EPCOS

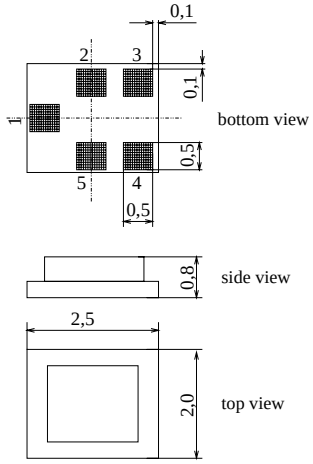
SAW Components

Data Sheet B7717

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 **S**urface **M**ounted **T**echnology (**SMT**)



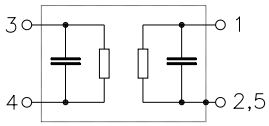
Terminals

- 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 **S**ensitive **D**evice (**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,
GSM1800, GSM1900	P_{IN}	12	dBm	duty cycle 4:8
Tx bands				

Characteristics

Operating temperature range: T = + 25 ± 2 °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}				
1930,0 ... 1990,0 MHz		—	2,6	3,1	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930,0 ... 1990,0 MHz		—	1,0	1,5	dB
Input VSWR					
1930,0 ... 1990,0 MHz		—	1,7	2,2	
Output VSWR					
1930,0 ... 1990,0 MHz		—	1,7	2,2	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
1930,0 ... 1990,0 MHz		-15	0	15	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
1930,0 ... 1990,0 MHz		-1,5	0	1,5	dB
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

Characteristics

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

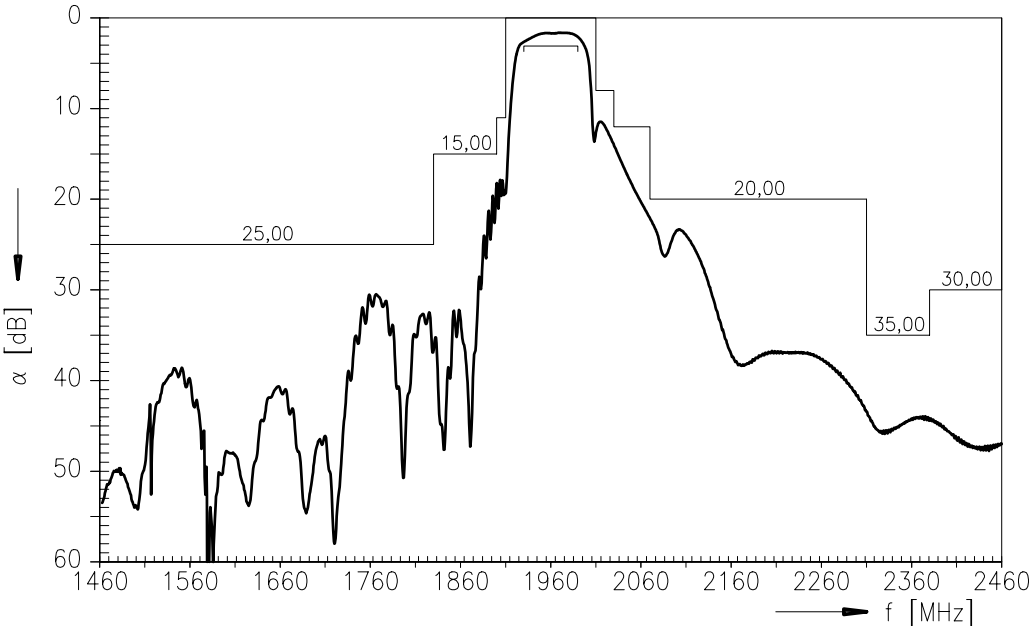
		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}				
1930,0 ... 1990,0 MHz		—	2,8	3,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930,0 ... 1990,0 MHz		—	1,2	1,9	dB
Input VSWR					
1930,0 ... 1990,0 MHz		—	1,7	2,4	
Output VSWR					
1930,0 ... 1990,0 MHz		—	1,7	2,4	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
1930,0 ... 1990,0 MHz		-15	0	15	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
1930,0 ... 1990,0 MHz		-1,5	0	1,5	dB
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

Characteristics

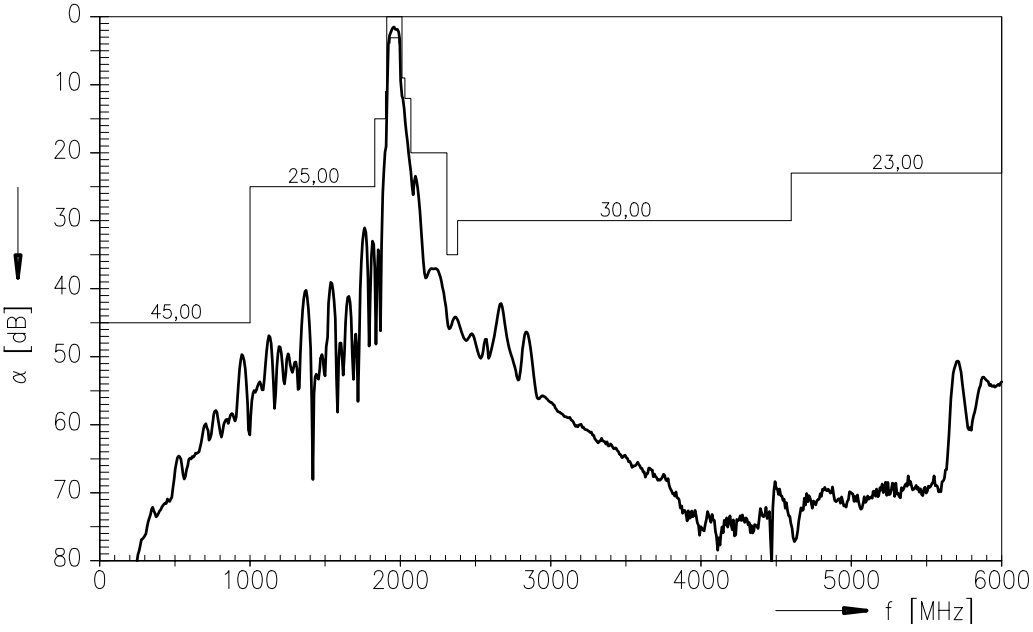
Operating temperature range: T = -30 to +85 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 200 Ω (balanced) || 15 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}				
1930,0 ... 1990,0 MHz		—	2,9	4,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930,0 ... 1990,0 MHz		—	1,3	2,4	dB
Input VSWR					
1930,0 ... 1990,0 MHz		—	1,7	2,4	
Output VSWR					
1930,0 ... 1990,0 MHz		—	1,7	2,4	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
1930,0 ... 1990,0 MHz		-15	0	15	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
1930,0 ... 1990,0 MHz		-1,5	0	1,5	dB
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

Transfer function (spec at 25 ˚C)



Transfer function (wide band):‘



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