



# SAW Components

Data Sheet B9011





**SAW Components**

**B9011**

**Low-Loss Filter for Mobile Communication**

**836,5 MHz**

**Data Sheet**



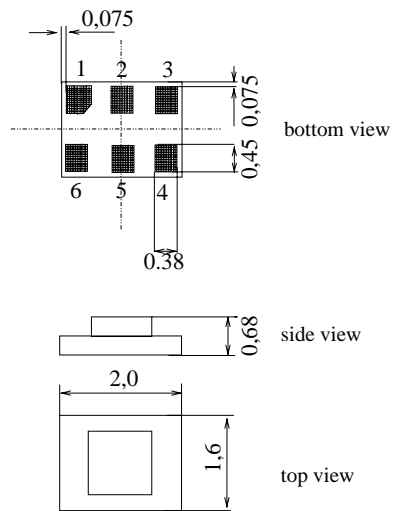
**Features**

- Low-loss RF filter for mobile telephone GSM850 system, transmit path
- Low amplitude ripple
- Usable passband 25 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

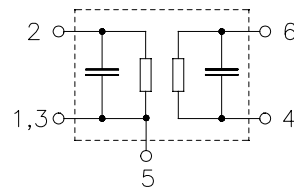
**Chip sized SAW package DCS6Q**



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
B9011	B39841-B9011-E710	C61157-A7-A80	F61074-V8189-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	- 30 / + 85	°C	machine model human body model 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	$V_{MM}$	100	V	
	$V_{HBM}$	250	V	
Input power at GSM850, GSM900, GSM1800 and GSM1900 Tx bands	$P_{IN}$	13	dBm	



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**Characteristics**

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

			min.	typ.	max.	
<b>Center frequency</b>	$f_C$		—	836,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	824,0 ... 849,0 MHz	—	2,1	2,6	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	824,0 ... 849,0 MHz	—	0,7	1,3	dB
<b>Input VSWR</b>		824,0 ... 849,0 MHz	—	1,7	2,0	
<b>Output VSWR</b>		824,0 ... 849,0 MHz	—	1,7	2,0	
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^\circ$ )		824,0 ... 849,0 MHz	-10	—	10	degree
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )		824,0 ... 849,0 MHz	-1,0	—	1,0	dB
<b>Diff. to common mode suppression</b>	$S_{sc12}$	824,0 ... 849,0 MHz	18	36	—	dB
		1648,0 ... 1698,0 MHz	18	50	—	dB
		2472,0 ... 2547,0 MHz	18	34	—	dB
<b>Attenuation</b>	$\alpha$	0,0 ... 779,0 MHz	50	68	—	dB
		779,0 ... 804,0 MHz	25	50	—	dB
		804,0 ... 814,0 MHz	14	23	—	dB
		859,0 ... 869,0 MHz	9	20	—	dB
		869,0 ... 925,0 MHz	25	29	—	dB
		925,0 ... 3576,0 MHz	30	50	—	dB
		3576,0 ... 6000,0 MHz	15	50	—	dB



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**Characteristics**

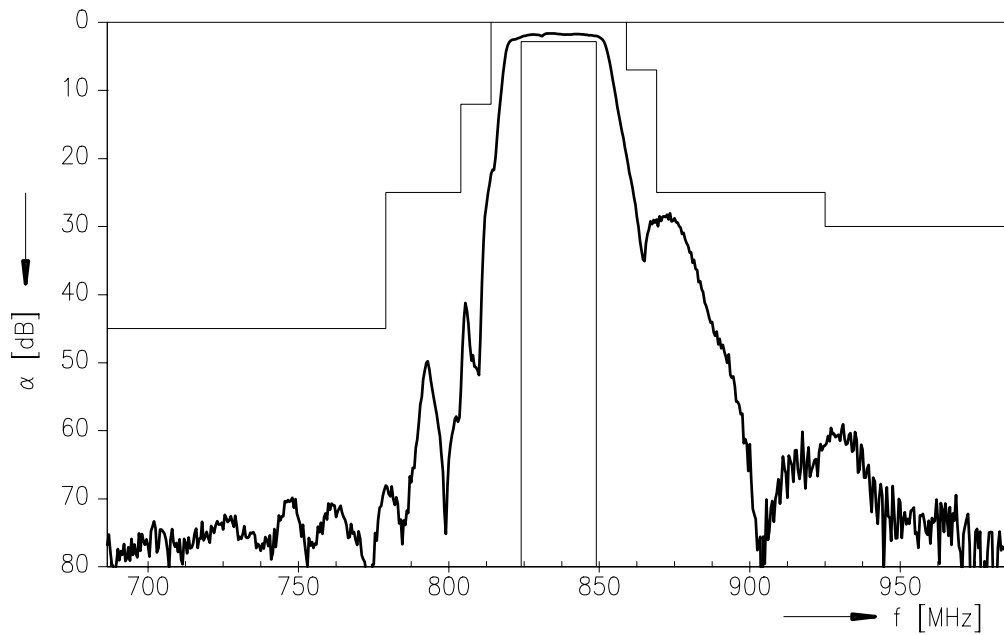
Operating temperature range:  $T = -10$  to  $+80$  °C  
 Terminating source impedance:  $Z_S = 100 \Omega \parallel 82\text{nH}$  (balanced)  
 Terminating load impedance:  $Z_L = 50 \Omega$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	836,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\text{max}}$	—	2,2	2,8 <sup>1)</sup>	dB
824,0 ... 849,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,8	1,5	dB
824,0 ... 849,0 MHz					
<b>Input VSWR</b>		—	1,8	2,0	
824,0 ... 849,0 MHz					
<b>Output VSWR</b>		—	1,8	2,0	
824,0 ... 849,0 MHz					
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^\circ$ )		-10	—	10	degree
824,0 ... 849,0 MHz					
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )		-1,0	—	1,0	dB
824,0 ... 849,0 MHz					
<b>Diff. to common mode suppression</b>	$S_{\text{sc}12}$	18	36	—	dB
824,0 ... 849,0 MHz					
1648,0 ... 1698,0 MHz		18	50	—	
2472,0 ... 2547,0 MHz		18	34	—	
<b>Attenuation</b>	$\alpha$	50	68	—	dB
0,0 ... 779,0 MHz					
779,0 ... 804,0 MHz		25	48	—	
804,0 ... 814,0 MHz		12	16	—	
859,0 ... 869,0 MHz		7	17	—	
869,0 ... 925,0 MHz		25	29	—	
925,0 ... 3576,0 MHz		30	50	—	
3576,0 ... 6000,0 MHz		15	50	—	

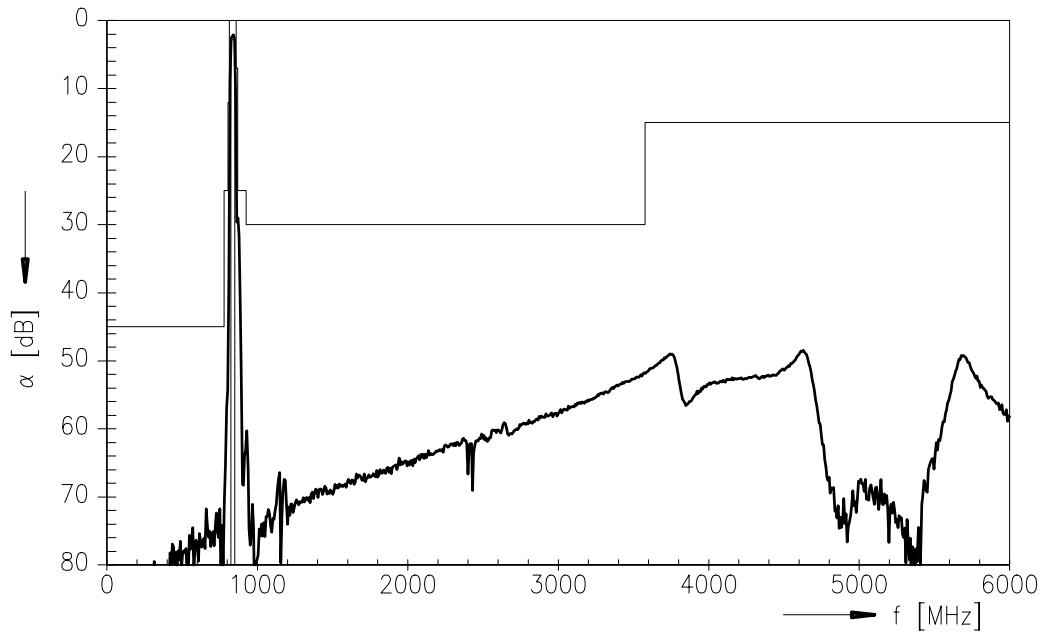
1) Maximum insertion attenuation at -30..+85°C: 3,2 dB



Transfer function (measurement)



Transfer function (wideband measurement)





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