



**THE DATASHEET OF  
B39202-B7825-C710**





# SAW Components

Data Sheet B7825





**SAW Components**

**B7825**

**Low-Loss Filter for Mobile Communication**

**1960,0 MHz**

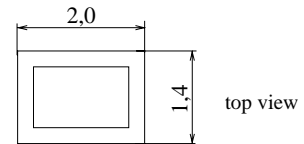
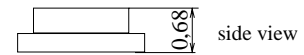
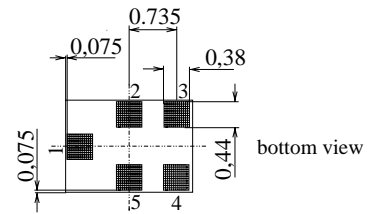
**Data Sheet**



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)**



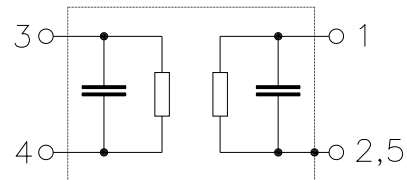
**Terminals**

- 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	human body model
Storage temperature range	$T_{stg}$	- 40/+ 85	°C	
DC voltage	$V_{DC}$	5	V	
ESD voltage	$V_{ESD}$	250	V	
Input power at				peak power of GSM signal, duty cycle 4:8
GSM850, GSM900	$P_{IN}$	15	dBm	
GSM1800, GSM1900	$P_{IN}$	12	dBm	
Tx bands				



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:  $Z_S = 50$  Ω  
 Terminating load impedance:  $Z_L = 150$  Ω (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



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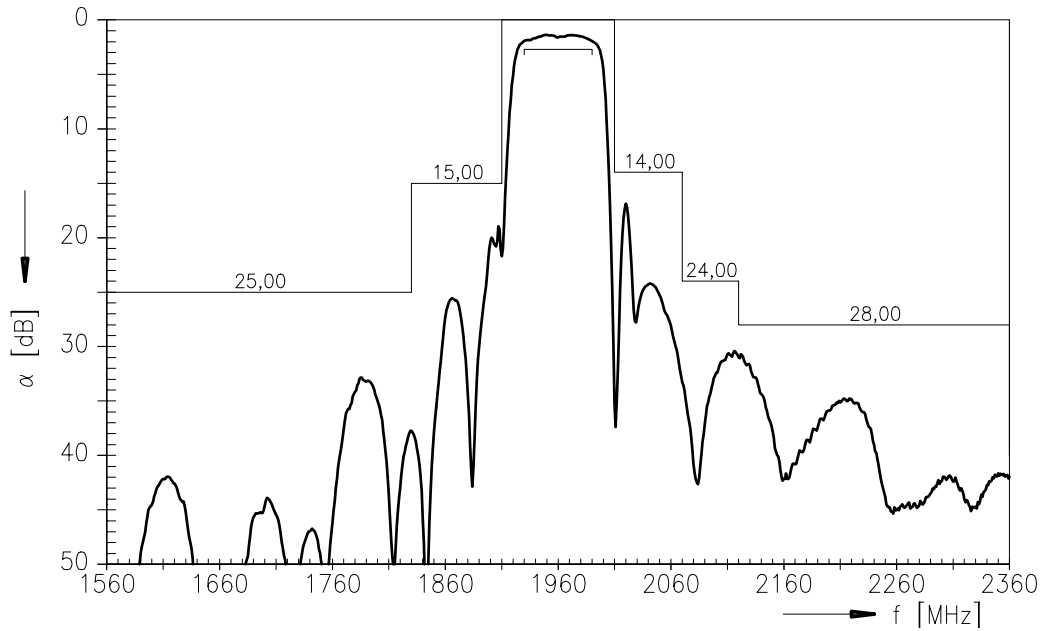
**Characteristics**

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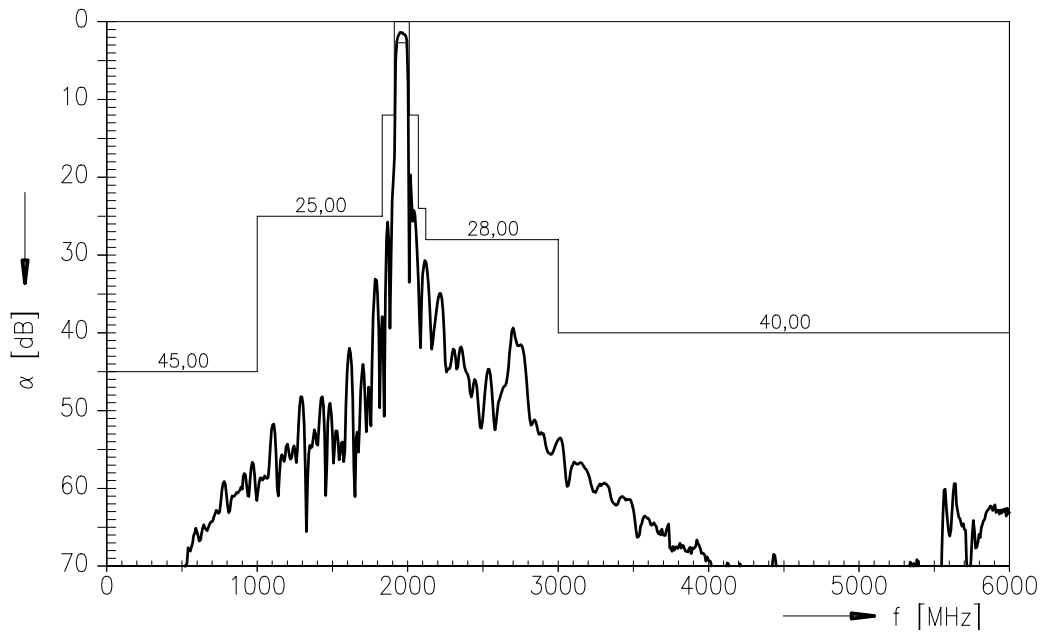
		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	1960,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
	1930,0 ... 1990,0 MHz	—	2,2	2,9	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	1930,0 ... 1990,0 MHz	—	0,8	1,8	dB
<b>Input VSWR</b>					
	1930,0 ... 1990,0 MHz	—	1,6	2,2	
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	1930,0 ... 1990,0 MHz	—	1,6	2,2	
<b>Output phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^\circ</math>)</b>					
	1930,0 ... 1990,0 MHz	-10	-7 / +7	10	degree
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>					
	1930,0 ... 1990,0 MHz	-1,5	-0,9 / +1,3	1,5	dB
<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):





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