



SAW Components

Data Sheet B7845





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Low-Loss Filter for Mobile Communication

881,5 MHz

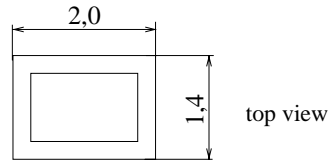
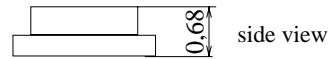
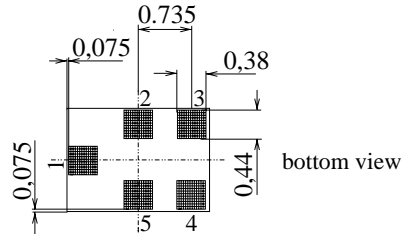
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Features

- Low-loss RF filter for mobile telephone GSM850 systems, receive path
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 25 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 150 Ω
- Suitable for GPRS Class 1 to 12
- Ceramic Package for **Surface Mounted Technology (SMT)**

Chip sized SAW package QCS5E



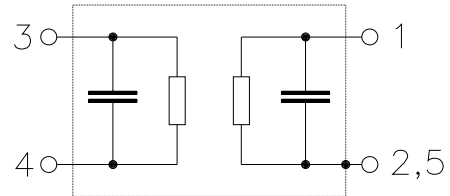
Dimensions in mm, approx. weight 0,007 g

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
B7845	B39881-B7845-K410	C61157-A7-A131	F61074-V8151-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 40 / + 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 and 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		—	881,5	—	MHz
Maximum insertion attenuation	α_{\max}	869,0 ... 894,0 MHz	—	1,2	1,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$	869,0 ... 894,0 MHz	—	0,4	0,6	dB
Input VSWR		869,0 ... 894,0 MHz	—	1,5	1,8	
Output VSWR		869,0 ... 894,0 MHz	—	1,5	1,8	
Attenuation		0,0 ... 434,0 MHz	45	54	—	dB
		434,0 ... 447,0 MHz	45	52	—	dB
		447,0 ... 849,0 MHz	30	35	—	dB
		914,0 ... 1000,0 MHz	26	29	—	dB
		1000,0 ... 1738,0 MHz	28	38	—	dB
		1738,0 ... 6000,0 MHz	40	46	—	dB
Amplitude balance (S_{31}/S_{21})		869,0 ... 894,0 MHz	-1,0	-0,5 ... 0,0	1,0	dB
Phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		869,0 ... 894,0 MHz	-5	-3,0 ... 1,5	5	degree
Common mode suppression	S_{sc12}	869,0 ... 894,0 MHz	20	26	—	dB
		824,0 ... 995,0 MHz	20	26	—	dB
		1648,0 ... 1990,0 MHz	22	40	—	dB
		3296,0 ... 3980,0 MHz	20	35	—	dB



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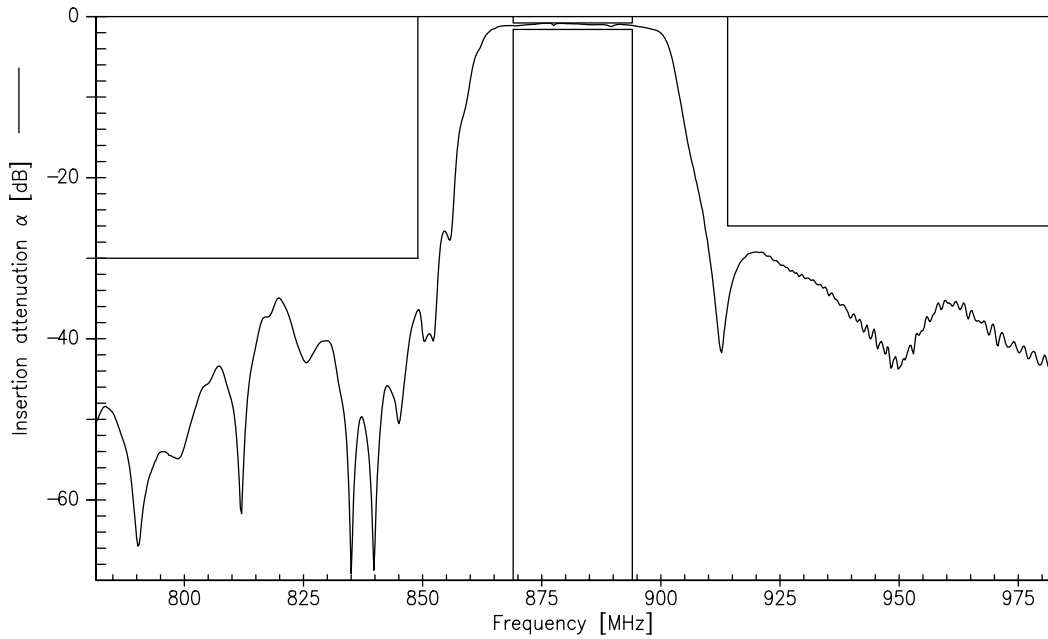
Characteristics

Operating temperature range: $T = -20$ to $+75$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 150 \Omega \parallel 82$ nH (balanced)

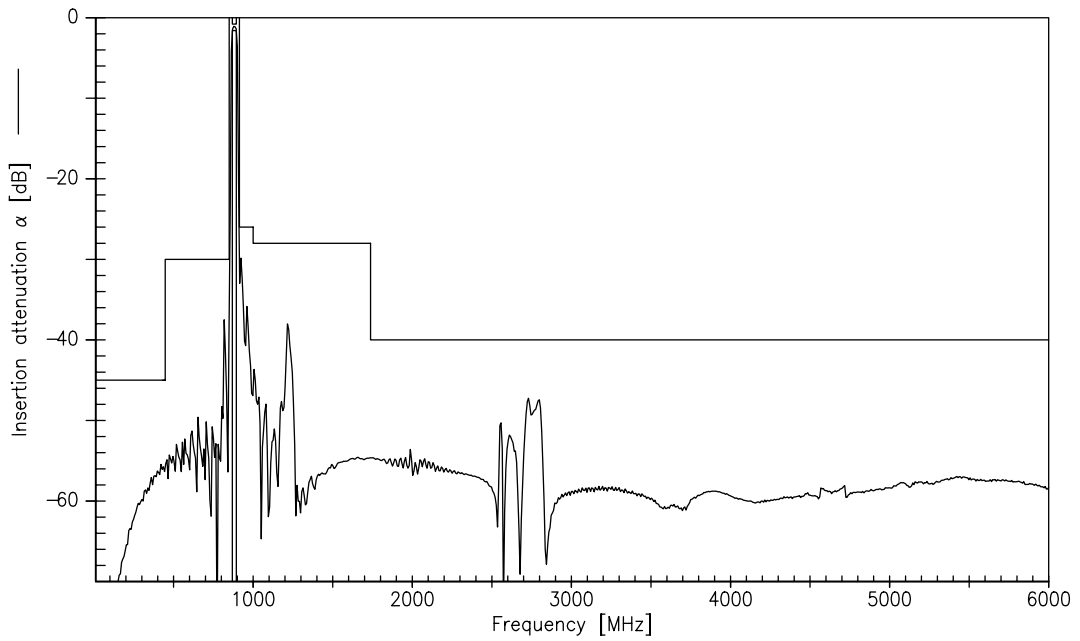
		min.	typ.	max.	
Center frequency	f_C	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
869,0 ... 894,0 MHz		—	1,3	1,6	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	0,6	0,8	dB
Input VSWR					
869,0 ... 894,0 MHz		—	1,6	1,8	
Output VSWR					
869,0 ... 894,0 MHz		—	1,6	1,8	
Attenuation					
0,0 ... 434,0 MHz		45	54	—	dB
434,0 ... 447,0 MHz		45	52	—	dB
447,0 ... 849,0 MHz		30	35	—	dB
914,0 ... 1000,0 MHz		26	29	—	dB
1000,0 ... 1738,0 MHz		28	38	—	dB
1738,0 ... 6000,0 MHz		40	46	—	dB
Amplitude balance (S_{31}/S_{21})					
869,0 ... 894,0 MHz		-1,0	-0,6 ... 0,0	1,0	dB
Phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)					
869,0 ... 894,0 MHz		-5	-3,0 ... 1,5	5	degree
Common mode suppression	S_{sc12}				
869,0 ... 894,0 MHz		20	26	—	dB
824,0 ... 995,0 MHz		20	26	—	dB
1648,0 ... 1990,0 MHz		22	40	—	dB
3296,0 ... 3980,0 MHz		20	35	—	dB



Transfer function (narrow band)



Transfer function (wideband)





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