EPCOS

SAW Components

Data Sheet B9011

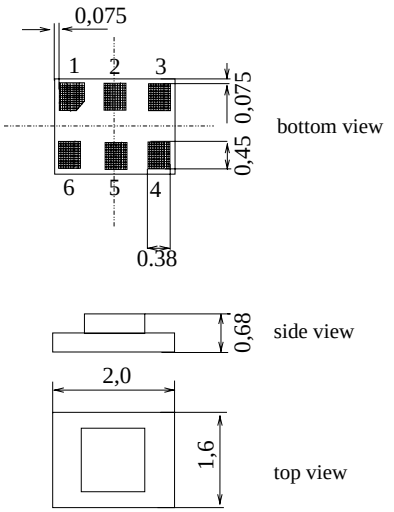
Features

- 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 **S**urface **M**ounted **T**echnology (**SMT**)
- Pb-free

Terminals

- Ni, gold-plated

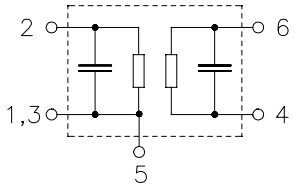
Chip sized SAW package DCS6Q



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	
Storage temperature range	T_{stg}	– 40 / + 85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{MM}	100	V	machine model
	V_{HBM}	250	V	human body model
Input power at GSM850, GSM900 GSM1800 and GSM1900 Tx bands	P_{IN}	13	dBm	peak power of GSM signal, duty cycle 4:8

Characteristics

Operating temperature range: T = 25 ± 2 °C
Terminating source impedance: Z_S = 100 Ω || 82nH (balanced)
Terminating load impedance: Z_L = 50 Ω

		min.	typ.	max.	
Center frequency	f_C	—	836,5	—	MHz
Maximum insertion attenuation	α_{max}				
824,0 ... 849,0 MHz		—	2,1	2,6	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
824,0 ... 849,0 MHz		—	0,7	1,3	dB
Input VSWR					
824,0 ... 849,0 MHz		—	1,7	2,0	
Output VSWR					
824,0 ... 849,0 MHz		—	1,7	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
824,0 ... 849,0 MHz		-10	—	10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
824,0 ... 849,0 MHz		-1,0	—	1,0	dB
Diff. to common mode suppression	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
Attenuation	α				
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

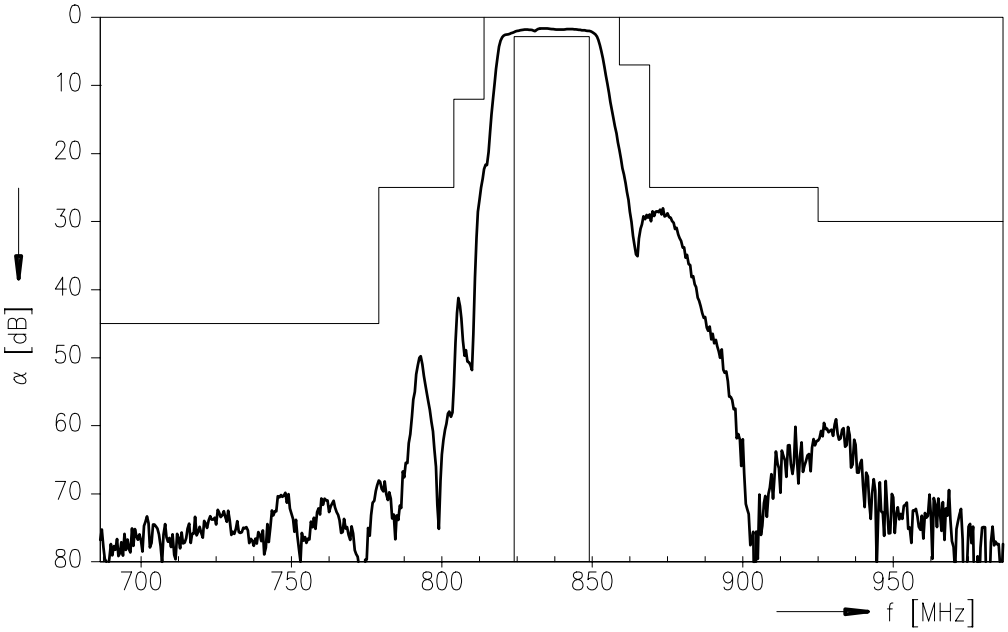
Characteristics

Operating temperature range: T = -10 to + 80 °C
Terminating source impedance: Z_S = 100 Ω || 82nH (balanced)
Terminating load impedance: Z_L = 50 Ω

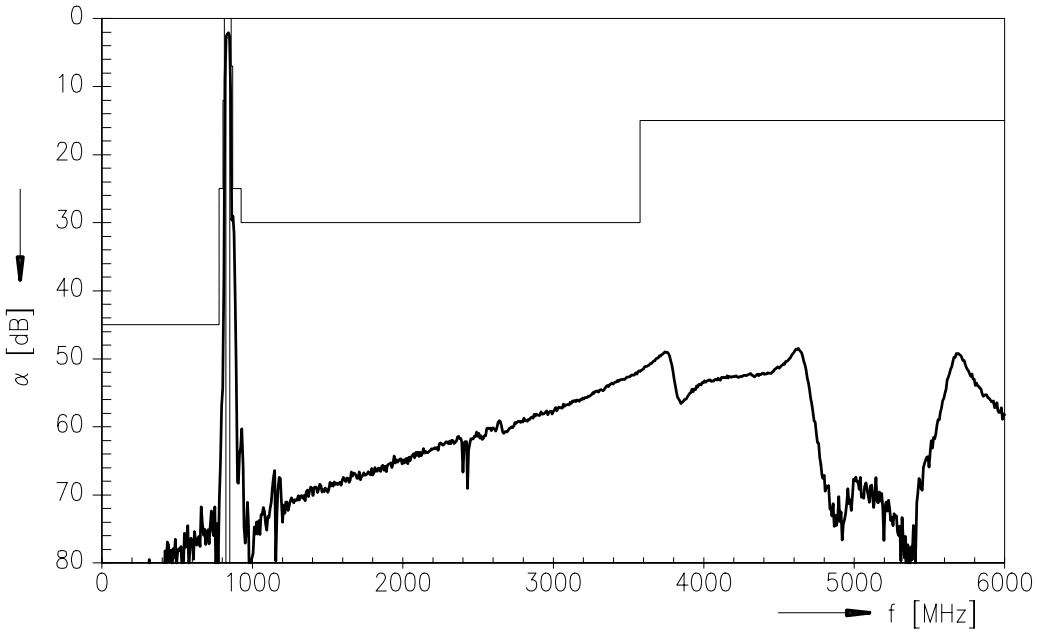
		min.	typ.	max.	
Center frequency	f_C	—	836,5	—	MHz
Maximum insertion attenuation	α_{max}				
824,0 ... 849,0 MHz		—	2,2	2,8[1)]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
824,0 ... 849,0 MHz		—	0,8	1,5	dB
Input VSWR					
824,0 ... 849,0 MHz		—	1,8	2,0	
Output VSWR					
824,0 ... 849,0 MHz		—	1,8	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
824,0 ... 849,0 MHz		-10	—	10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
824,0 ... 849,0 MHz		-1,0	—	1,0	dB
Diff. to common mode suppression	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
Attenuation	α				
0,0 ... 779,0 MHz		50	68	—	dB
779,0 ... 804,0 MHz		25	48	—	dB
804,0 ... 814,0 MHz		12	16	—	dB
859,0 ... 869,0 MHz		7	17	—	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

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

Transfer function (measurement)



Transfer function (wideband measurement)



Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC WT
P.O. Box 80 17 09, 81617 Munich, GERMANY

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