



# SAW Components

Data Sheet B9012





**SAW Components**

**B9012**

**Low-Loss Filter for Mobile Communication**

**897,5 MHz**

**Data Sheet**



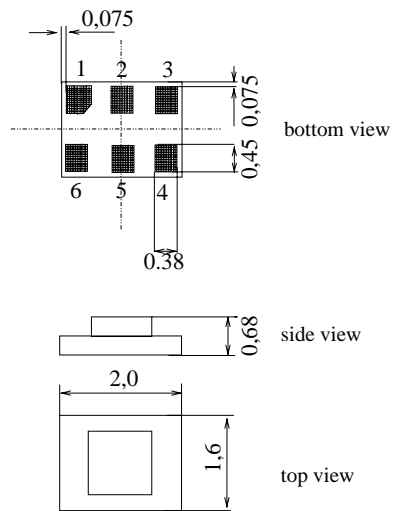
**Features**

- Low-loss RF filter for mobile telephone EGSM system, transmit path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- Impedance transformation from 100 Ω to 50 Ω
- Suitable for GPRS class 1 to 12
- Ceramic package for **Surface Mounted Technology (SMT)**
- Pb-free

**Terminals**

- Ni, gold-plated

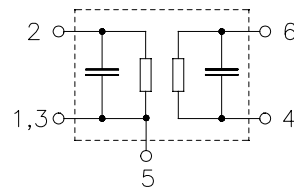
Chip sized SAW package **DCS6S**



Dimensions in mm, approx. weight 0,010 g

**Pin configuration**

- 4, 6            Balanced inputs
- 2                Unbalanced output
- 1, 3            Output ground
- 1, 3, 5        To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B9012	B39901-B9012-K210	C61157-A7-A115	F61074-V8152-Z000

**Electrostatic Sensitive Device (ESD)**

**Maximum ratings**

Operable temperature range	$T$	- 30 / + 85	°C	Machine Model, 10 pulses peak power of GSM signal, duty cycle 4:8
Storage temperature range	$T_{stg}$	- 40 / + 85	°C	
DC voltage	$V_{DC}$	5	V	
ESD voltage	$V^*_{ESD}$	100*	V	
Input power at GSM850, GSM900 GSM1800 and GSM1900 Tx bands	$P_{IN}$	13	dBm	

\* - acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulses



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**Characteristics**

Operating temperature range:  $T = 25 \pm 2 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 100 \text{ } \Omega$  (balanced) || 82 nH  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	897,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2,4	2,9	dB
880,0 ... 915,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,8	1,5	dB
880,0 ... 915,0 MHz					
<b>Input VSWR</b>		—	1,8	2,0	
880,0 ... 915,0 MHz					
<b>Output VSWR</b>		—	1,8	2,0	
880,0 ... 915,0 MHz					
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^\circ$ )		-10	—	10	degree
880,0 ... 915,0 MHz					
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )		-1,0	—	1,0	dB
880,0 ... 915,0 MHz					
<b>Diff. to common mode suppression</b>	$S_{sc12}$				
880,0 ... 915,0 MHz		18	26	—	dB
1760,0 ... 1830,0 MHz		18	41	—	dB
2640,0 ... 2745,0 MHz		18	32	—	dB
<b>Attenuation</b>	$\alpha$				
0,0 ... 800,0 MHz		45	56	—	dB
800,0 ... 860,0 MHz		25	42	—	dB
860,0 ... 870,0 MHz		13	26	—	dB
925,0 ... 935,0 MHz		9	15	—	dB
935,0 ... 1805,0 MHz		25	31	—	dB
1805,0 ... 3660,0 MHz		30	36	—	dB
3660,0 ... 6000,0 MHz		15	30	—	dB



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**Characteristics**

Operating temperature range:  $T = -10 \dots +80 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 100 \text{ } \Omega$  (balanced) || 82 nH  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	897,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2,6	3,0	dB
880,0 ... 915,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,0	1,5	dB
880,0 ... 915,0 MHz					
<b>Input VSWR</b>		—	1,8	2,0	
880,0 ... 915,0 MHz					
<b>Output VSWR</b>		—	1,8	2,0	
880,0 ... 915,0 MHz					
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^\circ$ )		-10	—	10	degree
880,0 ... 915,0 MHz					
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )		-1,0	—	1,0	dB
880,0 ... 915,0 MHz					
<b>Diff. to common mode suppression</b>	$S_{sc12}$				
880,0 ... 915,0 MHz		18	26	—	dB
1760,0 ... 1830,0 MHz		18	41	—	dB
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<b>Attenuation</b>	$\alpha$				
0,0 ... 800,0 MHz		45	56	—	dB
800,0 ... 860,0 MHz		25	42	—	dB
860,0 ... 870,0 MHz		12	26	—	dB
925,0 ... 935,0 MHz		8	15	—	dB
935,0 ... 1805,0 MHz		25	31	—	dB
1805,0 ... 3660,0 MHz		30	36	—	dB
3660,0 ... 6000,0 MHz		15	30	—	dB



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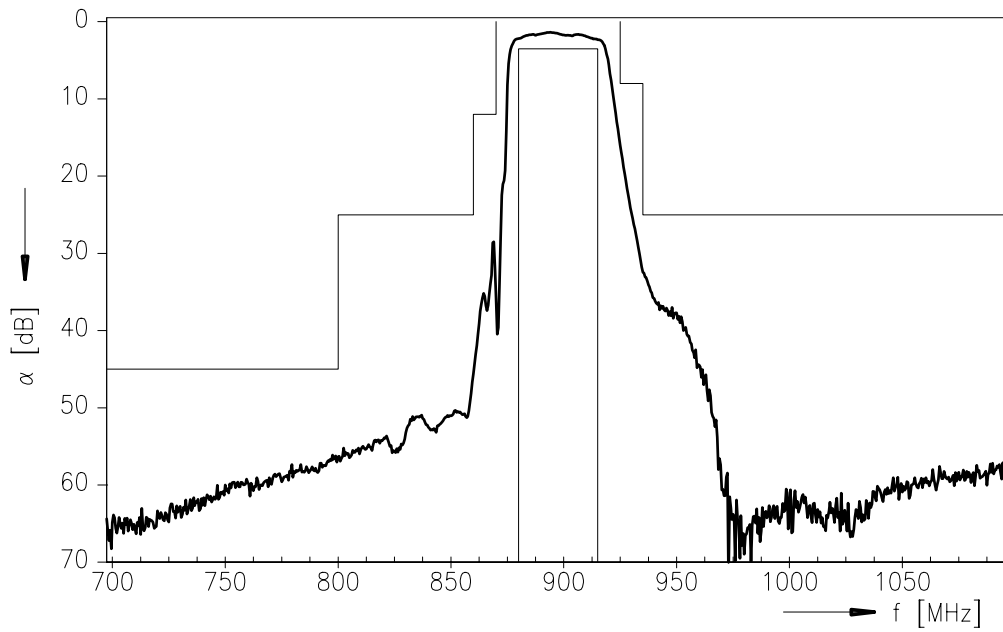
**Characteristics**

Operating temperature range:  $T = -30 \dots +85 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 100 \text{ } \Omega$  (balanced) || 82 nH  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

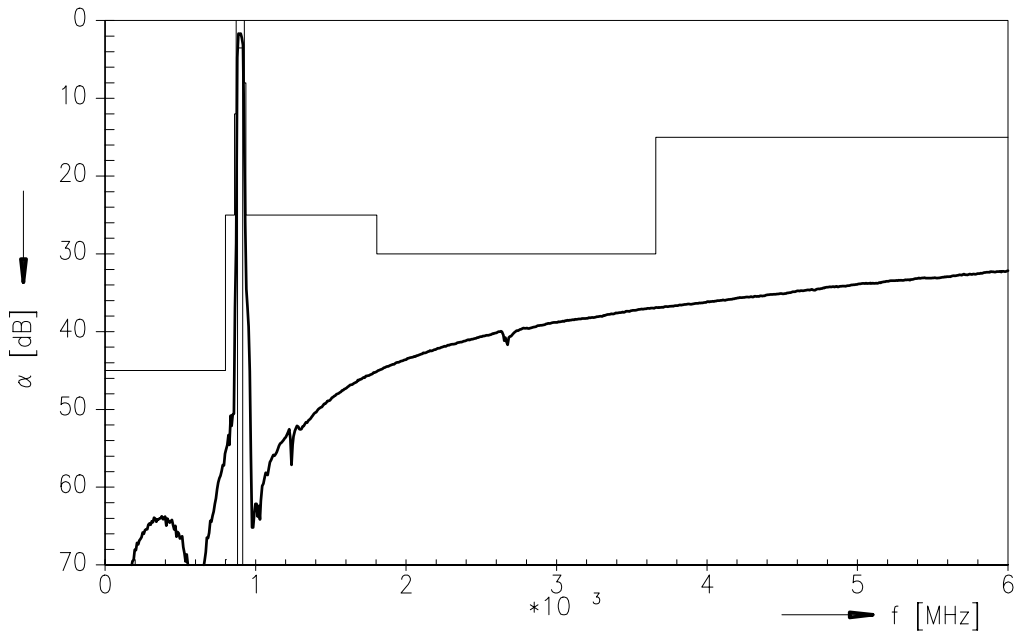
		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	897,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2,7	3,7	dB
880,0 ... 915,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,2	2,2	dB
880,0 ... 915,0 MHz					
<b>Input VSWR</b>		—	1,8	2,0	
880,0 ... 915,0 MHz					
<b>Output VSWR</b>		—	1,8	2,0	
880,0 ... 915,0 MHz					
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^\circ$ )		-10	—	10	degree
880,0 ... 915,0 MHz					
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )		-1,0	—	1,0	dB
880,0 ... 915,0 MHz					
<b>Diff. to common mode suppression</b>	$S_{sc12}$				
880,0 ... 915,0 MHz		18	26	—	dB
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<b>Attenuation</b>	$\alpha$				
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925,0 ... 935,0 MHz		8	13	—	dB
935,0 ... 1805,0 MHz		25	30	—	dB
1805,0 ... 3660,0 MHz		30	36	—	dB
3660,0 ... 6000,0 MHz		15	30	—	dB



Transfer function (measurement)



Transfer function (wideband measurement)





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