



SAW Components

Data Sheet B7717, Pb-free

Data Sheet

An abstract graphic featuring the word "EPCOS" in large, glowing, 3D letters. The letters are white with a bright, circular highlight in the center of each, giving them a three-dimensional appearance. They are set against a dark, textured background. In the background, there is a faint, stylized globe and some circuitry-like patterns, suggesting a global or technological theme.



SAW Components

B7717

Low-Loss Filter for Mobile Communication

1960,0 MHz

Data Sheet



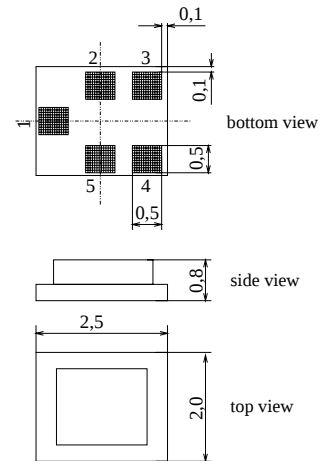
Chip sized SAW package **QCS5H**

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)**
- Pb-free

Terminals

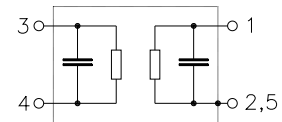
- Gold-plated Ni



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-K910	C61157-A7-A139	F61074-V8189-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 40/+ 85	°C	Machine Model, 10 pulses
Storage temperature range	T_{stg}	- 40/+ 85	°C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}^*	50*	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				

* - acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulses



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Characteristics

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

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	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	$\alpha_{\max}$	—	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: $Z_S = 50 \Omega$
Terminating load impedance: $Z_L = 200 \Omega$ (balanced) || 15 nH

		min.	typ.	max.	
Center frequency	f_C	—	1960,0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	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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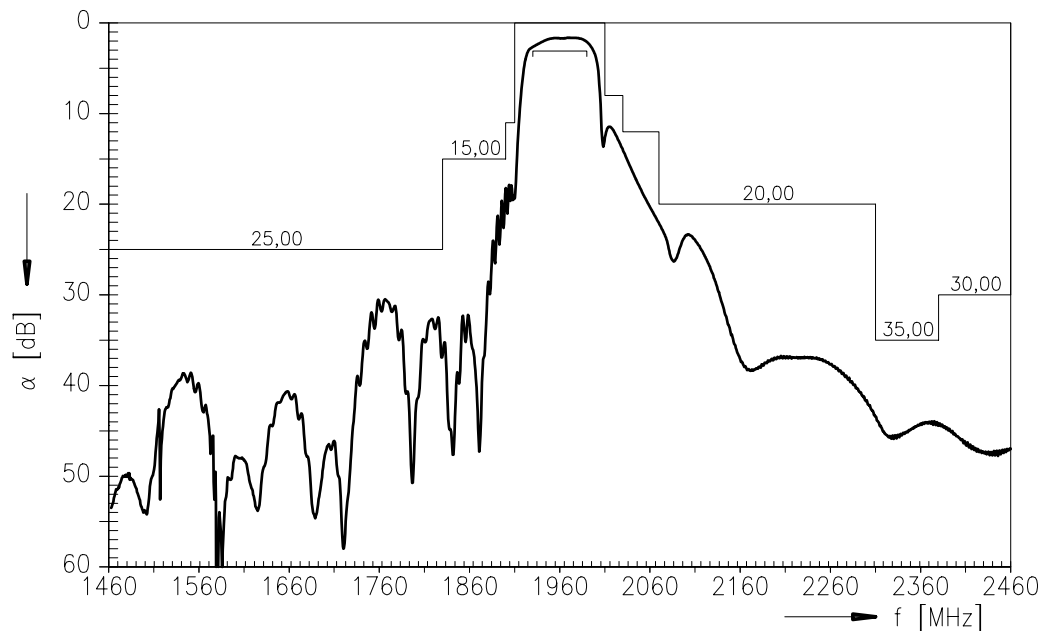
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1960,0 MHz

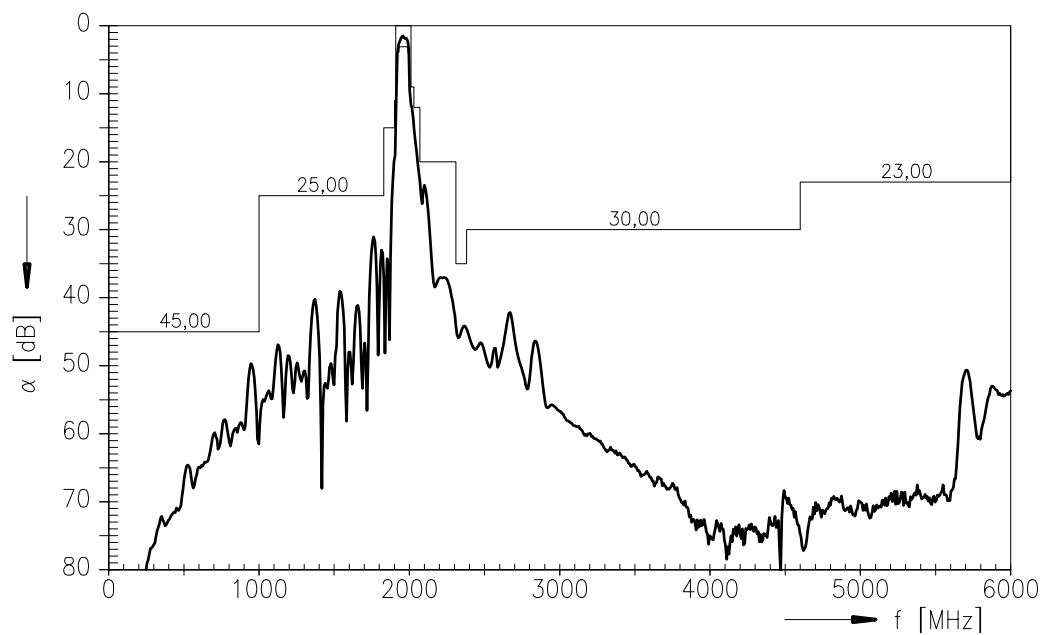
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Transfer function (spec at 25 °C)



Transfer function (wide band):‘





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