



SAW Components

Data Sheet B7716

Data Sheet

A large, stylized graphic of a globe with the word "EPCOS" written across it in a large, white, sans-serif font. The globe is rendered in shades of gray and white, with the word "EPCOS" appearing to be superimposed on it. The background is dark and textured.



SAW Components

B7716

Low-Loss Filter for Mobile Communication

1842,50 MHz

Data Sheet



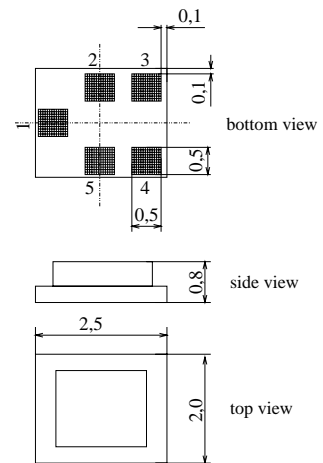
Chip sized SAW package

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 **S**urface **M**ounted **T**echnology (**SMT**)
- Ceramic SMD package

Terminals

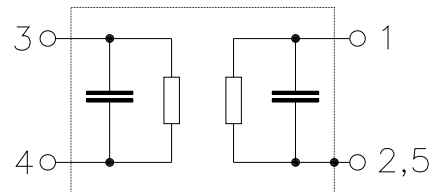
- Ni, gold-plated



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-B610	C61157-A7-A71	F61074-V8104-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable 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				



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	α_{\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



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) || 18nH

		min.	typ.	max.	
Center frequency	f_C	—	1842,5	—	MHz
Maximum insertion attenuation	α_{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



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) || 18nH

		min.	typ.	max.	
Center frequency	f_C	—	1842,5	—	MHz
Maximum insertion attenuation	α_{max}	—	3,5	4,0	dB
1805,0 ... 1880,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,6	2,1	dB
1805,0 ... 1880,0 MHz					
Input VSWR		—	2,5	2,7	
1805,0 ... 1880,0 MHz					
Output VSWR		—	2,5	2,7	
1805,0 ... 1880,0 MHz					
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)		-12	—	+12	degree
1805,0 ... 1880,0 MHz					
Output amplitude balance ($ S_{31}/S_{21} $)		-1,4	—	1,4	dB
1805,0 ... 1880,0 MHz					
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



SAW Components

B7716

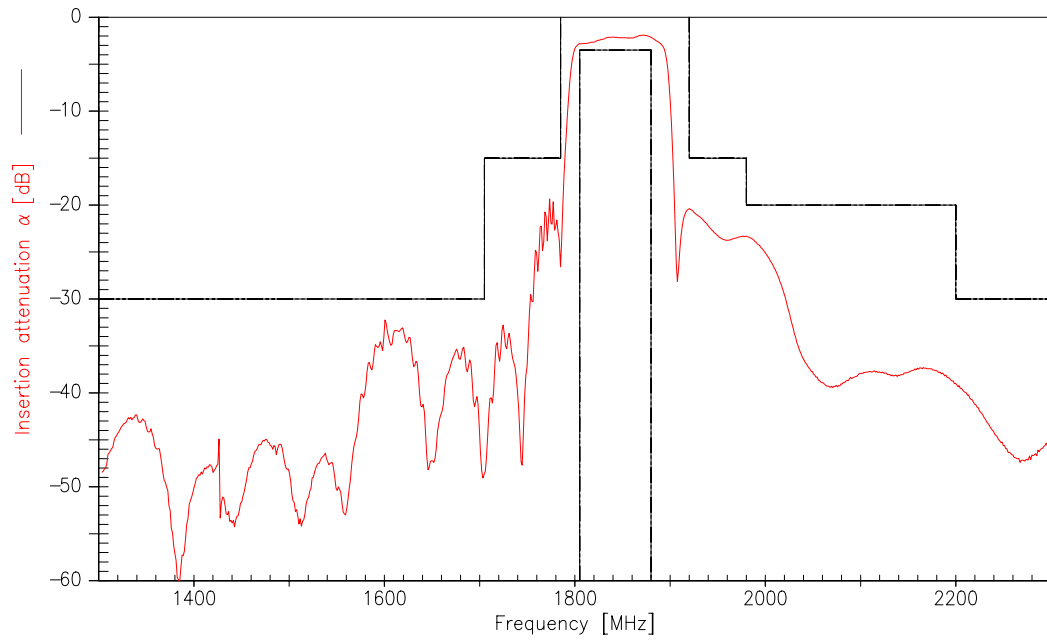
Low-Loss Filter for Mobile Communication

1842,50 MHz

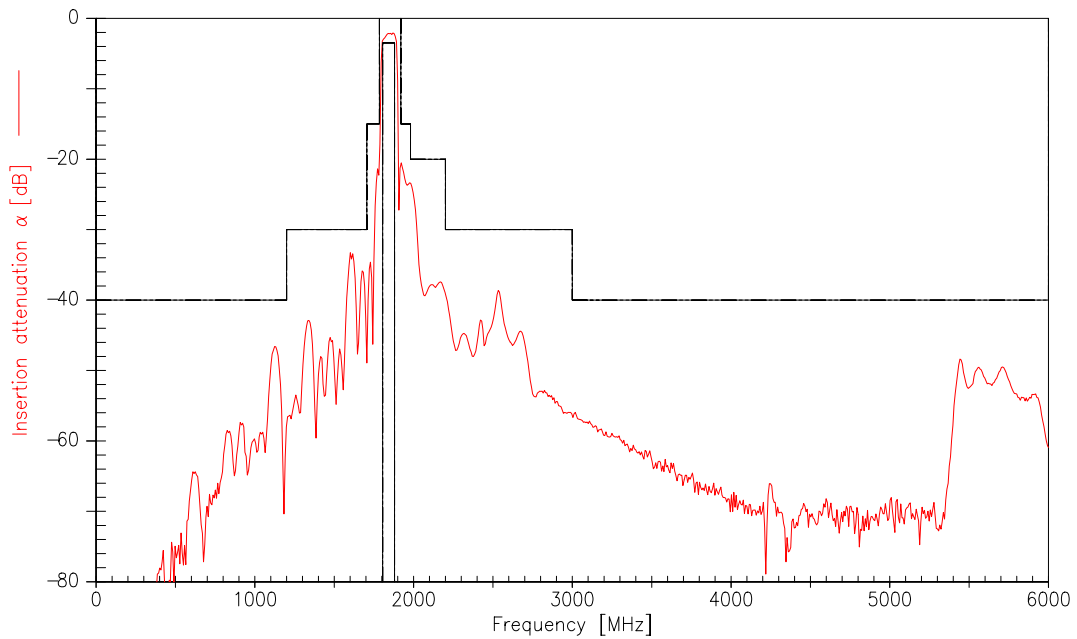
Data Sheet



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 WT

P.O. Box 80 17 09, D-81617 München

© EPCOS AG 2002. 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.