



# SAW Components

Data Sheet B7715





**SAW Components**

**B7715**

**Low-Loss Filter for Mobile Communication**

**897,5 MHz**

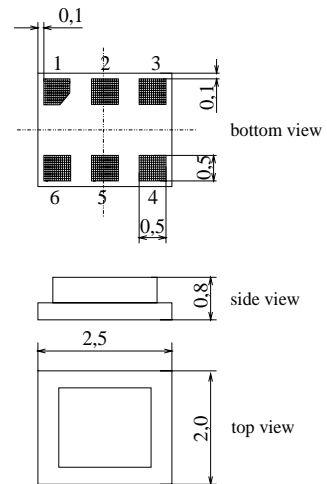
**Data Sheet**



**Chip sized SAW package DCS6I**

**Features**

- Low-loss RF filter for mobile telephone EGSM systems, transmit path
- Low amplitude ripple
- Usable passband 35 MHz
- Balanced to unbalanced operation
- Impedance transformation from 200 Ω to 50 Ω
- Ceramic package for **Surface Mounted Technology (SMT)**



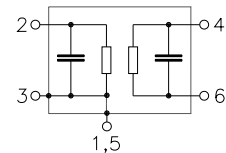
**Terminals**

- Ni, gold-plated

Dimensions in mm, approx. weight 0,014g

**Pin configuration**

- 2 Output, unbalanced
- 4, 6 Balanced inputs
- 1, 3, 5 To be grounded
- 1, 5 Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B7715	B39901-B7715-C610	C61157-A7-A76	F61074-V8153-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	- 10 / + 80	°C	
Storage temperature range	$T_{stg}$	- 40 / + 85	°C	
DC voltage	$V_{DC}$	5	V	
ESD voltage	$V_{ESD}$	50	V	
Input power max.				> 2000 hrs at 85°C peak power of GSM signal, duty cycle 2 : 8 duty cycle 4 : 8,
880 ... 915 MHz	$P_{IN}$	14	dBm	
		12	dBm	
elsewhere		0	dBm	continuous wave



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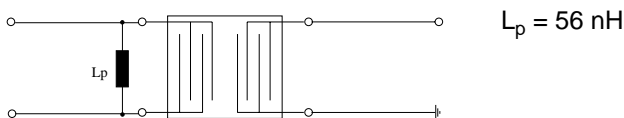


**Characteristics**

Operating temperature range:  $T = 25 \pm 2^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 200 \Omega$  including matching network  
 Terminating load impedance:  $Z_L = 50 \Omega$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	897,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
880,0 ... 915,0 MHz		—	2,6	3,0	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
880,0 ... 915,0 MHz		—	1,1	1,5	dB
<b>Balanced input VSWR</b>					
880,0 ... 915,0 MHz		—	1,7	2,0	
<b>Unbalanced output VSWR</b>					
880,0 ... 915,0 MHz		—	1,8	2,2	
<b>Diff. to common mode suppression</b>	$S_{sc12}$				
880,0 ... 915,0 MHz		20	23	—	dB
<b>Input phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^\circ</math>)</b>					
880,0 ... 915,0 MHz		-10	—	+10	degree
<b>Input amplitude balance (<math> S_{31} / S_{21} </math>)</b>					
880,0 ... 915,0 MHz		-1,0	—	1,0	dB
<b>Attenuation</b>	$\alpha$				
0,0 ... 850,0 MHz		45	58	—	dB
850,0 ... 871,0 MHz		12	21	—	dB
935,0 ... 960,0 MHz		20	34	—	dB
960,0 ... 1850,0 MHz		35	42	—	dB
1850,0 ... 3660,0 MHz		35	40	—	dB
3660,0 ... 6000,0 MHz		15	26	—	dB

**Test matching network**





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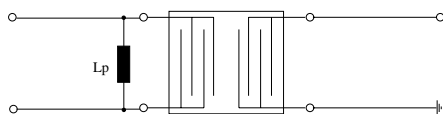
**Data Sheet  
Characteristics**



Operating temperature range:  $T = -10$  to  $80\text{ }^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 200\ \Omega$  including matching network  
 Terminating load impedance:  $Z_L = 50\ \Omega$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	897,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2,7	3,2	dB
	880,0 ... 915,0 MHz				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,2	1,8	dB
	880,0 ... 915,0 MHz				
<b>Balanced input VSWR</b>		—	1,7	2,0	
	880,0 ... 915,0 MHz				
<b>Unbalanced output VSWR</b>		—	1,8	2,2	
	880,0 ... 915,0 MHz				
<b>Diff. to common mode suppression</b>	$S_{sc12}$	20	23	—	dB
	880,0 ... 915,0 MHz				
<b>Input phase balance (<math>\phi(S_{31})-\phi(S_{21})+180^{\circ}</math>)</b>		-10	—	+10	degree
	880,0 ... 915,0 MHz				
<b>Input amplitude balance (<math> S_{31} / S_{21} </math>)</b>		-1,0	—	1,0	dB
	880,0 ... 915,0 MHz				
<b>Attenuation</b>	$\alpha$				
	0,0 ... 850,0 MHz	45	58	—	dB
	850,0 ... 871,0 MHz	12	21	—	dB
	935,0 ... 960,0 MHz	20	34	—	dB
	960,0 ... 1850,0 MHz	35	42	—	dB
	1850,0 ... 3660,0 MHz	35	40	—	dB
	3660,0 ... 6000,0 MHz	15	26	—	dB

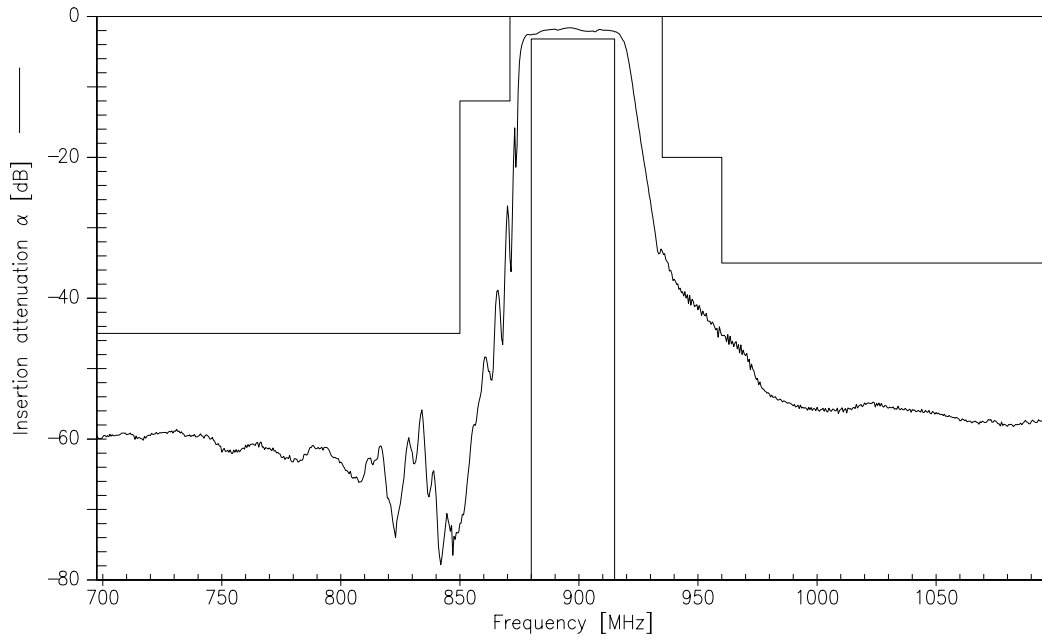
**Test matching network**



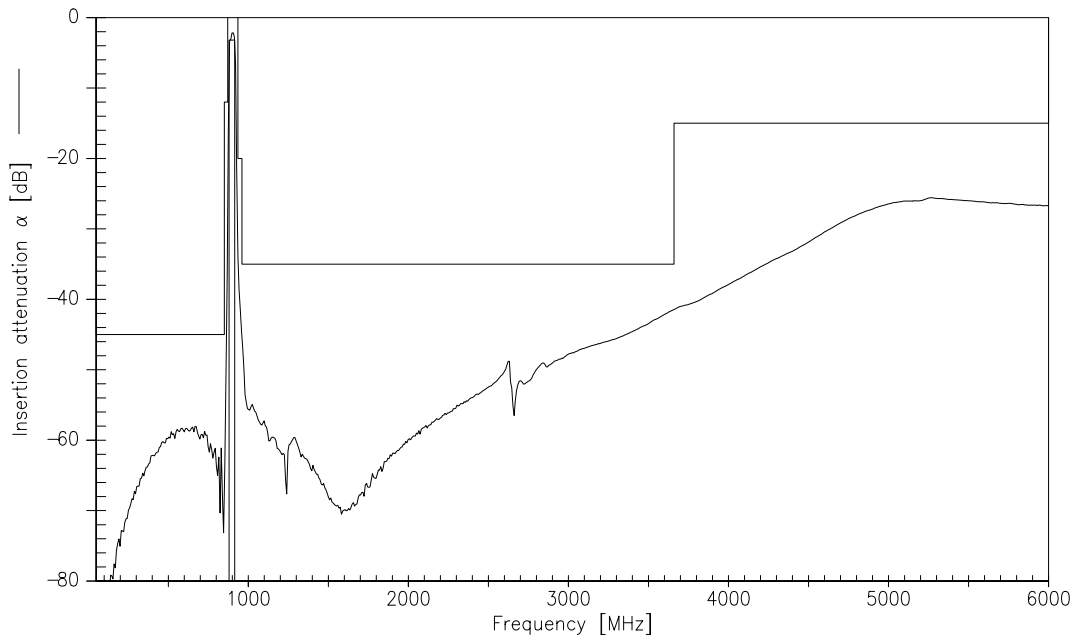
$L_p = 56\text{ nH}$



Transfer function (measurement)

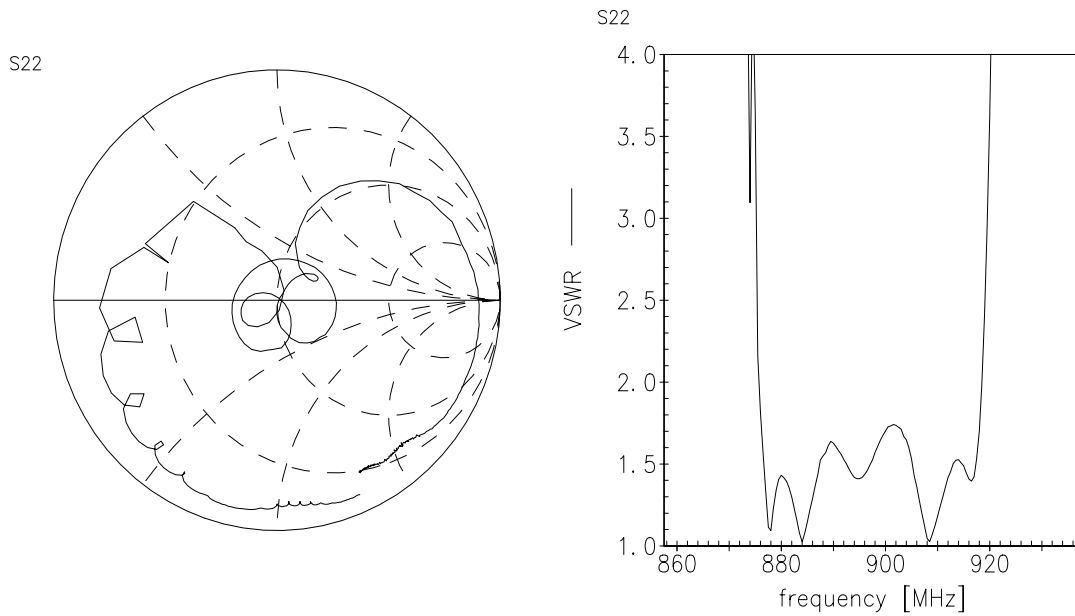
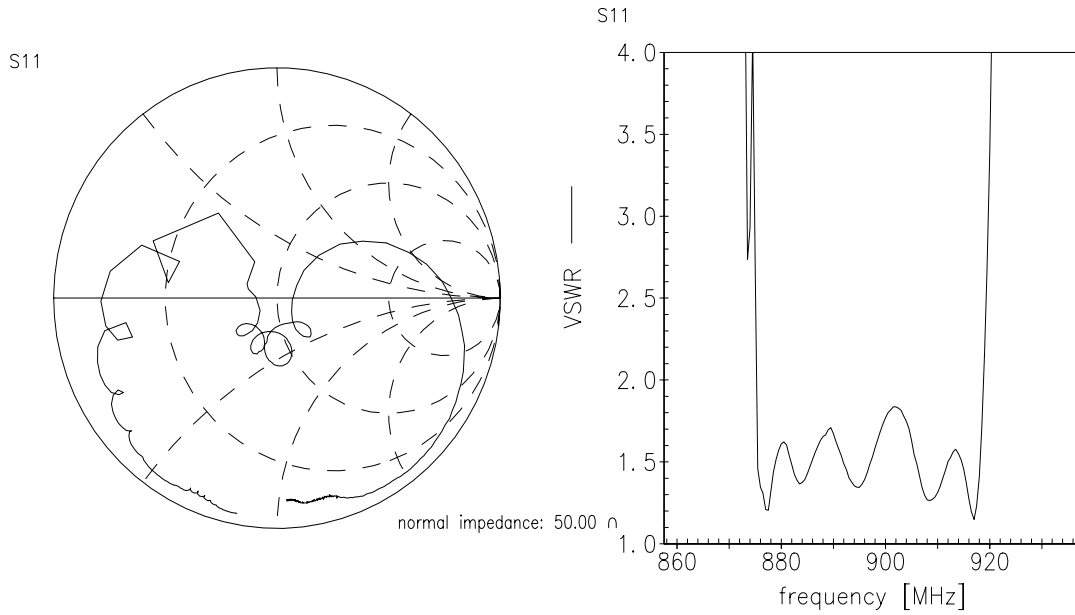


Transfer function (wideband measurement)





**Matching** (measurement including calculated matching network; S11 is unbalanced output )





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