



# SAW Components

Data Sheet B7719





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**B7719**

**Low-Loss Filter for Mobile Communication**

**881,5 MHz**

**Data Sheet**



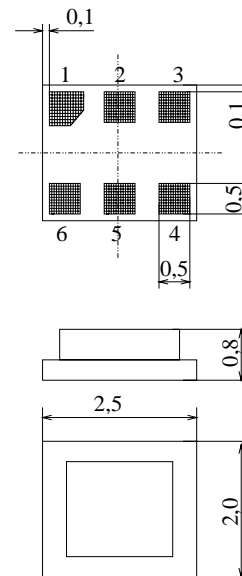
**Chip sized SAW package DCS6I**

**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 **Surface Mounted Technology (SMT)**

**Terminals**

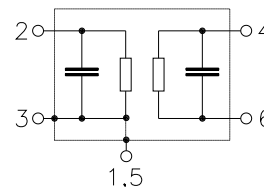
- Ni, gold-plated



Dimensions in mm, approx. weight 0,014g

**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 Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	- 30 / + 85	°C	peak power of GSM signal, duty cycle 4:8
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	



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**Characteristics**

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

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	881,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
869,0 ... 894,0	MHz	—	2,6	2,8	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
869,0 ... 894,0	MHz	—	1,0	1,2	dB
<b>Unbalanced input VSWR</b>					
869,0 ... 894,0	MHz	—	1,6	2,0	
<b>Balanced output VSWR</b>					
869,0 ... 894,0	MHz	—	1,7	2,0	
<b>Output phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^\circ</math>)</b>					
869,0 ... 894,0	MHz	-10	—	+10	degree
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>					
869,0 ... 894,0	MHz	-2,0	—	2,0	dB
<b>Common mode Suppression</b>	$S_{sc12}$				
0,1 ... 849,0	MHz	20	45	—	
869,0 ... 894,0	MHz	20	25	—	
914,0 ... 6000,0	MHz	20	30	—	
<b>Attenuation</b>	$\alpha$				
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



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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.	
<b>Center frequency</b>	$f_C$	—	881,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
869,0 ... 894,0 MHz		—	2,8	3,1	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	1,2	1,5	dB
<b>Unbalanced input VSWR</b>					
869,0 ... 894,0 MHz		—	1,6	2,0	
<b>Balanced output VSWR</b>					
869,0 ... 894,0 MHz		—	1,7	2,0	
<b>Output phase balance (<math>\phi(S_{31})-\phi(S_{21})+180^\circ</math>)</b>					
869,0 ... 894,0 MHz		-10	—	+10	degree
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>					
869,0 ... 894,0 MHz		-2,0	—	2,0	dB
<b>Common mode Suppression</b>	$S_{sc12}$				
0,1 ... 849,0 MHz		20	45	—	
869,0 ... 894,0 MHz		20	25	—	
914,0 ... 6000,0 MHz		20	30	—	
<b>Attenuation</b>	$\alpha$				
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



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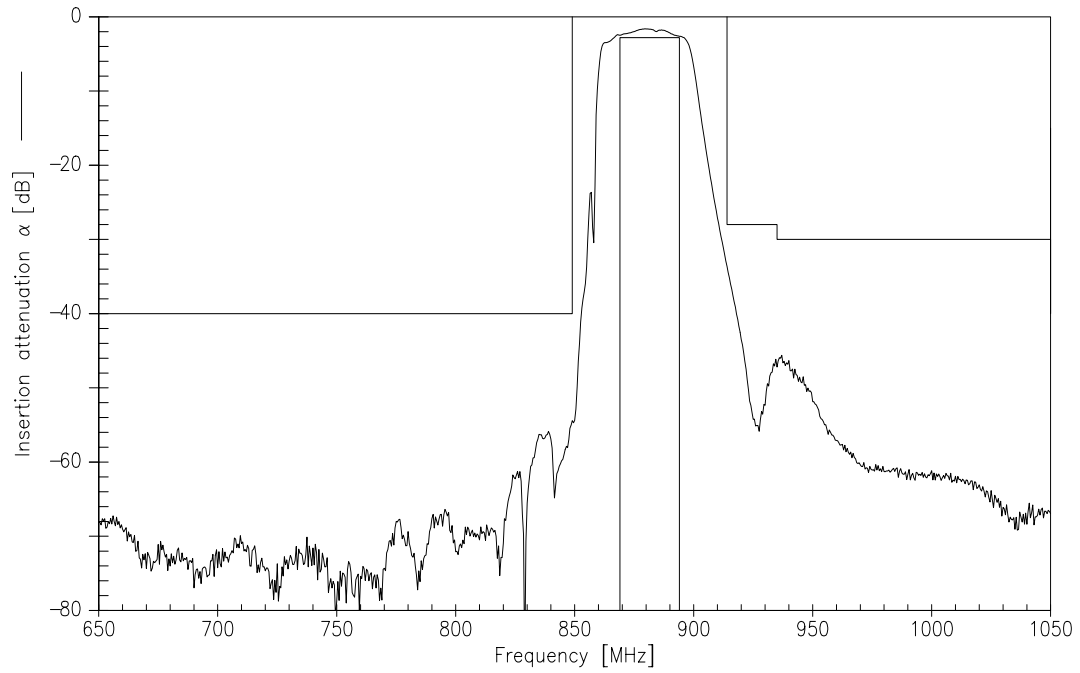
**Characteristics**

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

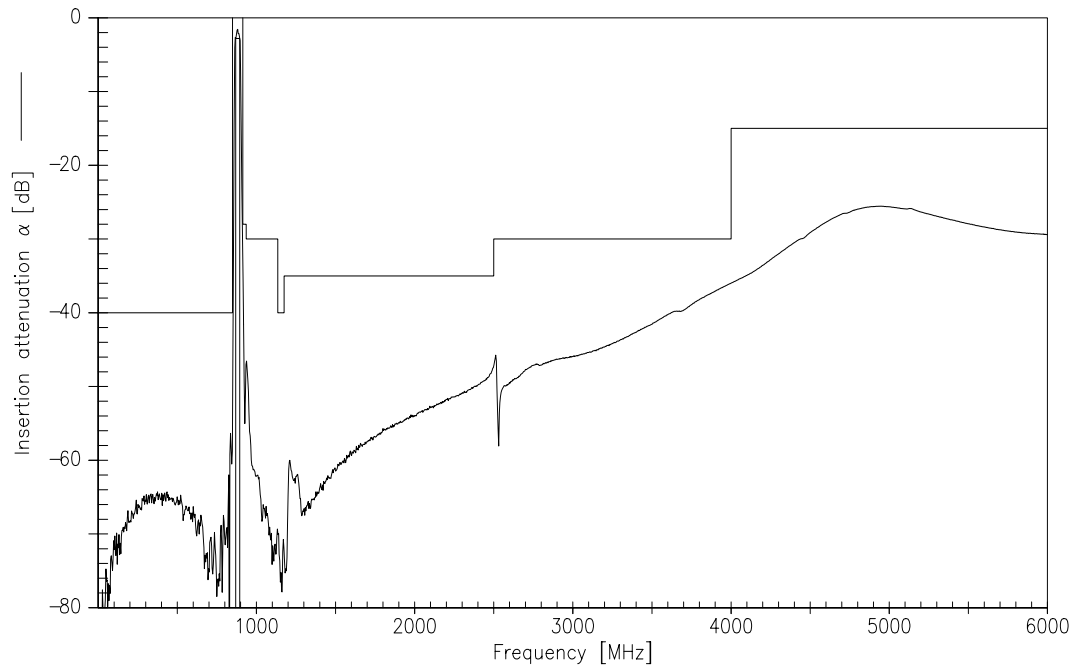
			<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_C$		—	881,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	869,0 ... 894,0 MHz	—	2,8	3,2	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	869,0 ... 894,0 MHz	—	1,2	1,6	dB
<b>Unbalanced input VSWR</b>		869,0 ... 894,0 MHz	—	1,6	2,0	
<b>Balanced output VSWR</b>		869,0 ... 894,0 MHz	—	1,7	2,0	
<b>Output phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^\circ</math>)</b>		869,0 ... 894,0 MHz	-10	—	+10	degree
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>		869,0 ... 894,0 MHz	-2,0	—	2,0	dB
<b>Common mode Suppression</b>	$S_{sc12}$	0,1 ... 849,0 MHz	20	45	—	
		869,0 ... 894,0 MHz	20	25	—	
		914,0 ... 6000,0 MHz	20	30	—	
<b>Attenuation</b>	$\alpha$	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)



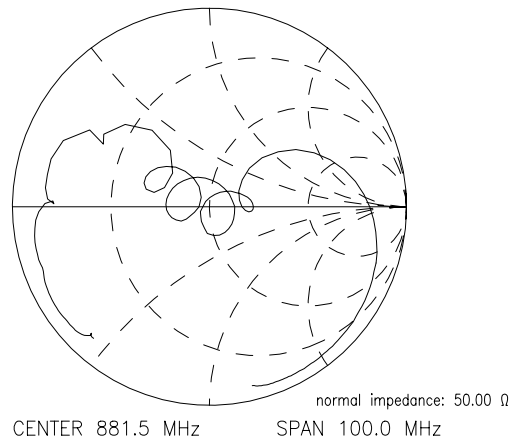
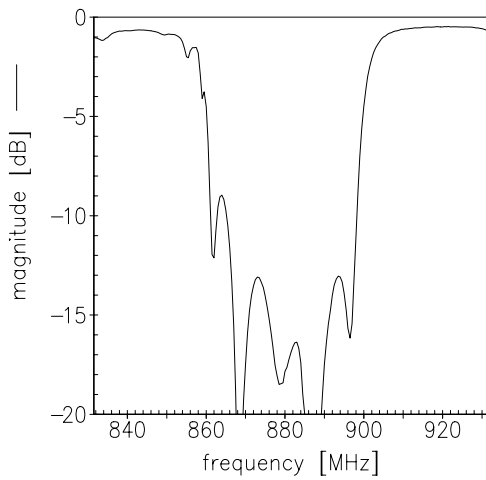
Transfer function (wideband)



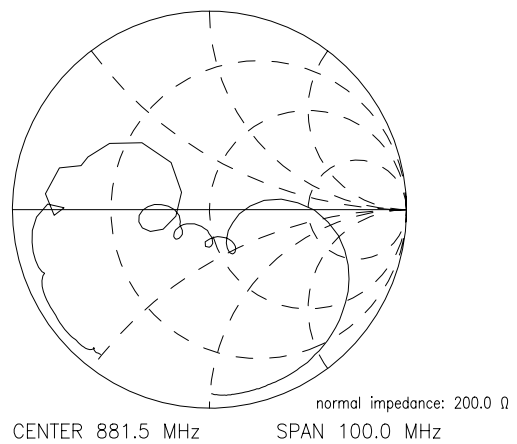
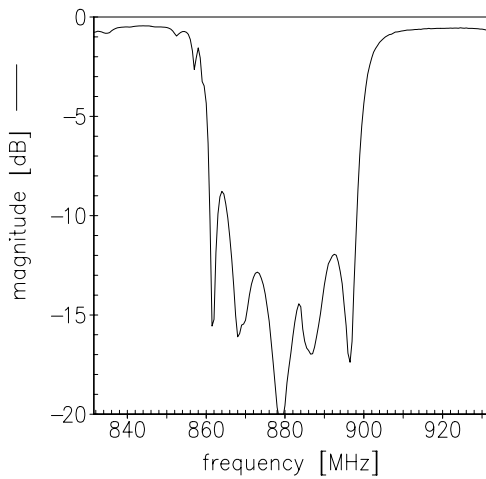


Matching (measurement; S22 is balanced output )

S<sub>11</sub>

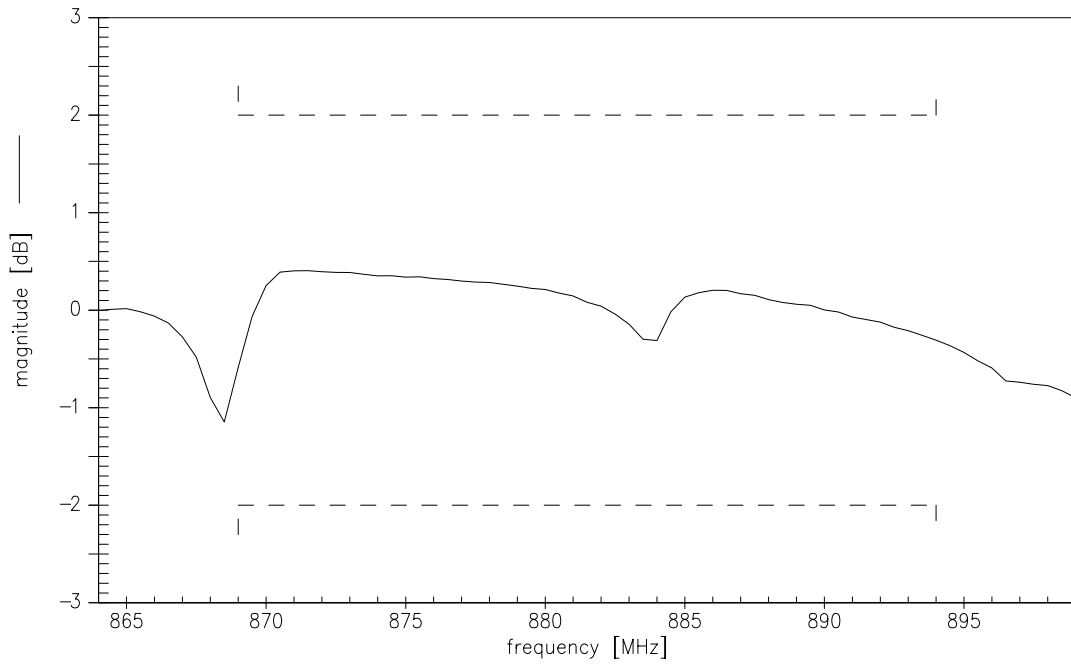


S<sub>22</sub>

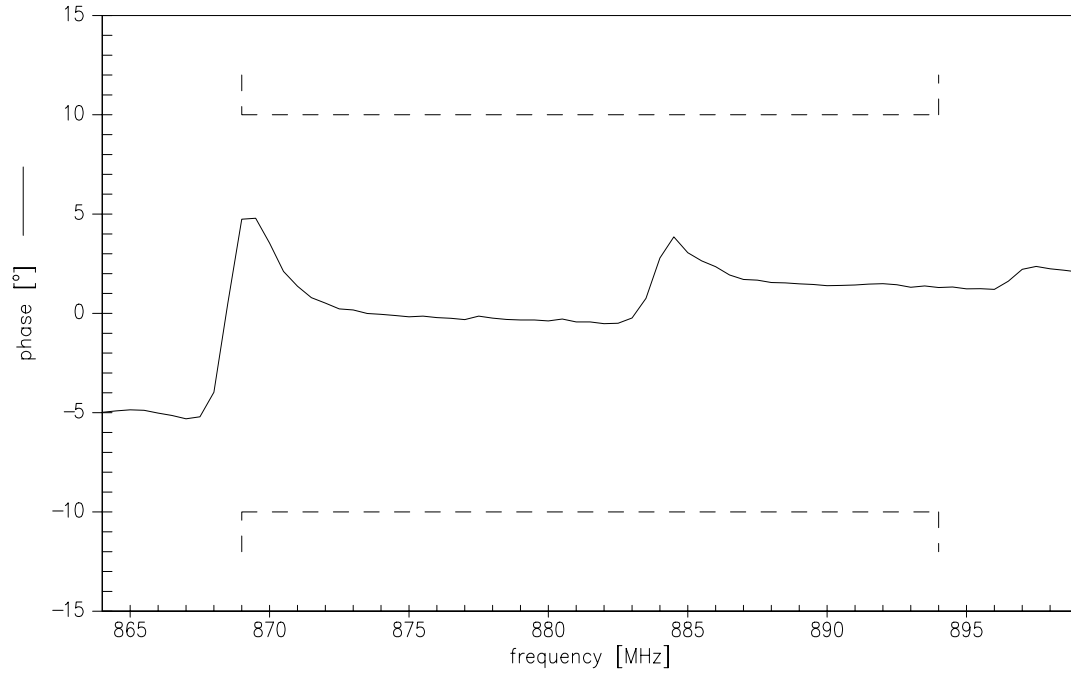




Input amplitude balance ( $|S_{31}/S_{21}|$ ; measurement)



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







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