



# SAW Components

Data Sheet B7825





**SAW Components**

**B7825**

**Low-Loss Filter for Mobile Communication**

**1960,0 MHz**

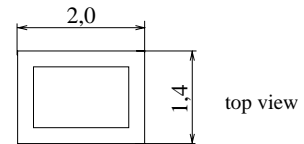
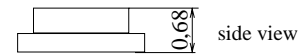
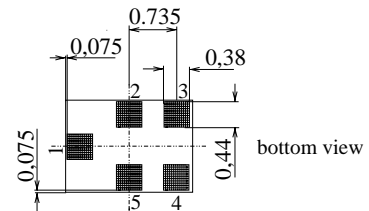
**Data Sheet**



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 balanced operation
- Impedance transformation from 50 Ω to 150 Ω
- Suitable for GPRS class 1 to 12
- Package for **Surface Mounted Technology (SMT)**



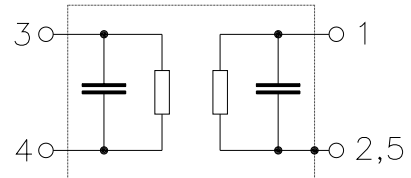
**Terminals**

- Gold-plated Ni

Dimensions in mm, approx. weight 0,007 g

**Pin configuration**

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



Type	Ordering code	Marking and Package according to	Packing according to
B7825	B39202-B7825-C710	C61157-A7-A111	F61074-V8151-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operating temperature range	$T$	- 30/+ 85	°C	
Storage temperature range	$T_{stg}$	- 40/+ 85	°C	
DC voltage	$V_{DC}$	5	V	
Input power at				
GSM850, GSM900	$P_{IN}$	15	dBm	peak power of GSM signal, duty cycle 4:8
GSM1800,GSM1900	$P_{IN}$	12	dBm	
Tx bands				



SAW Components

B7825

Low-Loss Filter for Mobile Communication

1960,0 MHz

Data Sheet



**Characteristics**

Operating temperature range:  $T = 25^{\circ}\text{C} \pm 2^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50 \Omega$   
 Terminating load impedance:  $Z_L = 150 \Omega$  (balanced) || 18 nH

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	1960,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	1,9	2,7	dB
1930,0 ... 1990,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,5	1,5	dB
1930,0 ... 1990,0 MHz					
<b>Input VSWR</b>		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
<b>Output VSWR</b>		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
<b>Output phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}</math>)</b>		-10	-7 / +7	10	degree
1930,0 ... 1990,0 MHz					
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>		-1,5	-0,9 / +0,9	1,5	dB
1930,0 ... 1990,0 MHz					
<b>Attenuation</b>	$\alpha$				
10,0 ... 1000,0 MHz		45	59	—	dB
1000,0 ... 1830,0 MHz		25	33	—	dB
1830,0 ... 1910,0 MHz		15	18	—	dB
2010,0 ... 2070,0 MHz		14	17	—	dB
2070,0 ... 2120,0 MHz		24	30	—	dB
2120,0 ... 3000,0 MHz		28	31	—	dB
3000,0 ... 6000,0 MHz		40	53	—	dB



Data Sheet



Characteristics

Operating temperature range:  $T = -20$  to  $+85$  °C  
 Terminating source impedance:  $Z_S = 50 \Omega$   
 Terminating load impedance:  $Z_L = 150 \Omega$  (balanced) || 18 nH

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	1960,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2,2	2,9	dB
1930,0 ... 1990,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,8	1,8	dB
1930,0 ... 1990,0 MHz					
<b>Input VSWR</b>		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
<b>Output VSWR</b>		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
<b>Output phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^\circ</math>)</b>		-10	-7 / +7	10	degree
1930,0 ... 1990,0 MHz					
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>		-1,5	-0,9 / +1,3	1,5	dB
1930,0 ... 1990,0 MHz					
<b>Attenuation</b>	$\alpha$				
10,0 ... 1000,0 MHz		45	59	—	dB
1000,0 ... 1830,0 MHz		25	33	—	dB
1830,0 ... 1910,0 MHz		8	14	—	dB
2010,0 ... 2070,0 MHz		8	14	—	dB
2070,0 ... 2120,0 MHz		24	30	—	dB
2120,0 ... 3000,0 MHz		28	31	—	dB
3000,0 ... 6000,0 MHz		40	53	—	dB



Data Sheet



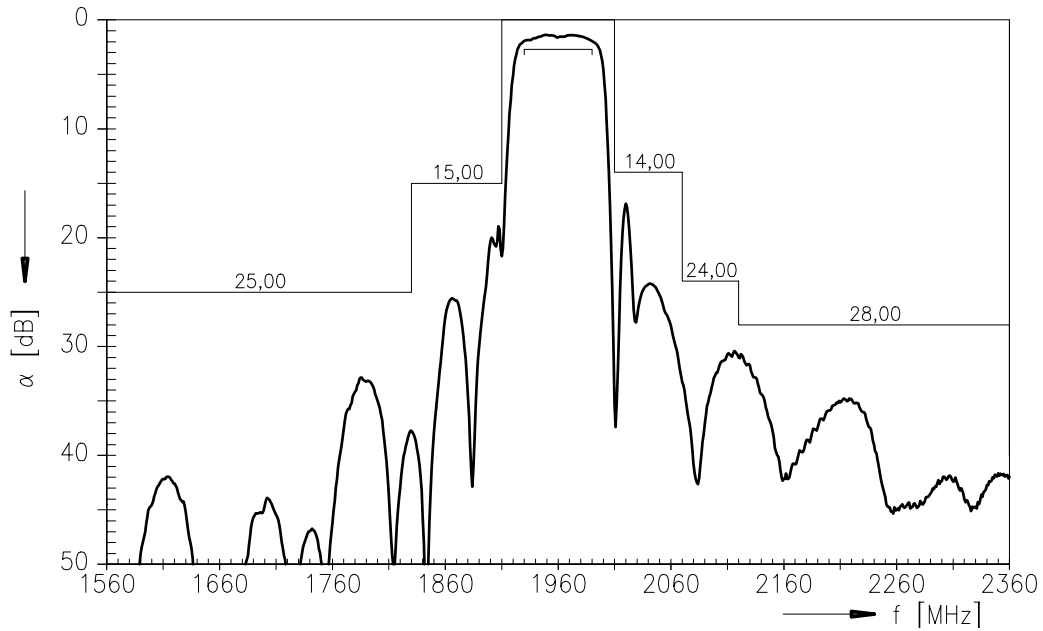
Characteristics

Operating temperature range:  $T = -30$  to  $+85$  °C  
 Terminating source impedance:  $Z_S = 50$   $\Omega$   
 Terminating load impedance:  $Z_L = 150$   $\Omega$  (balanced) || 18 nH

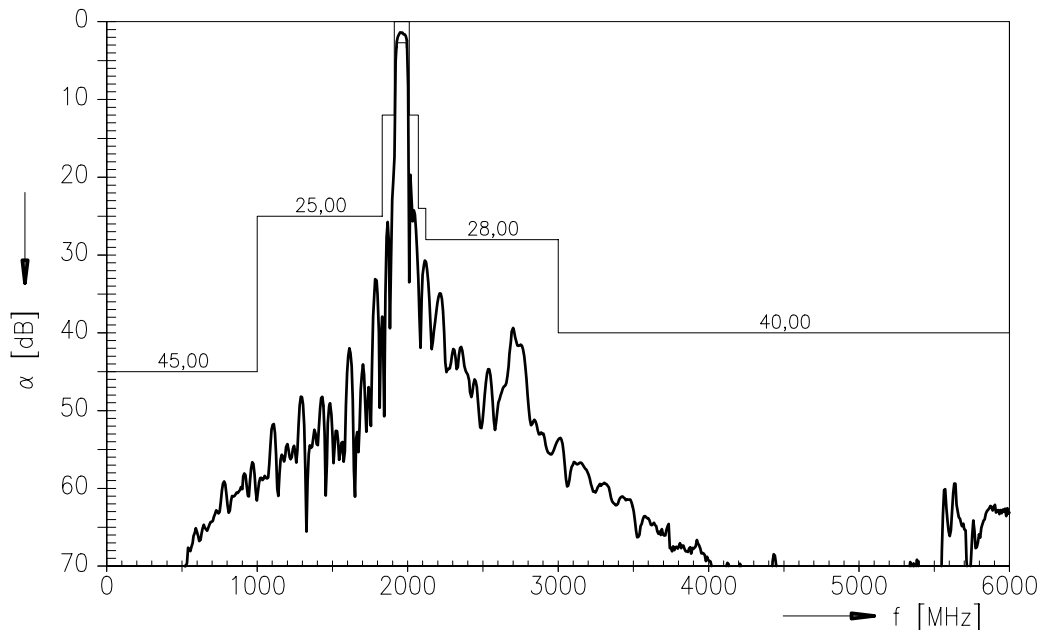
		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	1960,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2,2	2,9	dB
1930,0 ... 1990,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,8	1,8	dB
1930,0 ... 1990,0 MHz					
<b>Input VSWR</b>		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
<b>Output VSWR</b>		—	1,6	2,2	
1930,0 ... 1990,0 MHz					
<b>Output phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^\circ</math>)</b>		-10	-7 / +7	10	degree
1930,0 ... 1990,0 MHz					
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>		-1,5	-0,9 / +1,3	1,5	dB
1930,0 ... 1990,0 MHz					
<b>Attenuation</b>	$\alpha$				
10,0 ... 1000,0 MHz		45	59	—	dB
1000,0 ... 1830,0 MHz		25	33	—	dB
1830,0 ... 1910,0 MHz		8	14	—	dB
2010,0 ... 2070,0 MHz		7	13	—	dB
2070,0 ... 2120,0 MHz		24	30	—	dB
2120,0 ... 3000,0 MHz		28	31	—	dB
3000,0 ... 6000,0 MHz		40	53	—	dB



Transfer function (specification for  $T=25\text{ }^{\circ}\text{C}$ )



Transfer function (wide band):





**SAW Components**

**B7825**

**Low-Loss Filter for Mobile Communication**

**1960,0 MHz**

Data Sheet



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

© EPCOS AG 2003. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.