



# SAW Filters for Mobile Communications

## Series/Type: B7835

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39212B7835C710	B39212B9408K610	2010-01-15	2010-04-30	2010-07-30

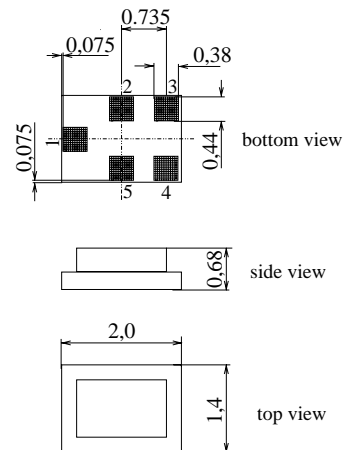
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Chip sized SAW package QCS5C

**Features**

- Low-loss RF filter for mobile telephone W-CDMA system, receive path
- Low amplitude ripple
- Usable passband 60 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50Ω to 200Ω
- Package for **Surface Mounted Technology (SMT)**
- Chip Sized SAW Package (CSSP)

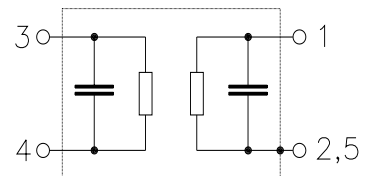

**Terminals**

- Gold-plated Ni

Dimensions in mm, approx. weight 0,012 g

**Pin configuration**

- |      |                   |
|------|-------------------|
| 1    | Input, unbalanced |
| 3, 4 | Output, balanced  |
| 2, 5 | To be grounded    |



Type	Ordering code	Marking and Package according to	Packing according to
B7835	B39212-B7835-C710	C61157-A7-A111	F61074-V8151-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operating temperature range	$T$	- 20/+ 85	°C	Machine Model, 10 pulses
Storage temperature range	$T_{stg}$	- 40/+ 85	°C	
DC voltage	$V_{DC}$	5	V	
ESD voltage	$V_{ESD}^*$	50	V	
Source power	$P_S$	10	dBm	

\* - acc. to JESD22-A115A (Machine Model), 10 negative &amp; 10 positive pulses

**Data Sheet**

**Characteristics**

Operating temperature range:  $T = +25^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 200\ \Omega$  (balanced) || 22 nH

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	2140,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2,6	3,0	dB
2110,0 ... 2170,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,7	1,2	dB
2110,0 ... 2170,0 MHz					
<b>Amplitude ripple per 5MHz channel (p-p)</b>	$\Delta\alpha_{5\text{MHz}}$	—	0,3	0,6	dB
2110,0 ... 2170,0 MHz					
<b>Input VSWR</b>		—	1,5	2,0	
2110,0 ... 2170,0 MHz					
<b>Output VSWR</b>		—	1,7	2,1	
2110,0 ... 2170,0 MHz					
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>		-1,6		1,6	dB
2110,0 ... 2170,0 MHz					
<b>Output phase balance (<math>\phi(S_{31})-\phi(S_{21})+180^{\circ}</math>)</b>		-12,0		12,0	degree
2110,0 ... 2170,0 MHz					
<b>Attenuation</b>	$\alpha$				
180,0 ... 200,0 MHz		60	68	—	dB
200,0 ... 1000,0 MHz		39	42	—	dB
1000,0 ... 1880,0 MHz		29	32	—	dB
1880,0 ... 1920,0 MHz		34	38	—	dB
1920,0 ... 1980,0 MHz		42	46	—	dB
1980,0 ... 2050,0 MHz		25	29	—	dB
2205,0 ... 2255,0 MHz		15	22	—	dB
2255,0 ... 2300,0 MHz		20	23	—	dB
2300,0 ... 2490,0 MHz		31	35	—	dB
2490,0 ... 2550,0 MHz		35	40	—	dB
2550,0 ... 3200,0 MHz		35	39	—	dB
3200,0 ... 6000,0 MHz		40	52	—	dB

**Data Sheet**

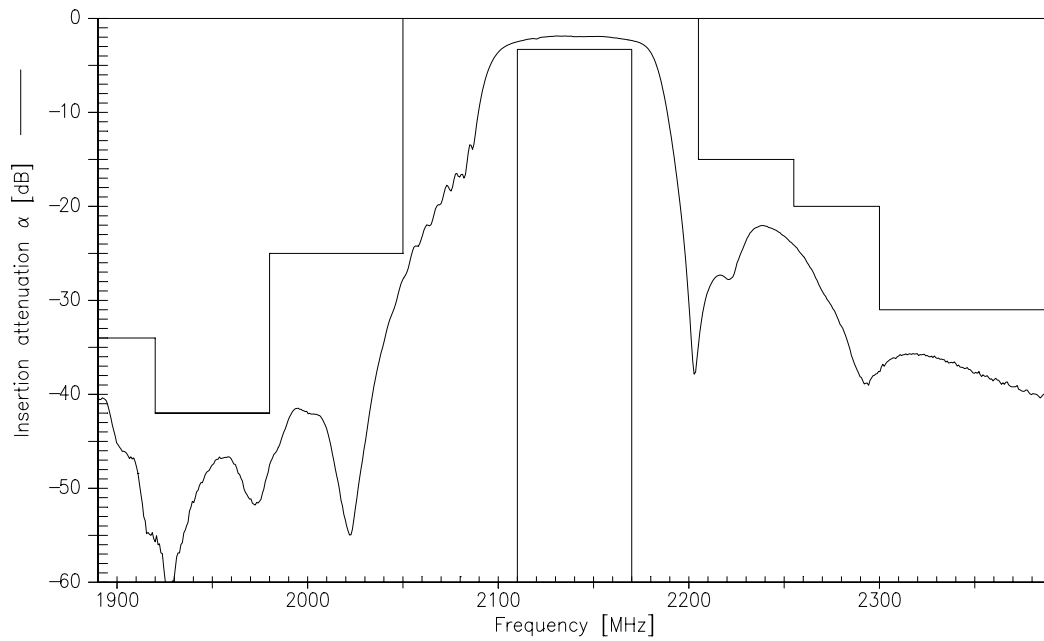
**Characteristics**

Operating temperature range:	$T = -20$ to $+85$ °C
Terminating source impedance:	$Z_S = 50 \Omega$
Terminating load impedance:	$Z_L = 200 \Omega$ (balanced)    22 nH

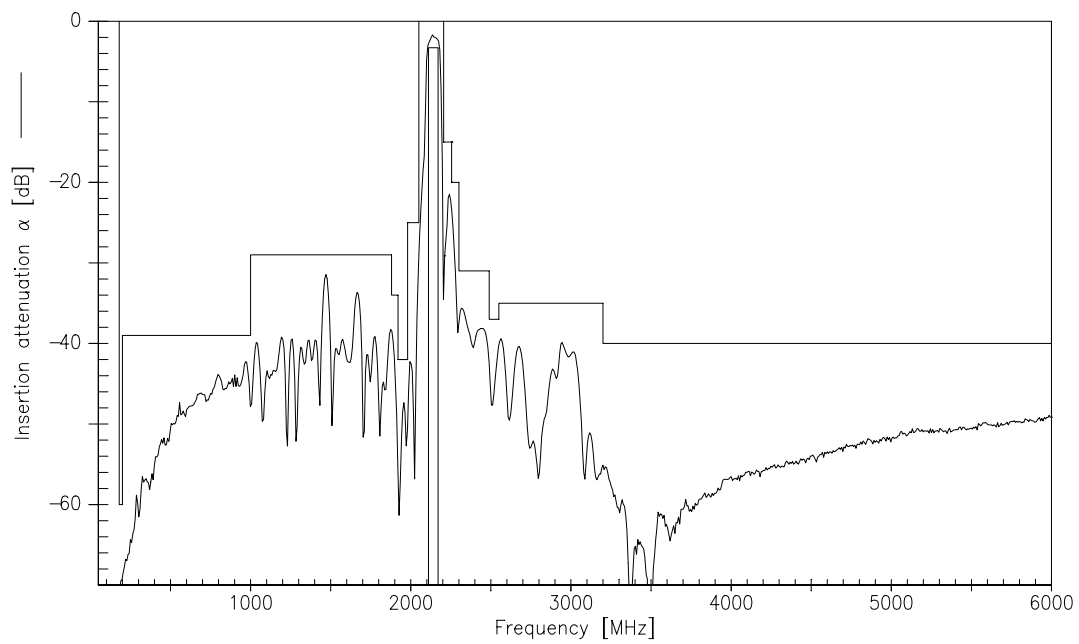
		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	2140,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
	2110,0 ... 2170,0 MHz	—	2,8	3,3	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	2110,0 ... 2170,0 MHz	—	0,9	1,5	dB
<b>Amplitude ripple per 5MHz channel (p-p)</b>	$\Delta\alpha_{5\text{MHz}}$				
	2110,0 ... 2170,0 MHz	—	0,4	0,6	dB
<b>Input VSWR</b>					
	2110,0 ... 2170,0 MHz	—	1,6	2,0	
<b>Output VSWR</b>					
	2110,0 ... 2170,0 MHz	—	1,7	2,1	
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>					
	2110,0 ... 2170,0 MHz	-1,6		1,6	dB
<b>Output phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^\circ</math>)</b>					
	2110,0 ... 2170,0 MHz	-12,0		12,0	degree
<b>Attenuation</b>	$\alpha$				
	180,0 ... 200,0 MHz	60	67	—	dB
	200,0 ... 1000,0 MHz	39	42	—	dB
	1000,0 ... 1880,0 MHz	29	32	—	dB
	1880,0 ... 1920,0 MHz	34	38	—	dB
	1920,0 ... 1980,0 MHz	42	46	—	dB
	1980,0 ... 2050,0 MHz	25	26	—	dB
	2205,0 ... 2255,0 MHz	15	22	—	dB
	2255,0 ... 2300,0 MHz	20	23	—	dB
	2300,0 ... 2490,0 MHz	31	35	—	dB
	2490,0 ... 2550,0 MHz	37	40	—	dB
	2550,0 ... 3200,0 MHz	35	39	—	dB
	3200,0 ... 6000,0 MHz	40	52	—	dB



Transfer function



Transfer function (wide band):





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