



SAW Components

Data Sheet B7716, Pb-Free

Data Sheet

A large, stylized graphic of a globe is shown in grayscale. The globe is tilted and has a grid of latitude and longitude lines. Overlaid on the globe is the word "EPCOS" in a large, white, sans-serif font. The letters are slightly transparent, allowing the globe's grid to be seen through them. The overall image has a dark, moody background.



SAW Components

B7716

Low-Loss Filter for Mobile Communication

1842,50 MHz

Data Sheet



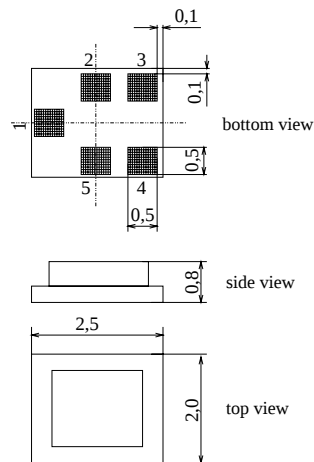
Chip sized SAW package **QCS5H**

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

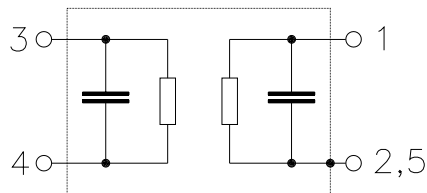
- Ni, gold-plated



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
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				

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



SAW Components

B7716

Low-Loss Filter for Mobile Communication

1842,50 MHz

Data Sheet



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



SAW Components

B7716

Low-Loss Filter for Mobile Communication

1842,50 MHz

Data Sheet



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



SAW Components

B7716

Low-Loss Filter for Mobile Communication

1842,50 MHz

Data Sheet

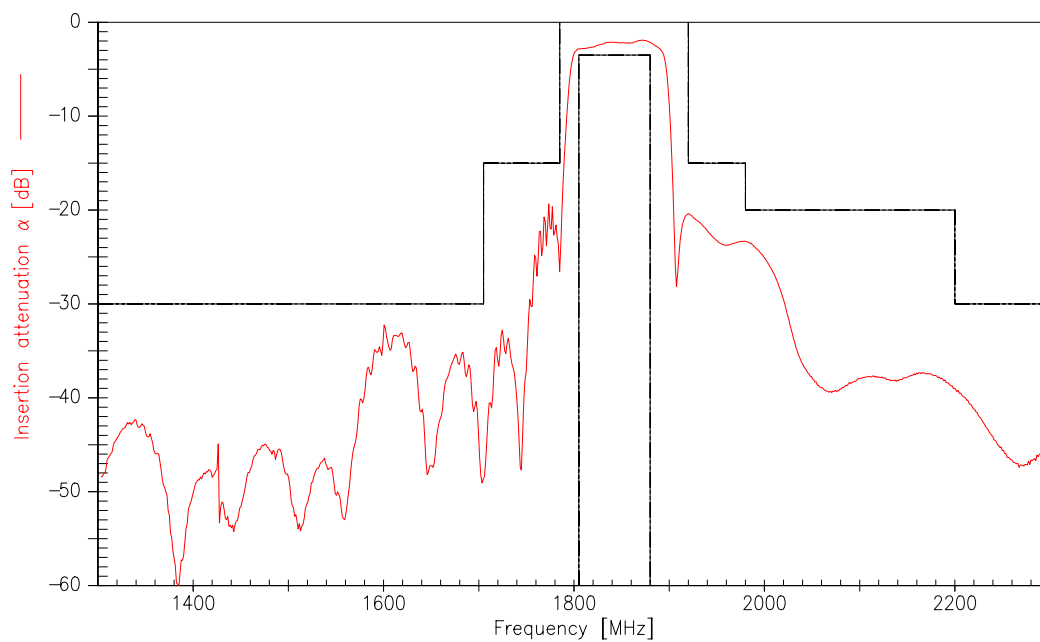


Characteristics

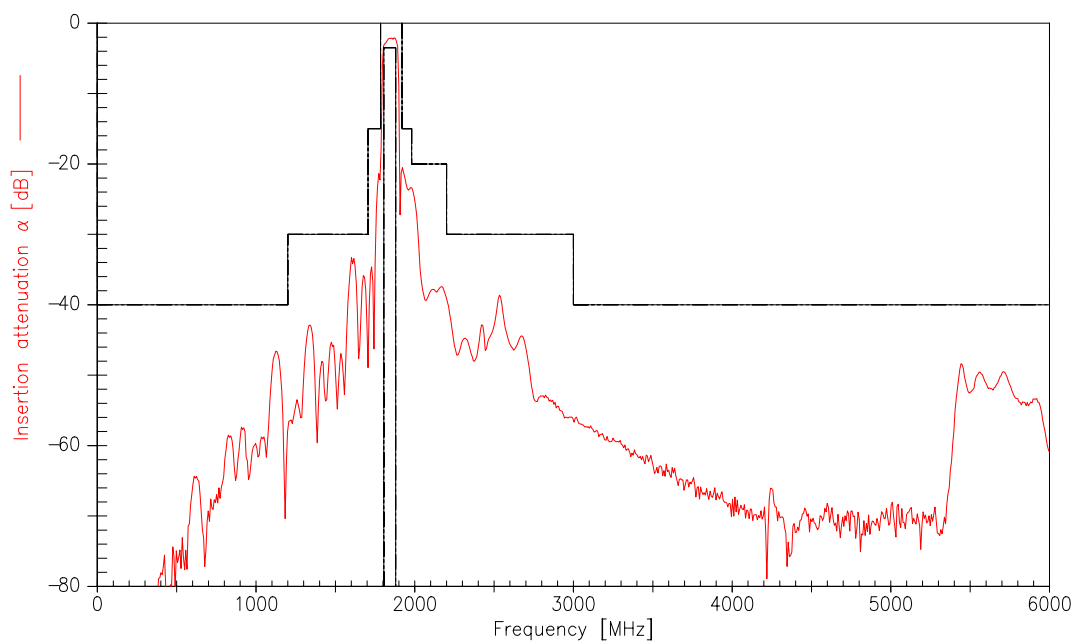
Operating Temperature Range: $T = -30$ to $+85^{\circ}\text{C}$
Terminating source impedance: $Z_S = 50\Omega$ (unbalanced)
Terminating load impedance: $Z_L = 200\Omega$ (balanced) $\parallel 18\text{nH}$

		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)





SAW Components	B7716
Low-Loss Filter for Mobile Communication	1842,50 MHz
Data Sheet	

Published by EPCOS AG

Surface Acoustic Wave Components Division, SAW MC PD

P.O. Box 80 17 09, D-81617 München

© EPCOS AG 2005. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices. the type in question please also contact one of our Sales Offices.