



SAW Filters for Mobile Communications

Series/Type: B9012

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39901B9012K210	B39901B9431M410	2009-12-18	2010-06-30	2010-09-30

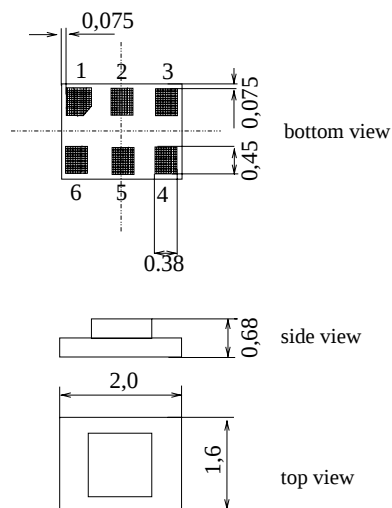
For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.

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

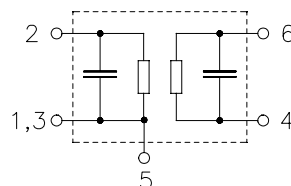
- Ni, gold-plated

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

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

SAW Components
B9012
Low-Loss Filter for Mobile Communication
897,5 MHz
Data Sheet

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.	
Center frequency	f_C	—	897,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2,4	2,9	dB
880,0 ... 915,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,8	1,5	dB
880,0 ... 915,0 MHz					
Input VSWR		—	1,8	2,0	
880,0 ... 915,0 MHz					
Output VSWR		—	1,8	2,0	
880,0 ... 915,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		-10	—	10	degree
880,0 ... 915,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-1,0	—	1,0	dB
880,0 ... 915,0 MHz					
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

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Low-Loss Filter for Mobile Communication
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Data Sheet

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: $Z_L = 50 \text{ } \Omega$

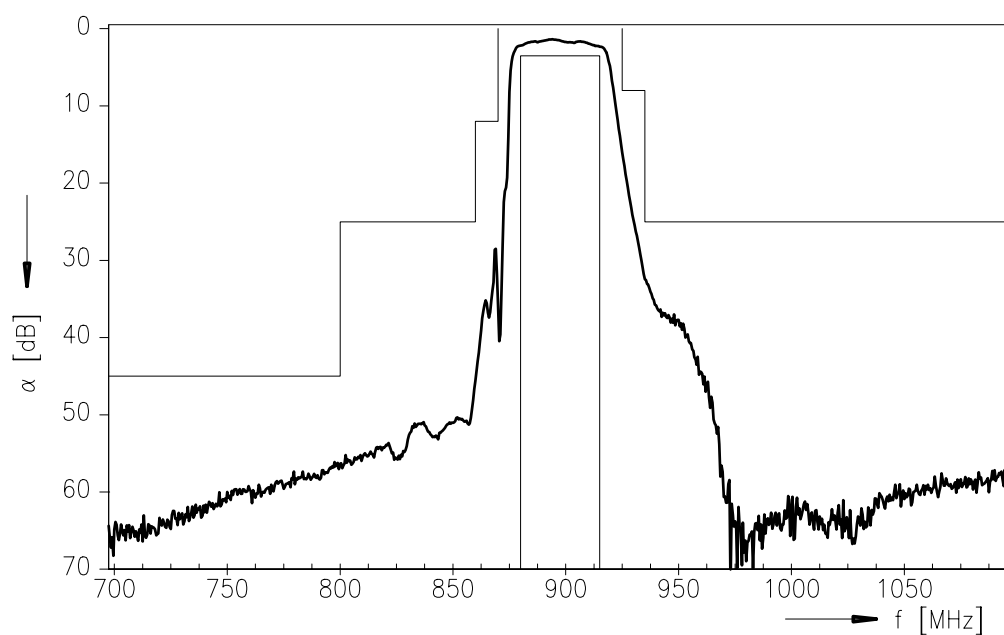
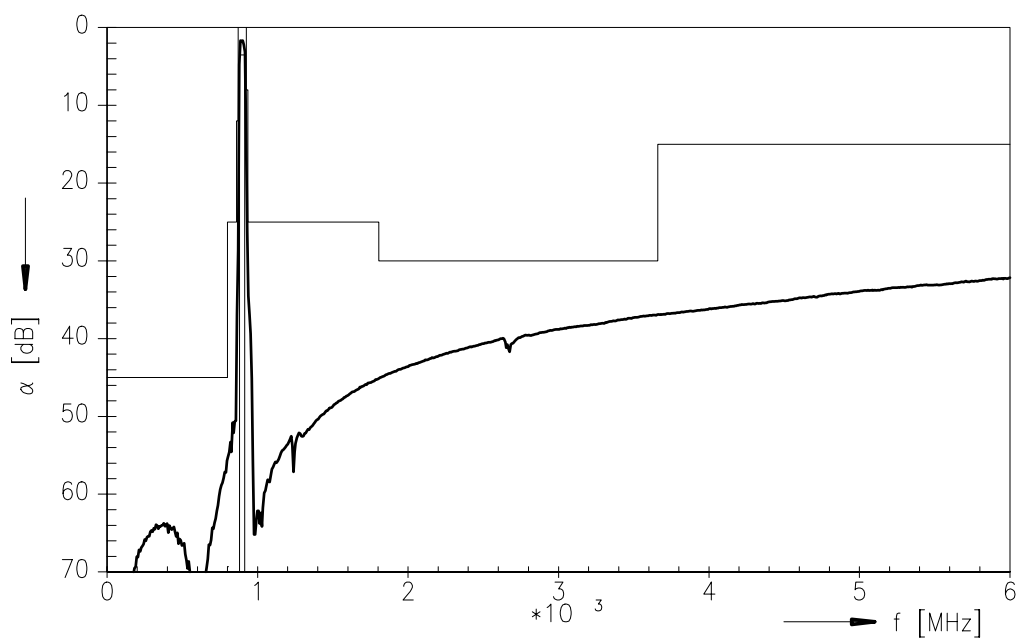
			min.	typ.	max.	
Center frequency	f_C		—	897,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$					
	880,0 ... 915,0 MHz		—	2,6	3,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$					
	880,0 ... 915,0 MHz		—	1,0	1,5	dB
Input VSWR						
	880,0 ... 915,0 MHz		—	1,8	2,0	
Output VSWR						
	880,0 ... 915,0 MHz		—	1,8	2,0	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)						
	880,0 ... 915,0 MHz		-10	—	10	degree
Output amplitude balance ($ S_{31}/S_{21} $)						
	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

SAW Components
B9012
Low-Loss Filter for Mobile Communication
897,5 MHz
Data Sheet

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.	
Center frequency	f_C		—	897,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$					
	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 ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)						
	880,0 ... 915,0 MHz		-10	—	10	degree
Output amplitude balance ($ S_{31}/S_{21} $)						
	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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Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.