EPCOS

SAW Components

Data Sheet B7837

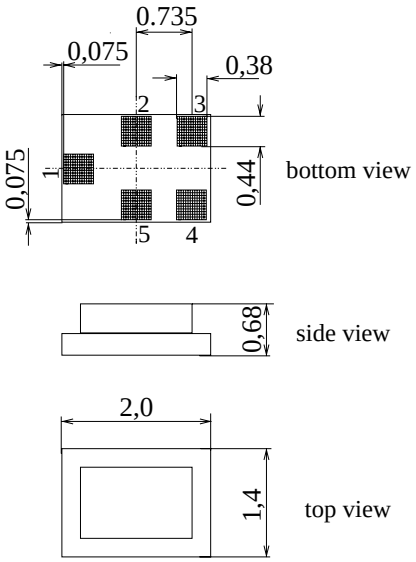
Features

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

Terminals

- Ni, gold-plated

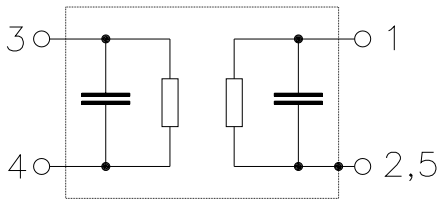
Chip Size SAW package QCS5E



Dimensions in mm, approx. weight 0,007g

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 **S**ensitive **D**evice (**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

Characteristics

Operating temperature range: T = 25 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω || 82 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 ...1850,0MHz		28	38	—	dB
1850,0 ...6000,0MHz		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

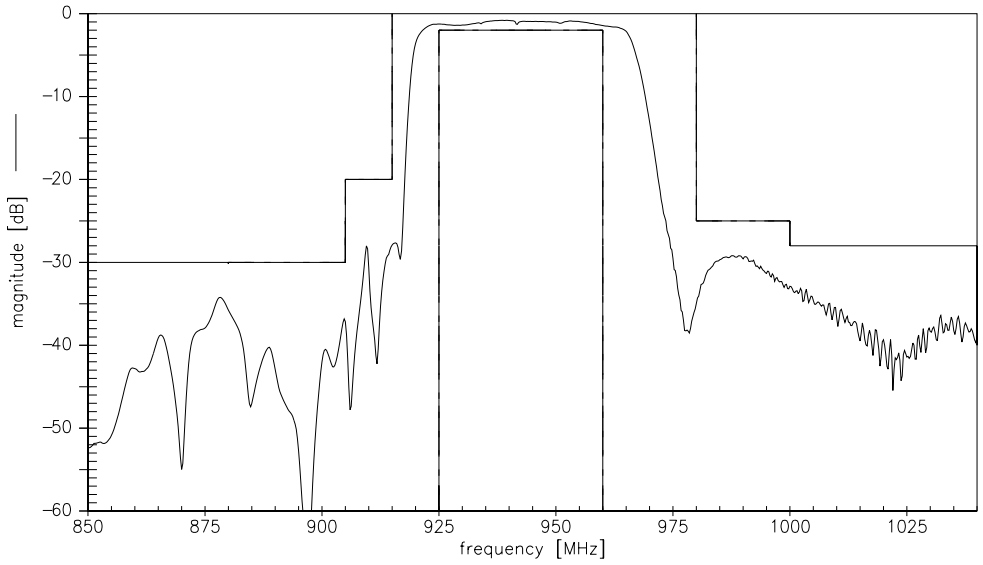
Characteristics

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

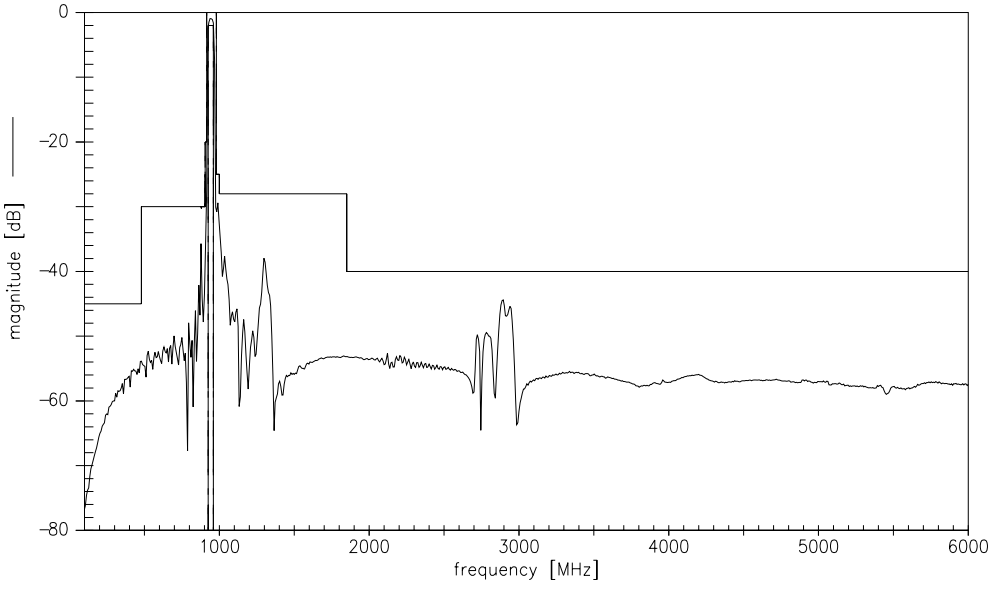
		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
925,0 ... 960,0 MHz		—	1,5	2,0[1]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	0,8	1,2	dB
Input VSWR					
925,0 ... 960,0 MHz		—	1,8	2,0	
Output VSWR					
925,0 ... 960,0 MHz		—	1,8	2,0	
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 ...1850,0MHz		28	38	—	dB
1850,0 ...6000,0MHz		40	44	—	dB
Amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
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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