



# SAW filters for infrastructure systems

## Series/Type: **B7823**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39202B7823C710	B39202B9007E610	2010-06-25	2011-06-30	2011-09-30

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at [www.epcos.com/sales](http://www.epcos.com/sales).

**Preliminary Data**

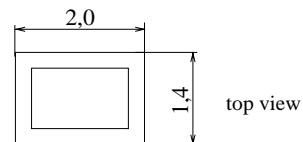
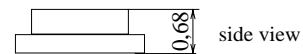
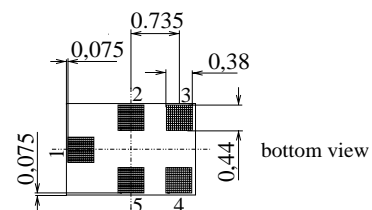

Chip sized SAW package QCS5C

**Features**

- Low-loss RF filter for mobile telephone PCS systems, receive path
- Low amplitude ripple
- Usable passband 60 MHz
- Unbalanced to unbalanced operation
- Package for **Surface Mount Technology (SMT)**

**Terminals**

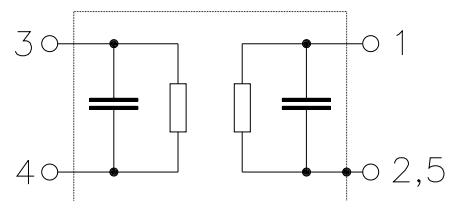
- Ni, gold-plated



Dimensions in mm, approx. weight 0,007 g

**Pin configuration**

- |     |                    |
|-----|--------------------|
| 1   | Input, unbalanced  |
| 4   | Output, unbalanced |
| 2,5 | Case ground        |
| 3   | to be grounded     |



Type	Ordering code	Marking and Package according to	Packing according to
B7823	B39202-B7823-C710	C61157-A7-A111	F61074-V8151-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	- 30 / + 85	°C	peak power of GSM signal, duty cycle 4:8
Storage temperature range	$T_{stg}$	- 40 / + 85	°C	
Input Power at				
GSM850, GSM900	$P_{IN}$	15	dBm	
GSM1800, GSM1900	$P_{IN}$	12	dBm	
Tx bands				

**Preliminary Data**

**Characteristics**

Operating Temperature Range:	$T = +25 \pm 2 \text{ } ^\circ\text{C}$
Terminating source impedance:	$Z_S = 50\Omega$ (unbalanced)
Terminating load impedance:	$Z_L = 50\Omega$ (unbalanced)

			<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_C$		—	1960,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	1930,0 ... 1990,0 MHz	—	2,3	2,8	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	1930,0 ... 1990,0 MHz	—	0,8	1,3	dB
<b>Input VSWR</b>		1930,0 ... 1990,0 MHz	—	1,7	1,9	
<b>Output VSWR</b>		1930,0 ... 1990,0 MHz	—	1,8	2,0	
<b>Attenuation</b>	$\alpha$					
		0,0 ... 1500,0 MHz	35	42	—	dB
		1500,0 ... 1700,0 MHz	30	38	—	dB
		1700,0 ... 1850,0 MHz	25	30	—	dB
		1850,0 ... 1890,0 MHz	22	25	—	dB
		1890,0 ... 1910,0 MHz	13	16	—	dB
		2010,0 ... 2070,0 MHz	13	16	—	dB
		2070,0 ... 2090,0 MHz	20	24	—	dB
		2090,0 ... 2200,0 MHz	25	28	—	dB
		2200,0 ... 2400,0 MHz	25	32	—	dB
		2400,0 ... 2500,0 MHz	30	35	—	dB
		2500,0 ... 3600,0 MHz	30	35	—	dB
		3600,0 ... 4000,0 MHz	30	38	—	dB
		4000,0 ... 6000,0 MHz	25	35	—	dB

**Preliminary Data**

**Characteristics**

Operating Temperature Range:	$T = -10$ to $+80^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50\Omega$ (unbalanced)
Terminating load impedance:	$Z_L = 50\Omega$ (unbalanced)

			min.	typ.	max.	
<b>Center frequency</b>	$f_C$		—	1960,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$					
		1930,0 ... 1990,0 MHz	—	2,3	3,0	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$					
		1930,0 ... 1990,0 MHz	—	0,8	1,5	dB
<b>Input VSWR</b>						
		1930,0 ... 1990,0 MHz	—	1,7	1,9	
<b>Output VSWR</b>						
		1930,0 ... 1990,0 MHz	—	1,8	2,0	
<b>Attenuation</b>	$\alpha$					
		0,0 ... 1500,0 MHz	35	42	—	dB
		1500,0 ... 1700,0 MHz	30	38	—	dB
		1700,0 ... 1850,0 MHz	25	30	—	dB
		1850,0 ... 1890,0 MHz	20	24	—	dB
		1890,0 ... 1910,0 MHz	9	13	—	dB
		2010,0 ... 2070,0 MHz	9	13	—	dB
		2070,0 ... 2090,0 MHz	18	23	—	dB
		2090,0 ... 2200,0 MHz	25	28	—	dB
		2200,0 ... 2400,0 MHz	25	32	—	dB
		2400,0 ... 2500,0 MHz	30	35	—	dB
		2500,0 ... 3600,0 MHz	30	35	—	dB
		3600,0 ... 4000,0 MHz	30	38	—	dB
		4000,0 ... 6000,0 MHz	25	35	—	dB

**SAW Components**
**B7823**
**Low-Loss Filter for Mobile Communication**
**1960,0 MHz**
**Preliminary Data**

**Characteristics**

Operating Temperature Range:  $T = -30$  to  $+85^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50\Omega$  (unbalanced)  
 Terminating load impedance:  $Z_L = 50\Omega$  (unbalanced)

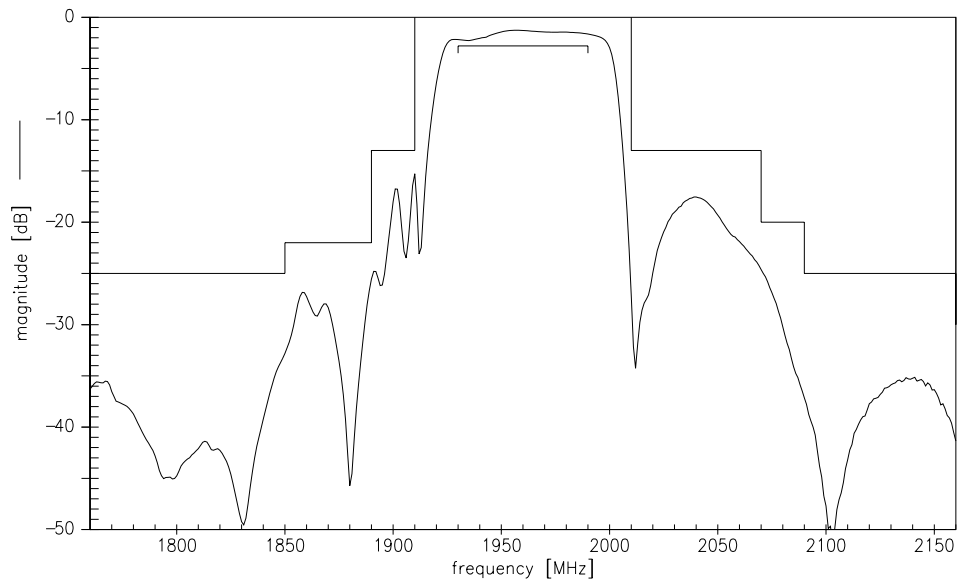
			min.	typ.	max.	
<b>Center frequency</b>	$f_C$		—	1960,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$		—	2,6	3,3	dB
		1930,0 ... 1990,0 MHz				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$		—	1,1	1,8	dB
		1930,0 ... 1990,0 MHz				
<b>Input VSWR</b>			—	1,9	2,1	
		1930,0 ... 1990,0 MHz				
<b>Output VSWR</b>			—	2,0	2,2	
		1930,0 ... 1990,0 MHz				
<b>Attenuation</b>	$\alpha$					
		0,0 ... 1500,0 MHz	35	42	—	dB
		1500,0 ... 1700,0 MHz	30	38	—	dB
		1700,0 ... 1850,0 MHz	25	30	—	dB
		1850,0 ... 1890,0 MHz	20	24	—	dB
		1890,0 ... 1910,0 MHz	8	12	—	dB
		2010,0 ... 2070,0 MHz	6*	10*	—	dB
		2070,0 ... 2090,0 MHz	18	23	—	dB
		2090,0 ... 2200,0 MHz	25	28	—	dB
		2200,0 ... 2400,0 MHz	25	32	—	dB
		2400,0 ... 2500,0 MHz	30	35	—	dB
		2500,0 ... 3600,0 MHz	30	35	—	dB
		3600,0 ... 4000,0 MHz	30	38	—	dB
		4000,0 ... 6000,0 MHz	25	35	—	dB

\* 7dB (min.) (11dB typ.) for  $T = -20$  to  $+85^{\circ}\text{C}$

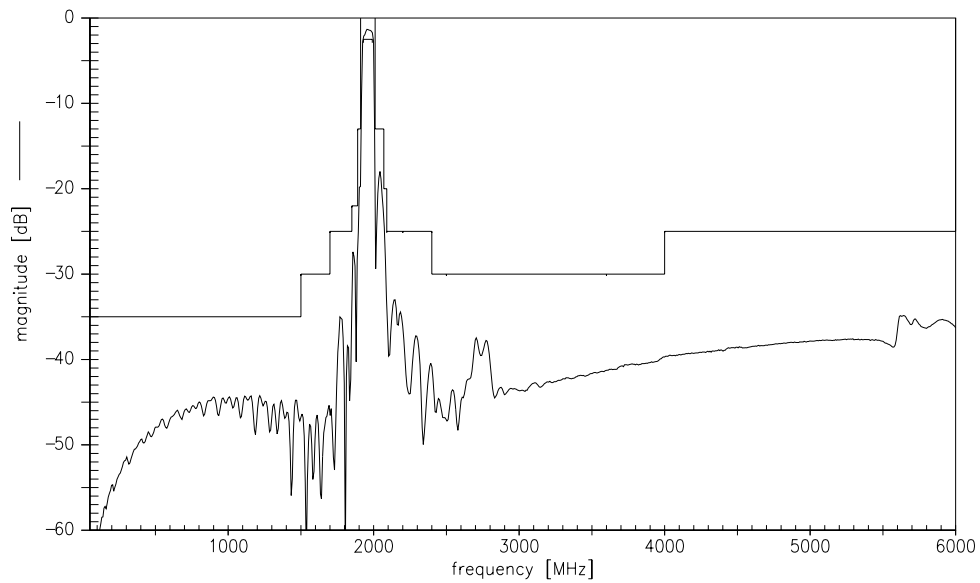
Preliminary Data



Transfer function (spec for 25°C)



Transfer function (wideband)



**Published by EPCOS AG****Surface Acoustic Wave Components Division, SAW MC WT****P.O. Box 80 17 09, D-81617 München**

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