



SAW Components

Data Sheet B7716, Pb-Free

Data Sheet

An abstract, grayscale graphic featuring a globe with a grid of latitude and longitude lines. Overlaid on the globe is a large, stylized, 3D-effect word "EPCOS" in a light gray color. The word is tilted and appears to be floating or attached to the globe's surface. The overall composition is dark and moody, with the globe and the word being the primary visual elements.

EPCOS



SAW Components

B7716

Low-Loss Filter for Mobile Communication

1842,50 MHz

Data Sheet



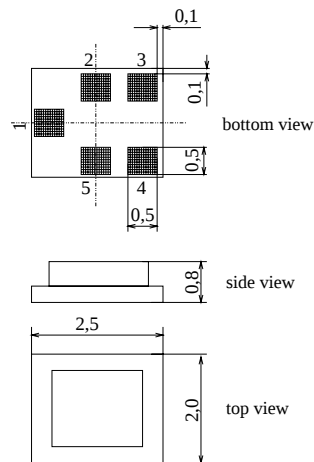
Chip sized SAW package **QCS5H**

Features

- Low-loss RF filter for mobile telephone PCN systems, receive path
- Low amplitude ripple
- Usable passband 75 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50Ω to 200Ω
- Suitable for GPRS class 1 to 12
- Package for **Surface Mounted Technology (SMT)**
- Ceramic SMD package
- Pb-Free

Terminals

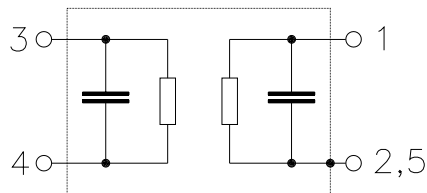
- Ni, gold-plated



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
B7716	B39182-B7716-K910	C61157-A7-A139	F61074-V8189-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 30 / + 85	°C	Machine Model, 10 pulses peak power of GSM signal duty cycle 4:8
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	
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: $T = +25 \pm 2^\circ\text{C}$
Terminating source impedance: $Z_S = 50\Omega$ (unbalanced)
Terminating load impedance: $Z_L = 200\Omega$ (balanced) || 18nH

		min.	typ.	max.	
Center frequency	f_C	—	1842,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
1805,0 ... 1880,0 MHz		—	3,0	3,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1805,0 ... 1880,0 MHz		—	1,1	1,6	dB
Input VSWR					
1805,0 ... 1880,0 MHz		—	2,2	2,4	
Output VSWR					
1805,0 ... 1880,0 MHz		—	2,2	2,4	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)					
1805,0 ... 1880,0 MHz		-12	—	+12	degree
Output amplitude balance ($ S_{31}/S_{21} $)					
1805,0 ... 1880,0 MHz		-1,4	—	1,4	dB
Attenuation	α				
0,0 ... 1200,0 MHz		40	47	—	dB
1200,0 ... 1705,0 MHz		30	36	—	dB
1705,0 ... 1785,0 MHz		15	19	—	dB
1920,0 ... 1980,0 MHz		15	20	—	dB
1980,0 ... 2200,0 MHz		20	22	—	dB
2200,0 ... 3000,0 MHz		30	38	—	dB
3000,0 ... 6000,0 MHz		40	48	—	dB



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Characteristics

Operating Temperature Range: $T = -10$ to $+80^{\circ}\text{C}$
Terminating source impedance: $Z_S = 50\Omega$ (unbalanced)
Terminating load impedance: $Z_L = 200\Omega$ (balanced) $\parallel 18\text{nH}$

		min.	typ.	max.	
Center frequency	f_C	—	1842,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
1805,0 ... 1880,0 MHz		—	3,2	3,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1805,0 ... 1880,0 MHz		—	1,3	1,6	dB
Input VSWR					
1805,0 ... 1880,0 MHz		—	2,4	2,6	
Output VSWR					
1805,0 ... 1880,0 MHz		—	2,4	2,6	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)					
1805,0 ... 1880,0 MHz		-12	—	+12	degree
Output amplitude balance ($ S_{31}/S_{21} $)					
1805,0 ... 1880,0 MHz		-1,4	—	1,4	dB
Attenuation	α				
0,0 ... 1200,0 MHz		40	47	—	dB
1200,0 ... 1705,0 MHz		30	36	—	dB
1705,0 ... 1785,0 MHz		10	15	—	dB
1920,0 ... 1980,0 MHz		10	20	—	dB
1980,0 ... 2200,0 MHz		20	22	—	dB
2200,0 ... 3000,0 MHz		30	38	—	dB
3000,0 ... 6000,0 MHz		40	48	—	dB



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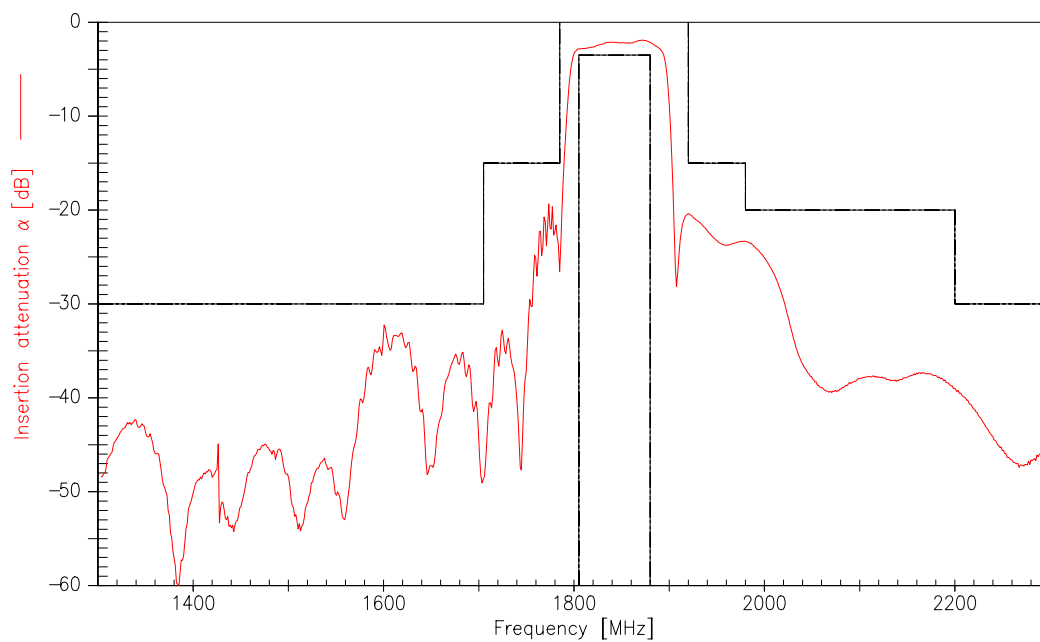


Characteristics

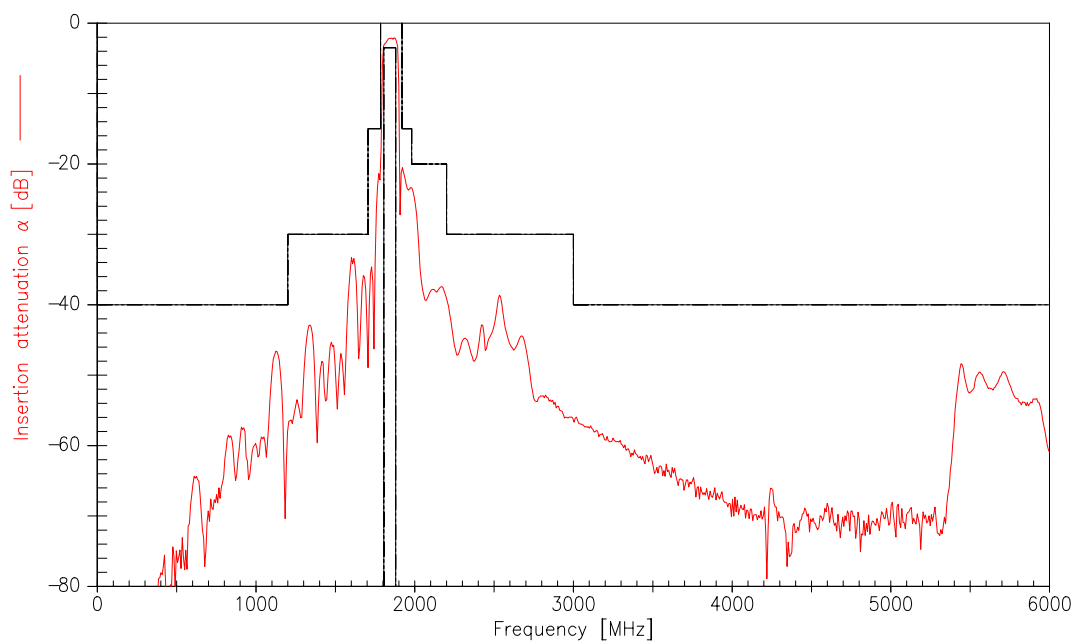
Operating Temperature Range: $T = -30$ to $+85^{\circ}\text{C}$
Terminating source impedance: $Z_S = 50\Omega$ (unbalanced)
Terminating load impedance: $Z_L = 200\Omega$ (balanced) $\parallel 18\text{nH}$

		min.	typ.	max.	
Center frequency	f_C	—	1842,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
1805,0 ... 1880,0 MHz		—	3,5	4,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1805,0 ... 1880,0 MHz		—	1,6	2,1	dB
Input VSWR					
1805,0 ... 1880,0 MHz		—	2,5	2,7	
Output VSWR					
1805,0 ... 1880,0 MHz		—	2,5	2,7	
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)					
1805,0 ... 1880,0 MHz		-12	—	+12	degree
Output amplitude balance ($ S_{31}/S_{21} $)					
1805,0 ... 1880,0 MHz		-1,4	—	1,4	dB
Attenuation	α				
0,0 ... 1200,0 MHz		40	47	—	dB
1200,0 ... 1705,0 MHz		30	36	—	dB
1705,0 ... 1785,0 MHz		9	12	—	dB
1920,0 ... 1980,0 MHz		10	20	—	dB
1980,0 ... 2200,0 MHz		20	22	—	dB
2200,0 ... 3000,0 MHz		30	38	—	dB
3000,0 ... 6000,0 MHz		40	48	—	dB

Transfer function (spec for 25°C)



Transfer function (wideband)





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