



# SAW filters for mobile communications

## Series/Type: **B7845**

The following products presented in this data sheet are being withdrawn.

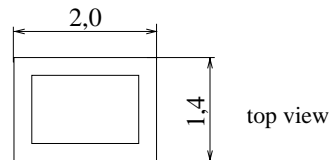
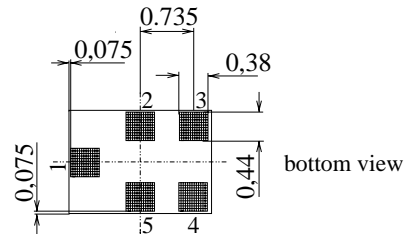
Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39881B7845K410	B39881B9400K610	2009-04-30	2009-10-31	2010-01-31

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**Data Sheet**

**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**


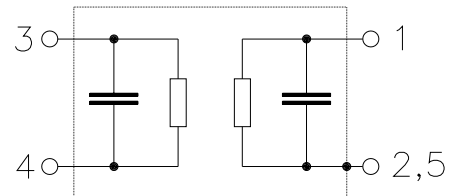
Dimensions in mm, approx. weight 0,007 g

**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 &amp; 10 positive pulses


**Characteristics**

Operating temperature range:	$T = 25\text{ °C}$
Terminating source impedance:	$Z_S = 50\ \Omega$
Terminating load impedance:	$Z_L = 150\ \Omega \parallel 82\text{ nH (balanced)}$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	881,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
869,0 ... 894,0 MHz		—	1,2	1,5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
869,0 ... 894,0 MHz		—	0,4	0,6	dB
<b>Input VSWR</b>					
869,0 ... 894,0 MHz		—	1,5	1,8	
<b>Output VSWR</b>					
869,0 ... 894,0 MHz		—	1,5	1,8	
<b>Attenuation</b>					
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
<b>Amplitude balance (<math> S_{31}/S_{21} </math>)</b>					
869,0 ... 894,0 MHz		-1,0	-0,5 ... 0,0	1,0	dB
<b>Phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^\circ</math>)</b>					
869,0 ... 894,0 MHz		-5	-3,0 ... 1,5	5	degree
<b>Common mode suppression</b>	$S_{sc12}$				
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

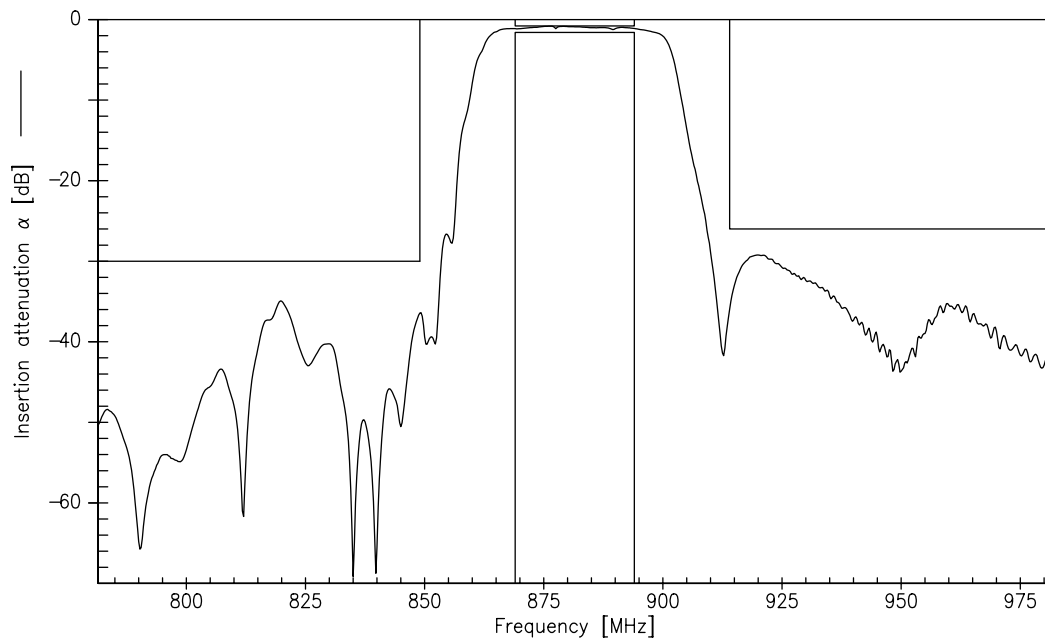

**Characteristics**

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

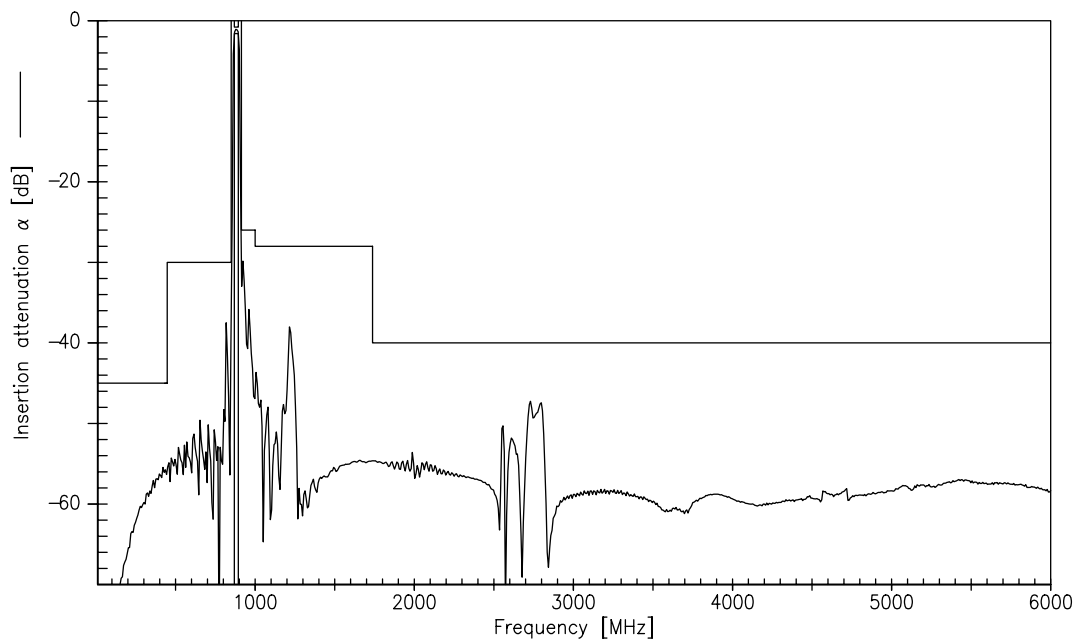
		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	881,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	1,3	1,6	dB
869,0 ... 894,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,6	0,8	dB
869,0 ... 894,0 MHz					
<b>Input VSWR</b>		—	1,6	1,8	
869,0 ... 894,0 MHz					
<b>Output VSWR</b>		—	1,6	1,8	
869,0 ... 894,0 MHz					
<b>Attenuation</b>					
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
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<b>Amplitude balance (<math> S_{31}/S_{21} </math>)</b>					
869,0 ... 894,0 MHz		-1,0	-0,6 ... 0,0	1,0	dB
<b>Phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^\circ</math>)</b>					
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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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