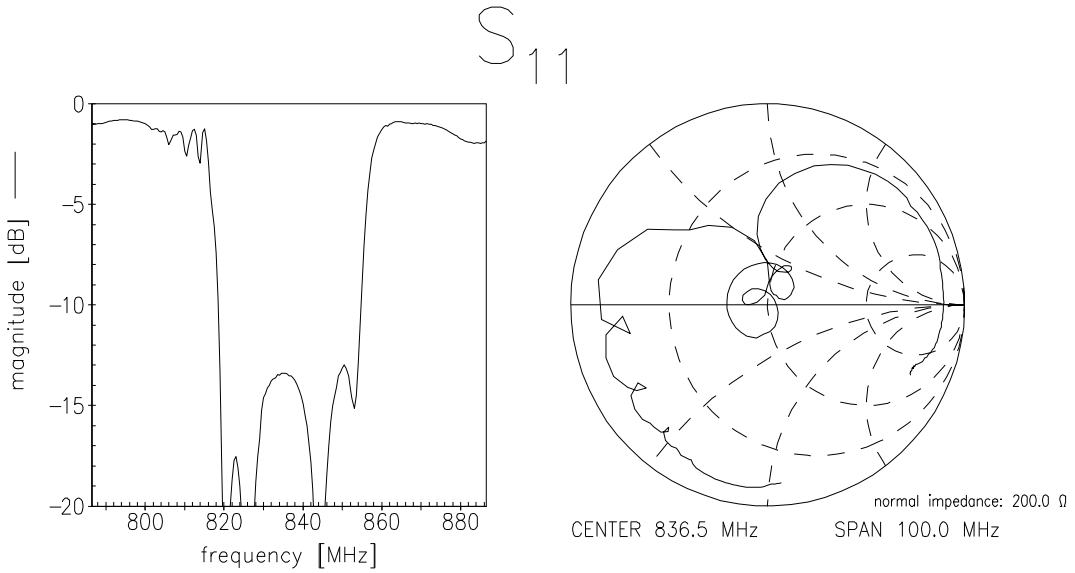
Transfer function (spec at 25˚C)

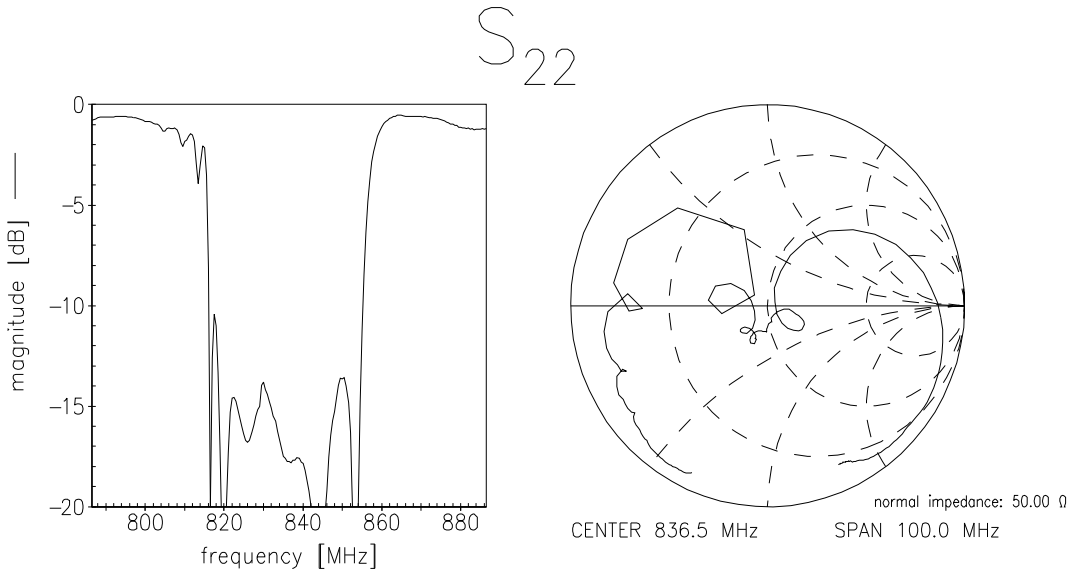


Transfer function (wideband)



Matching (measurement including calculated matching network; S11 is balanced input)





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