EPCOS

SAW Components

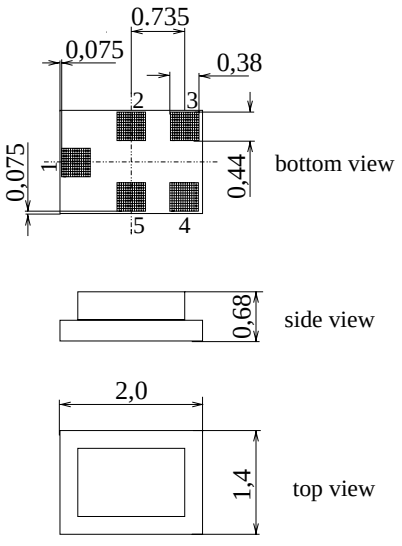
Data Sheet B7845

Data Sheet SMD

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 **S**urface **M**ounted **T**echnology (**SMT**)

Chip sized SAW package QCS5E



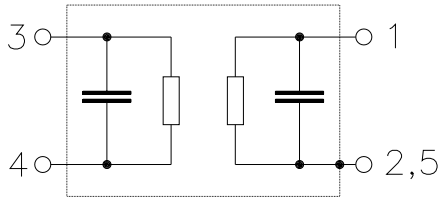
Dimensions in mm, approx. weight 0,007 g

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 **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	– 40 / + 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 and 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	—	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 ($\lvert S_{31}/S_{21}\rvert$)					
869,0 ... 894,0 MHz		-1,0	-0,5 ... 0,0	1,0	dB
Phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
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

Characteristics

Operating temperature range: T = -20 to +75 °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	—	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
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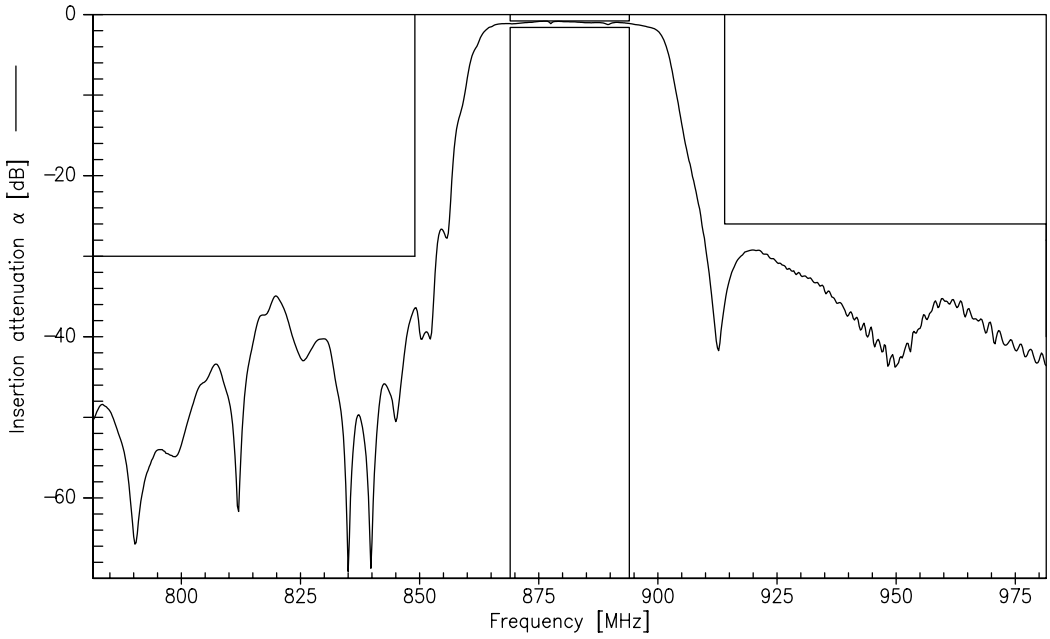
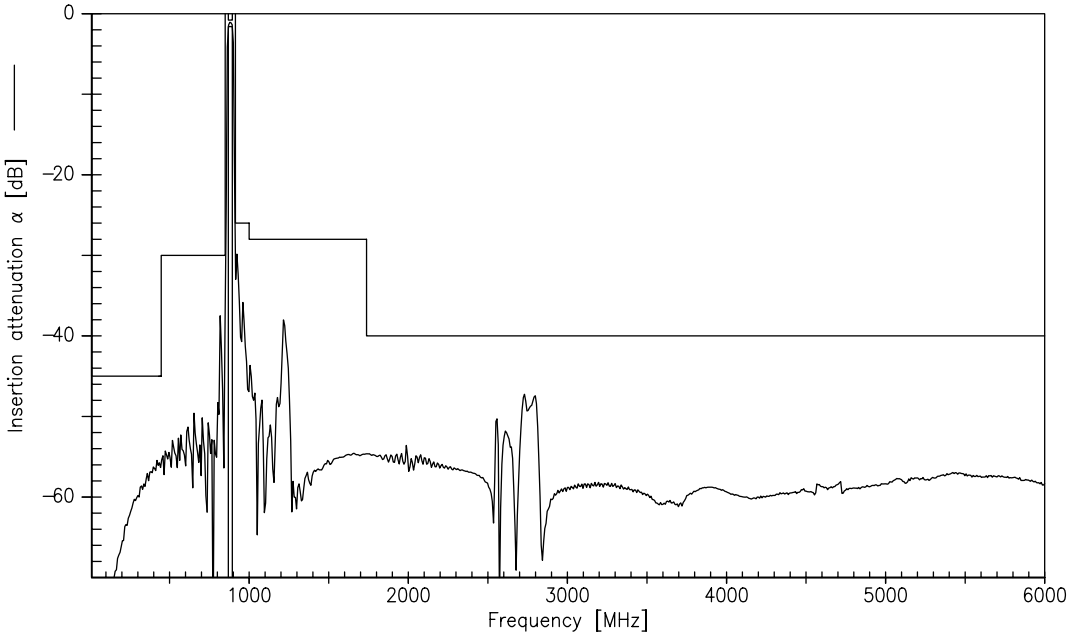
1738,0 ...6000,0 MHz		40	46	—	dB
Amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
869,0 ... 894,0 MHz		-1,0	-0,6 ... 0,0	1,0	dB
Phase balance ($\phi(S_{31})-\phi(S_{21})+180^\circ$)					
869,0 ... 894,0 MHz		-5	-3,0 ... 1,5	5	degree
Common mode suppression	S_{sc12}				
869,0 ... 894,0 MHz		20	26	—	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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