



SAW Components

Data Sheet B7717





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Low-Loss Filter for Mobile Communication

1960,0 MHz

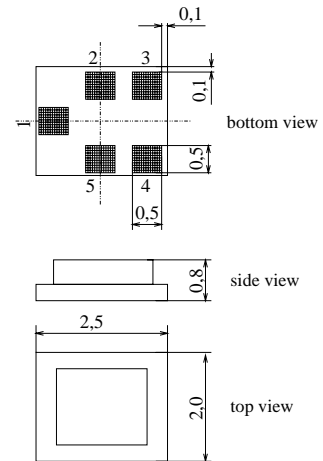
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Chip sized SAW package **QCS5A**

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 50Ω to 200Ω
- Suitable for GPRS class 1 to 12
- Package for **Surface Mounted Technology (SMT)**



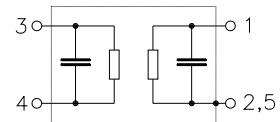
Terminals

- Gold-plated Ni

Dimensions in mm, approx. weight 0,015 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
B7717	B39202-B7717-B610	C61157-A7-A71	F61074-V8104-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	
ESD voltage	V_{ESD}	50	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				



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Characteristics

Operating temperature range: $T = + 25 \pm 2 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ }\Omega$
 Terminating load impedance: $Z_L = 200 \text{ }\Omega$ (balanced) || 15 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{\max}	—	2,6	3,1	dB
1930,0 ... 1990,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,0	1,5	dB
1930,0 ... 1990,0 MHz					
Input VSWR		—	1,7	2,2	
1930,0 ... 1990,0 MHz					
Output VSWR		—	1,7	2,2	
1930,0 ... 1990,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-15	0	15	degree
1930,0 ... 1990,0 MHz					
Output amplitude balance (S_{31}/S_{21})		-1,5	0	1,5	dB
1930,0 ... 1990,0 MHz					
Attenuation	α				
0,0 ... 1000,0 MHz		45	50	—	dB
1000,0 ... 1830,0 MHz		25	31	—	dB
1830,0 ... 1900,0 MHz		15	19	—	dB
1900,0 ... 1910,0 MHz		11	18	—	dB
2010,0 ... 2030,0 MHz		8	11	—	dB
2030,0 ... 2070,0 MHz		12	14	—	dB
2070,0 ... 2310,0 MHz		20	22	—	dB
2310,0 ... 2380,0 MHz		35	43	—	dB
2380,0 ... 4600,0 MHz		30	42	—	dB
4600,0 ... 6000,0 MHz		23	50	—	dB



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Characteristics

Operating temperature range: $T = -10$ to $+75$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 200 \Omega$ (balanced) || 15 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}	—	2,8	3,5	dB
1930,0 ... 1990,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,2	1,9	dB
1930,0 ... 1990,0 MHz					
Input VSWR		—	1,7	2,4	
1930,0 ... 1990,0 MHz					
Output VSWR		—	1,7	2,4	
1930,0 ... 1990,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-15	0	15	degree
1930,0 ... 1990,0 MHz					
Output amplitude balance (S_{31}/S_{21})		-1,5	0	1,5	dB
1930,0 ... 1990,0 MHz					
Attenuation	α				
0,0 ... 1000,0 MHz		45	50	—	dB
1000,0 ... 1830,0 MHz		25	31	—	dB
1830,0 ... 1900,0 MHz		15	19	—	dB
1900,0 ... 1910,0 MHz		7	15	—	dB
2010,0 ... 2030,0 MHz		5	11	—	dB
2030,0 ... 2070,0 MHz		12	14	—	dB
2070,0 ... 2310,0 MHz		20	22	—	dB
2310,0 ... 2380,0 MHz		35	43	—	dB
2380,0 ... 4600,0 MHz		30	42	—	dB
4600,0 ... 6000,0 MHz		23	50	—	dB



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Characteristics

Operating temperature range: $T = -30$ to $+85$ °C
 Terminating source impedance: $Z_S = 50$ Ω
 Terminating load impedance: $Z_L = 200$ Ω (balanced) || 15 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}	—	2,9	4,0	dB
1930,0 ... 1990,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,3	2,4	dB
1930,0 ... 1990,0 MHz					
Input VSWR		—	1,7	2,4	
1930,0 ... 1990,0 MHz					
Output VSWR		—	1,7	2,4	
1930,0 ... 1990,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)		-15	0	15	degree
1930,0 ... 1990,0 MHz					
Output amplitude balance (S_{31}/S_{21})		-1,5	0	1,5	dB
1930,0 ... 1990,0 MHz					
Attenuation	α				
0,0 ... 1000,0 MHz		45	50	—	dB
1000,0 ... 1830,0 MHz		25	31	—	dB
1830,0 ... 1900,0 MHz		15	19	—	dB
1900,0 ... 1910,0 MHz		7	15	—	dB
2010,0 ... 2030,0 MHz		5	11	—	dB
2030,0 ... 2070,0 MHz		12	14	—	dB
2070,0 ... 2310,0 MHz		20	22	—	dB
2310,0 ... 2380,0 MHz		35	43	—	dB
2380,0 ... 4600,0 MHz		30	42	—	dB
4600,0 ... 6000,0 MHz		23	50	—	dB



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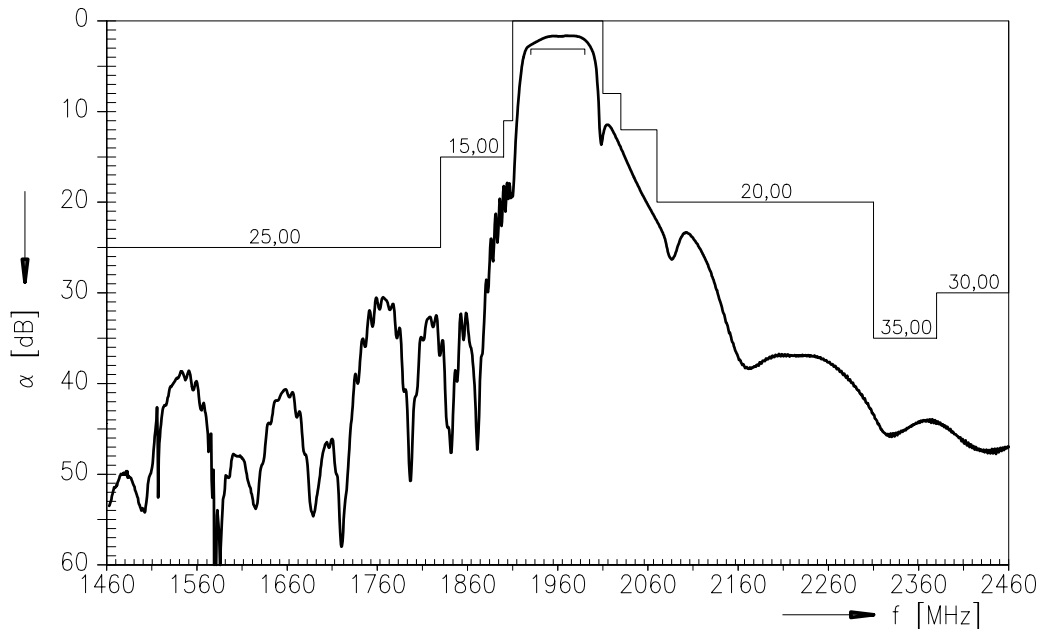
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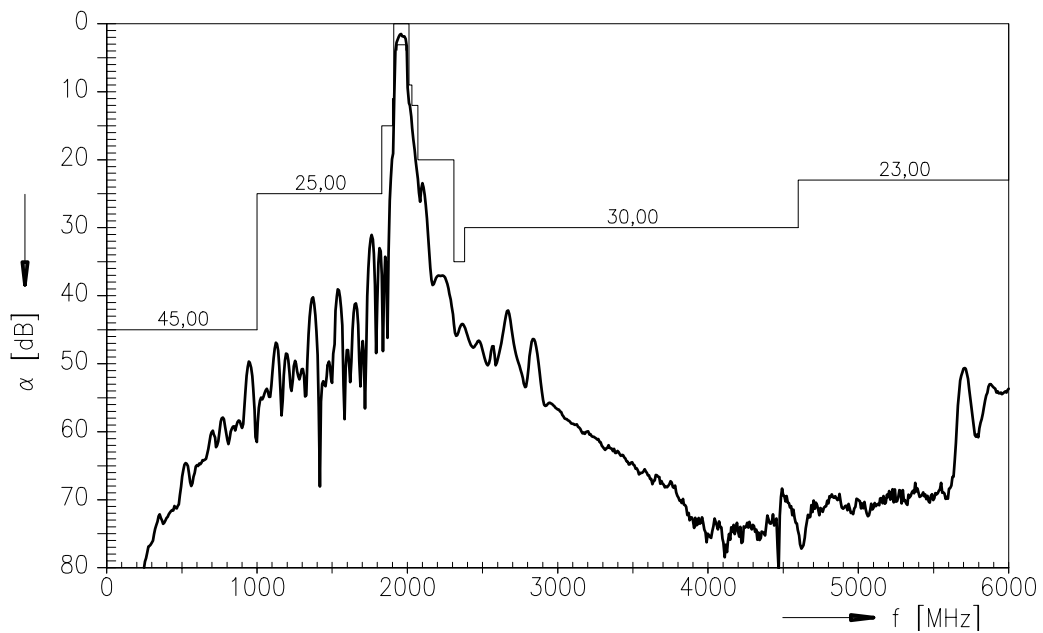
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Transfer function (spec at 25 °C)



Transfer function (wide band):⁴





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