EPCOS

SAW Components

Data Sheet B9012

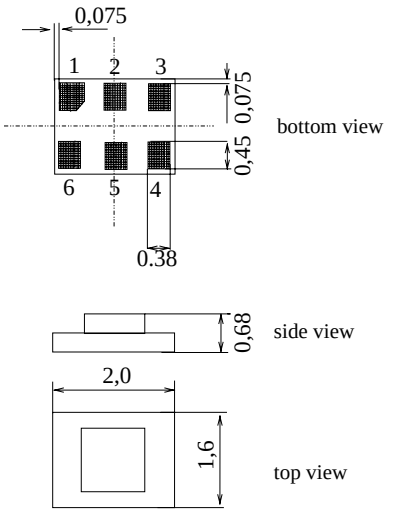
Features

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

Terminals

- Ni, gold-plated

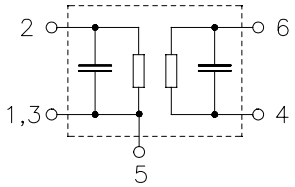
Chip sized SAW package **DCS6S**



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

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

Characteristics

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

		min.	typ.	max.	
Center frequency	f_C	—	897,5	—	MHz
Maximum insertion attenuation	α_{max}				
880,0 ... 915,0 MHz		—	2,4	2,9	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
880,0 ... 915,0 MHz		—	0,8	1,5	dB
Input VSWR					
880,0 ... 915,0 MHz		—	1,8	2,0	
Output VSWR					
880,0 ... 915,0 MHz		—	1,8	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
880,0 ... 915,0 MHz		-10	—	10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
880,0 ... 915,0 MHz		-1,0	—	1,0	dB
Diff. to common mode suppression	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
Attenuation	α				
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

Characteristics

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

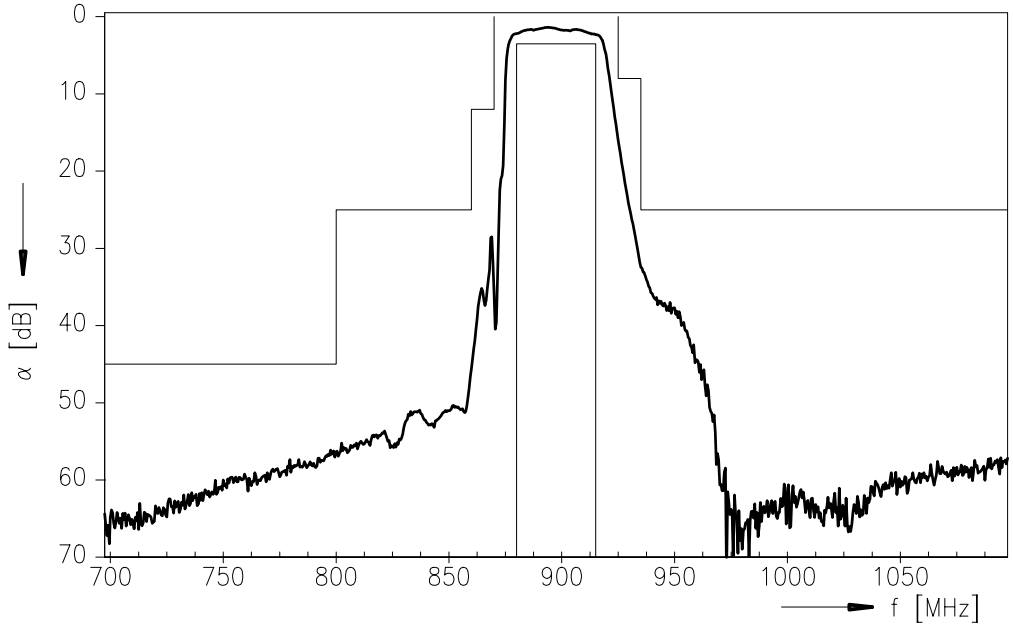
		min.	typ.	max.	
Center frequency	f_C	—	897,5	—	MHz
Maximum insertion attenuation	α_{max}				
880,0 ... 915,0 MHz		—	2,6	3,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
880,0 ... 915,0 MHz		—	1,0	1,5	dB
Input VSWR					
880,0 ... 915,0 MHz		—	1,8	2,0	
Output VSWR					
880,0 ... 915,0 MHz		—	1,8	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
880,0 ... 915,0 MHz		-10	—	10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
880,0 ... 915,0 MHz		-1,0	—	1,0	dB
Diff. to common mode suppression	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
Attenuation	α				
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

Characteristics

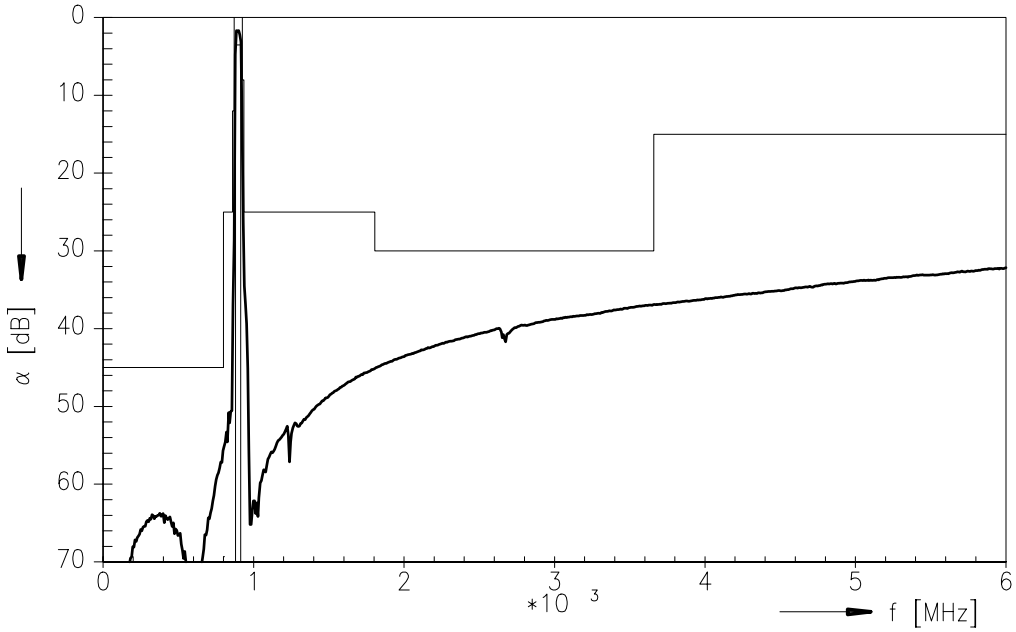
Operating temperature range: T = -30 ... +85 °C
Terminating source impedance: Z_S = 100 Ω (balanced) || 82 nH
Terminating load impedance: Z_L = 50 Ω

		min.	typ.	max.	
Center frequency	f_C	—	897,5	—	MHz
Maximum insertion attenuation	α_{max}				
880,0 ... 915,0 MHz		—	2,7	3,7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
880,0 ... 915,0 MHz		—	1,2	2,2	dB
Input VSWR					
880,0 ... 915,0 MHz		—	1,8	2,0	
Output VSWR					
880,0 ... 915,0 MHz		—	1,8	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
880,0 ... 915,0 MHz		-10	—	10	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
880,0 ... 915,0 MHz		-1,0	—	1,0	dB
Diff. to common mode suppression	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
Attenuation	α				
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	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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