



SAW Components

Data Sheet B7837





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Low-Loss Filter for Mobile Communication

942,5 MHz

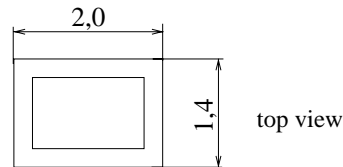
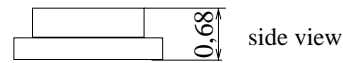
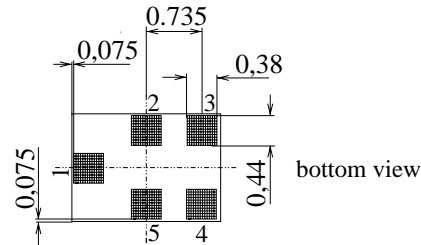
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Chip Size SAW package QCS5E

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



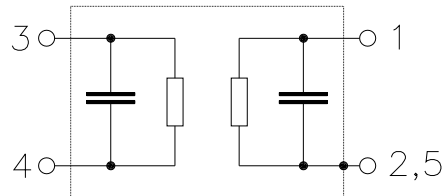
Dimensions in mm, approx. weight 0,007g

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	machine model, 10 pulses 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_{ESD}	100*	V	
Input Power at GSM850, GSM900 GSM1800, GSM1900 Tx bands	P_{IN}	15	dBm	

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



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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}				
	925,0 ... 960,0 MHz	—	1,4	1,7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	925,0 ... 960,0 MHz	—	0,7	1,0	dB
Input VSWR					
	925,0 ... 960,0 MHz	—	1,8	2,0	
Output VSWR					
	925,0 ... 960,0 MHz	—	1,8	2,0	
Attenuation					
	0,0 ... 480,0 MHz	45	53	—	dB
	480,0 ... 905,0 MHz	30	34	—	dB
	905,0 ... 915,0 MHz	25	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



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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)

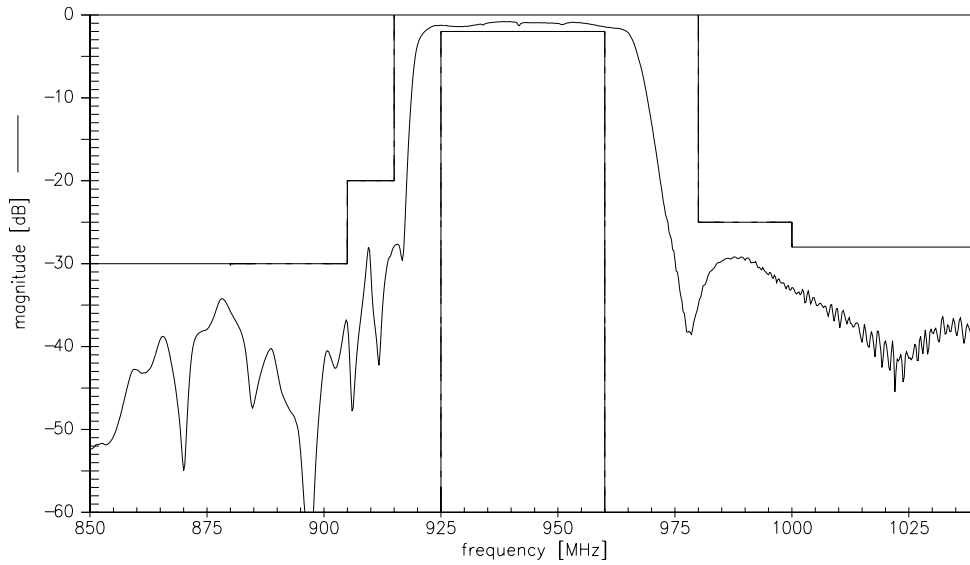
		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
925,0 ... 960,0 MHz		—	1,5	2,0 ¹⁾	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	0,8	1,2	dB
Input VSWR					
925,0 ... 960,0 MHz		—	1,8	2,0	
Output VSWR					
925,0 ... 960,0 MHz		—	1,8	2,0	
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
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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

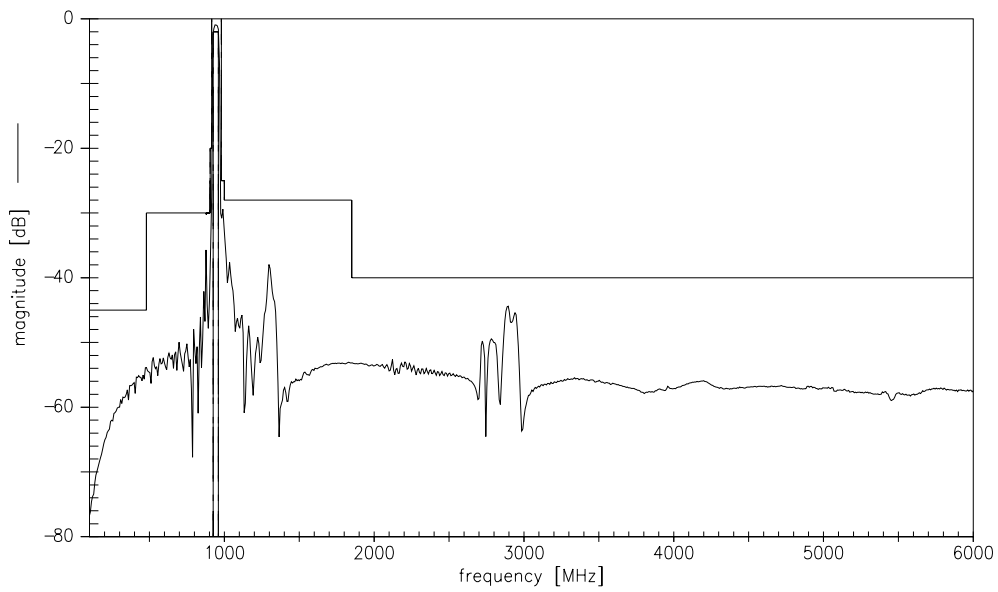
2) 17 dB for $T = -30$ °C to $+85$ °C



Transfer function (passband)



Transfer function (wideband)





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