



SAW filters for mobile communications

Series/Type: B7837

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39941B7837K410	B39941B9401K610	2009-04-30	2009-10-31	2010-01-31

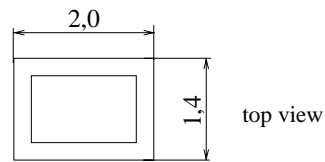
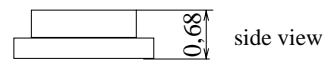
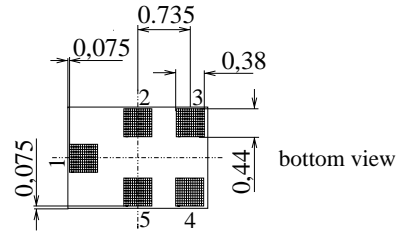
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Chip Size SAW package QCS5E

Features

- Low-loss RF filter for mobile telephone EGSM system, receive path
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 150 Ω
- Suitable for GPRS class 1 to 12
- Package for Surface Mounted Technology (SMT)
- Pb-free



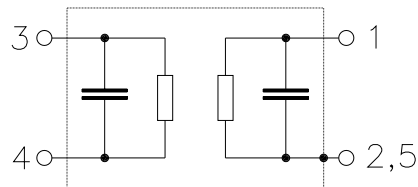
Dimensions in mm, approx. weight 0,007g

Terminals

- Ni, gold-plated

Pin configuration

- 1 Input, unbalanced
- 3, 4 Output, balanced
- 2, 5 Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B7837	B39941-B7837-K410	C61157-A7-A131	F61074-V8151-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, GSM1900 Tx bands	P_{IN}	15	dBm	peak power of GSM signal, duty cycle 4:8

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


SAW Components
B7837
Low-Loss Filter for Mobile Communication
942,5 MHz
Data Sheet

Characteristics

Operating temperature range: $T = 25\text{ }^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 150\ \Omega \parallel 82\ \text{nH}$ (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{\max}	—	1,4	1,7	dB
925,0 ... 960,0	MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,7	1,0	dB
925,0 ... 960,0	MHz				
Input VSWR		—	1,8	2,0	
925,0 ... 960,0	MHz				
Output VSWR		—	1,8	2,0	
925,0 ... 960,0	MHz				
Attenuation					
0,0 ... 480,0	MHz	45	53	—	dB
480,0 ... 905,0	MHz	30	34	—	
905,0 ... 915,0	MHz	25	27	—	dB
980,0 ... 1000,0	MHz	25	29	—	
1000,0 ... 1850,0	MHz	28	38	—	dB
1850,0 ... 6000,0	MHz	40	44	—	
Amplitude balance (S_{31}/S_{21})		-1,0	-0,5 / +0,7	1,0	dB
925,0 ... 960,0	MHz				
phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		-5	-3 / +2	5	degree
925,0 ... 960,0	MHz				
Diff. to common mode suppression	S_{sc12}				
925,0 ... 960,0	MHz	22	29	—	dB
824,0 ... 995,0	MHz	22	29	—	
1648,0 ... 1990,0	MHz	22	45	—	dB
3296,0 ... 3980,0	MHz	20	48	—	



Data Sheet



Characteristics

Operating temperature range: $T = -10$ to $+80$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 150 \Omega \parallel 82$ nH (balanced)

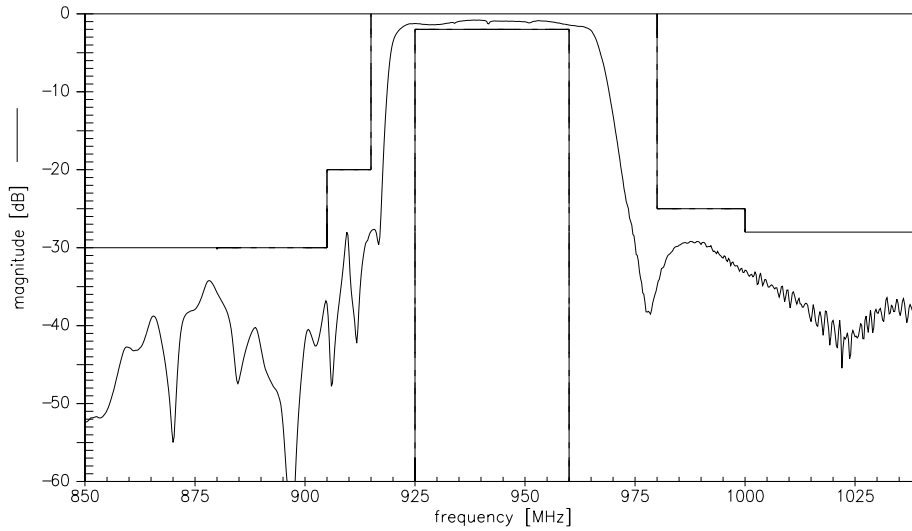
		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}	—	1,5	2,0 ¹⁾	dB
925,0 ... 960,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,8	1,2	dB
925,0 ... 960,0 MHz					
Input VSWR		—	1,8	2,0	
925,0 ... 960,0 MHz					
Output VSWR		—	1,8	2,0	
925,0 ... 960,0 MHz					
Attenuation					
0,0 ... 480,0 MHz		45	53	—	dB
480,0 ... 905,0 MHz		30	34	—	dB
905,0 ... 915,0 MHz		20 ²⁾	27	—	dB
980,0 ... 1000,0 MHz		25	29	—	dB
1000,0 ... 1850,0 MHz		28	38	—	dB
1850,0 ... 6000,0 MHz		40	44	—	dB
Amplitude balance (S_{31}/S_{21})					
925,0 ... 960,0 MHz		-1,0	-0,5 / +0,7	1,0	dB
phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)					
925,0 ... 960,0 MHz		-5	-3 / +2	5	degree
Diff. to common mode suppression	S_{sc12}				
925,0 ... 960,0 MHz		22	29	—	dB
824,0 ... 995,0 MHz		22	29	—	dB
1648,0 ... 1990,0 MHz		22	45	—	dB
3296,0 ... 3980,0 MHz		20	48	—	dB

1) 2,2 dB for $T = -30$ °C to $+85$ °C

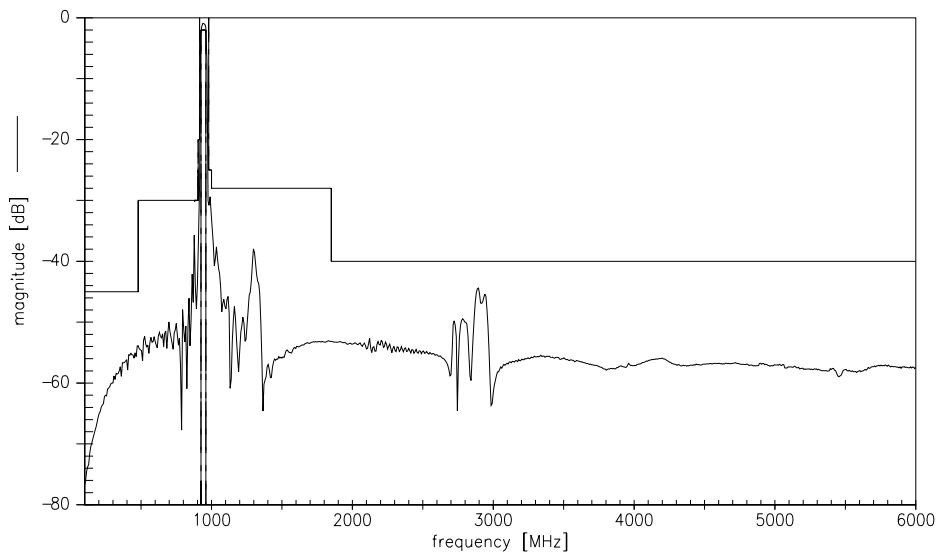
2) 17 dB for $T = -30$ °C to $+85$ °C



Transfer function (passband)



Transfer function (wideband)





SAW Components

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942,5 MHz

Data Sheet



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