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SAW Components

Data Sheet B7845

SAW Components   B7845
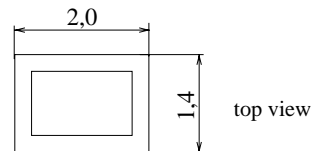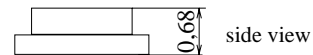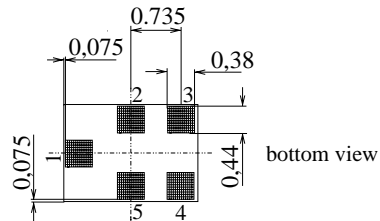
Low-Loss Filter for Mobile Communication   881,5 MHz

Data Sheet

SMD

Features

Chip sized SAW package QCS5E

- 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**)

0.735
0,075
0,38
0,075
0,44
bottom view
0,68
side view
2,0
1,4
top view

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
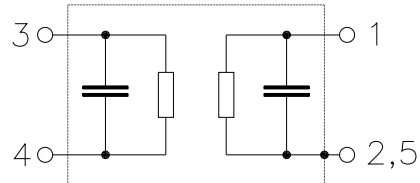
Type	Ordering code	Marking and Package according to	Packing according to
B7845	B39881-B7845-K410	C61157-A7-A131	F61074-V8151-Z000

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

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Data Sheet   ≤MD

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 ($|S_{31}/S_{21}|$)						
	869,0 ... 894,0 MHz		-1,0	-0,5 ... 0,0	1,0	dB
Phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)						
	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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Low-Loss Filter for Mobile Communication   **881,5 MHz**

Data Sheet

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)

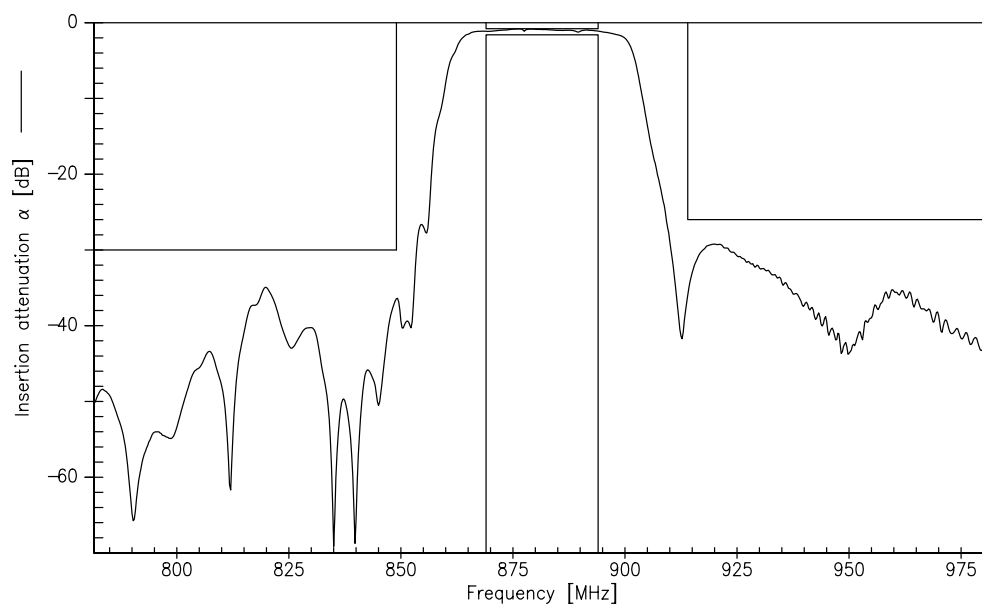|			min.	typ.	max.	
Center frequency	f_C		—	881,5	—	MHz
Maximum insertion attenuation	α_{max}					
	869,0 ... 894,0	MHz	—	1,3	1,6	dB
Amplitude ripple (p-p)	$\Delta\alpha$					
	869,0 ... 894,0	MHz	—	0,6	0,8	dB
Input VSWR						
	869,0 ... 894,0	MHz	—	1,6	1,8	
Output VSWR						
	869,0 ... 894,0	MHz	—	1,6	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
	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 ($\phi(S_{31})-\phi(S_{21})+180˚$)						
	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)
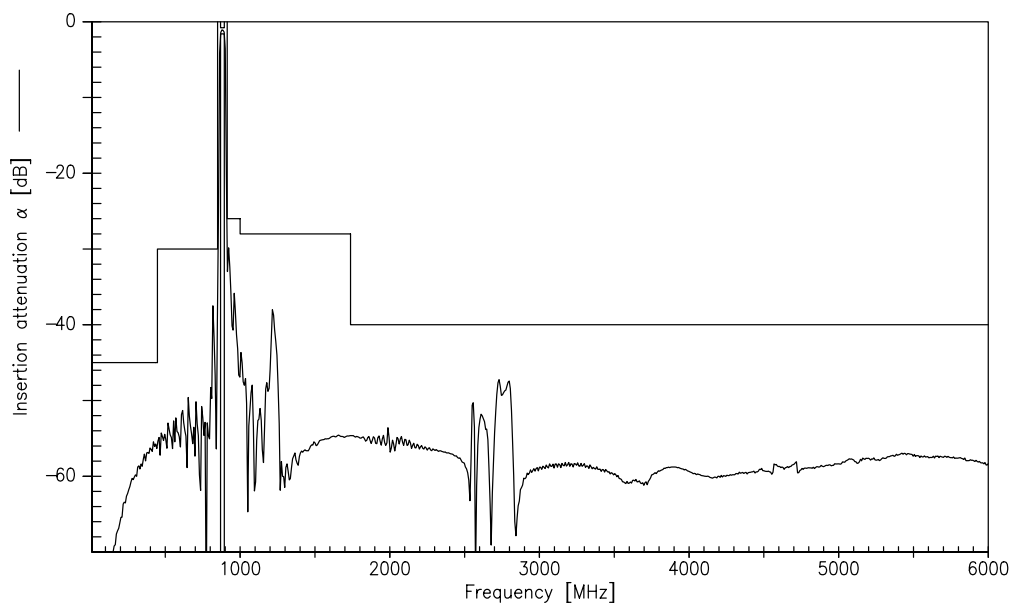
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