



# SAW Components

Data Sheet B7723

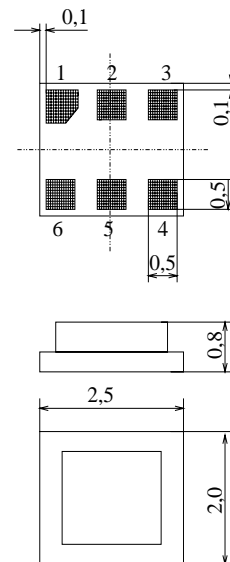




Chip sized SAW package DCS61

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 **Surface Mounted Technology (SMT)**



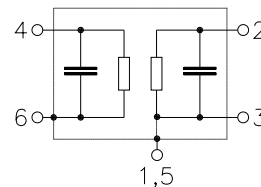
Dimensions in mm, approx. weight 0,014g

Terminals

- Ni, gold-plated

Pin configuration

- 4, 6            Balanced input
- 2              Unbalanced output
- 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 Sensitive Device (ESD)

Maximum ratings

Operable temperature range	$T$	- 30 / + 85	°C	Source impedance 200 Ω peak power of GSM 850 signal, duty cycle 1:4
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	



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**Low-Loss Filter for Mobile Communication**

**836,5 MHz**

**Data Sheet**

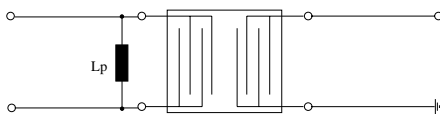


**Characteristics**

Operating temperature range:  $T = 25 \pm 2^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 200 \Omega // 56 \text{ nH}$  (balanced)  
 Terminating load impedance:  $Z_L = 50 \Omega$  (unbalanced)

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	836,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\text{max}}$	—	2,1	2,3	dB
	824,0 ... 849,0 MHz				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,6	0,8	dB
	824,0 ... 849,0 MHz				
<b>Balanced input VSWR</b>		—	1,7	2,0	
	824,0 ... 849,0 MHz				
<b>Unbalanced output VSWR</b>		—	1,7	2,0	
	824,0 ... 849,0 MHz				
<b>Differential to Common mode Suppression</b>	$S_{\text{sc}12}$				dB
	0,1 ... 804,0 MHz	20	50	—	dB
	824,0 ... 849,0 MHz	20	25	—	dB
	869,0 ... 6000,0 MHz	20	35	—	dB
<b>Attenuation</b>	$\alpha$				dB
	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
<b>Rx band suppression</b>	$\alpha$				dB
	869,0 ... 894,0 MHz	27	30	—	dB

**Test matching network**



$L_p = 56 \text{ nH}$



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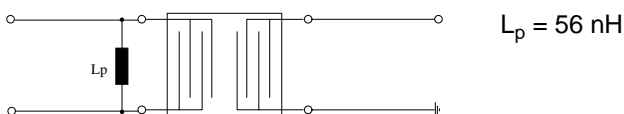
**Data Sheet Characteristics**



Operating temperature range:  $T = -30 \text{ to } 85 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 200 \text{ } \Omega // 56 \text{ nH (balanced)}$   
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega \text{ (unbalanced)}$

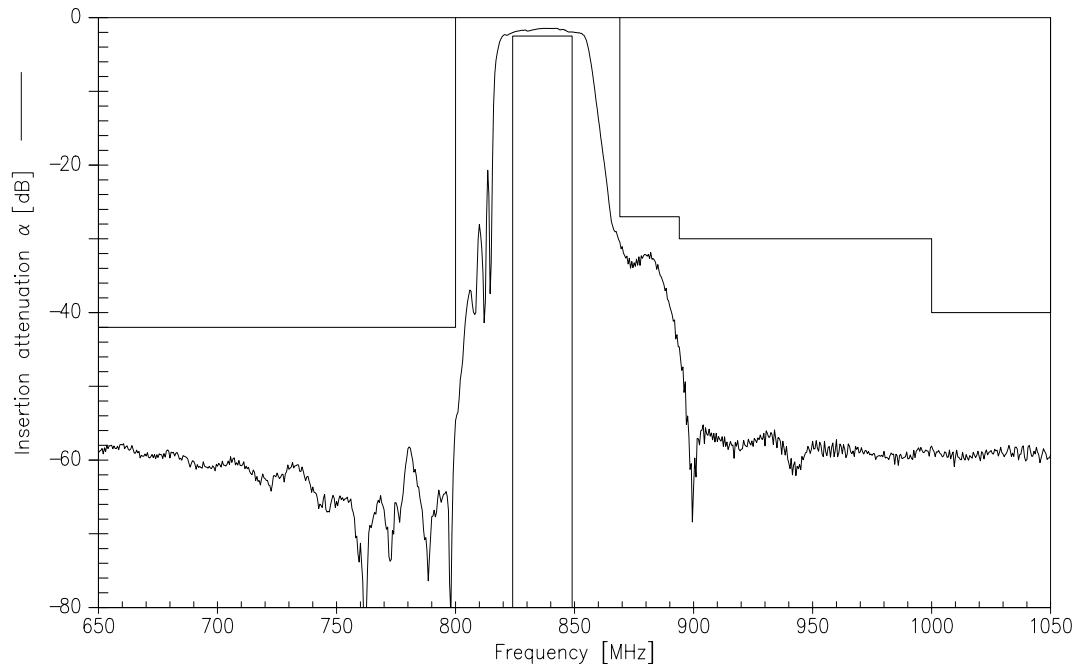
		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	836,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2,3	2,5	dB
	824,0 ... 849,0 MHz				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,8	1,0	dB
	824,0 ... 849,0 MHz				
<b>Balanced input VSWR</b>		—	1,7	2,0	
	824,0 ... 849,0 MHz				
<b>Unbalanced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

**Test matching network**

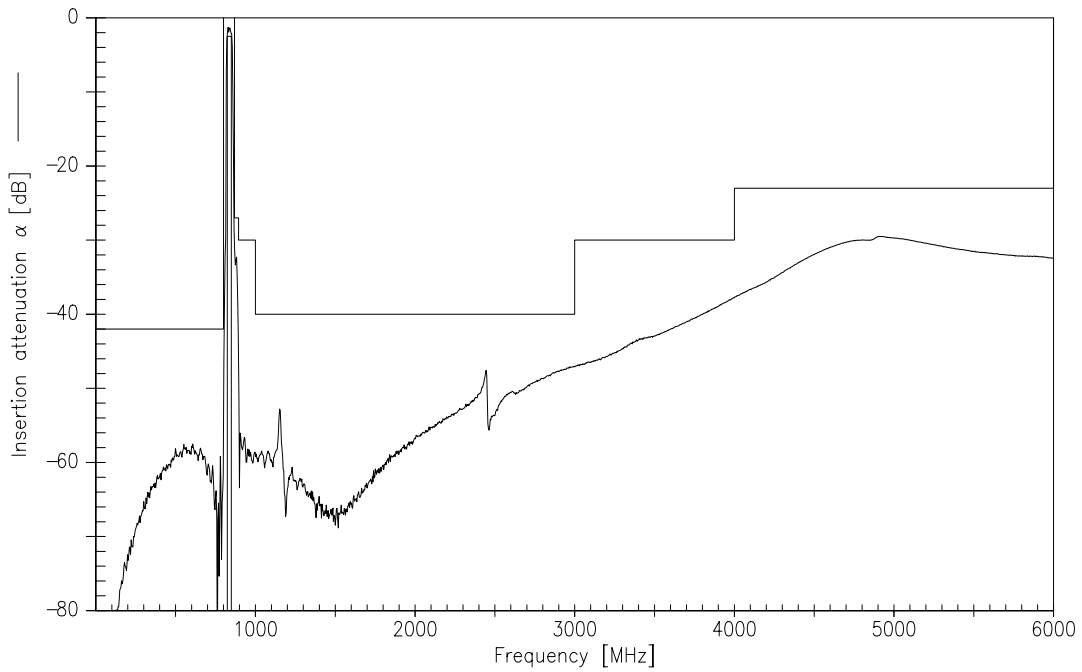




Transfer function (spec at 25°C)



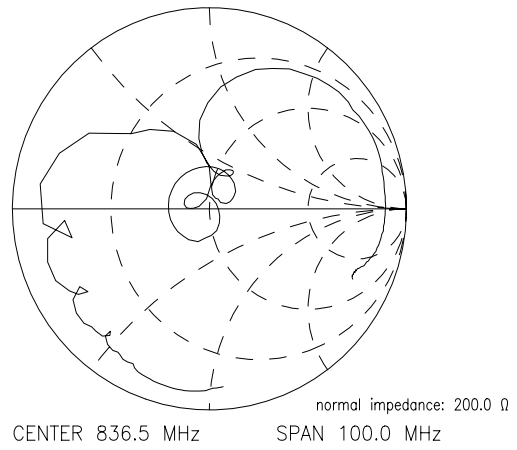
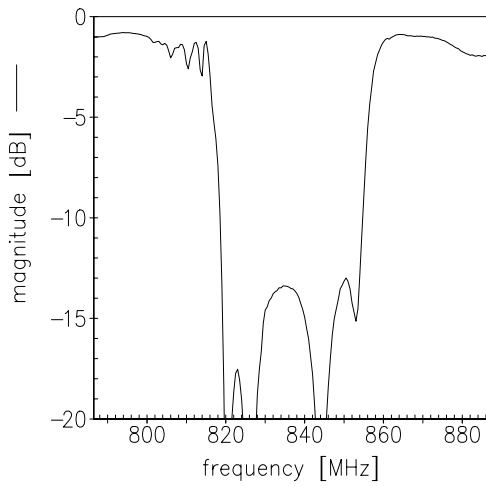
Transfer function (wideband)



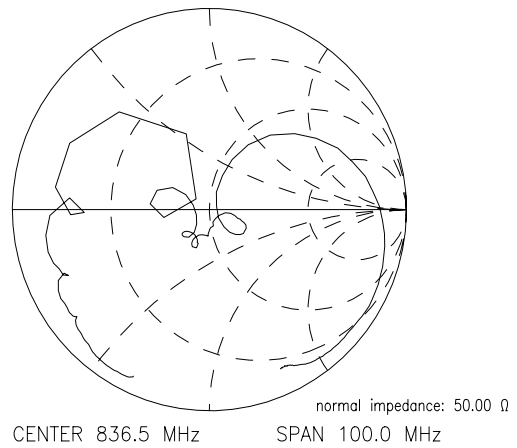
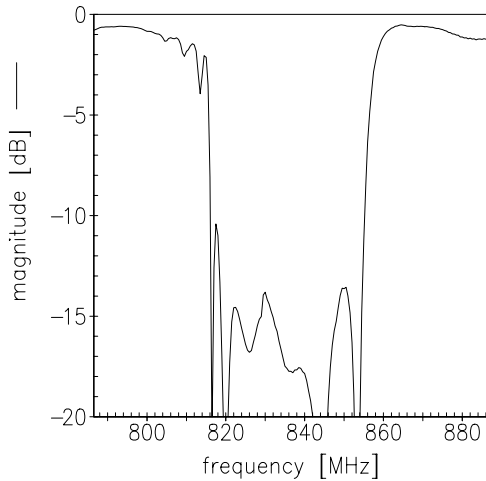


**Matching** (measurement including calculated matching network; S11 is balanced input )

S<sub>11</sub>



S<sub>22</sub>





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**Low-Loss Filter for Mobile Communication**

**836,5 MHz**

Data Sheet



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