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SAW Components

Data Sheet B7716

Data Sheet

A large, stylized graphic of the EPCOS logo is overlaid on a grayscale globe. The globe shows the outlines of continents and is set against a dark background. The EPCOS logo is rendered in a light, glowing white color, appearing to be part of the globe's surface.



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

Data Sheet



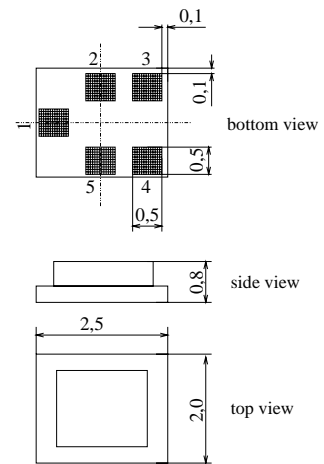
Chip sized SAW package

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

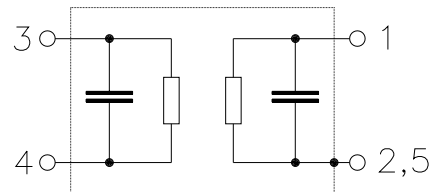
- Ni, gold-plated



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	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				



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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	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



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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) || 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



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Low-Loss Filter for Mobile Communication	1842,50 MHz

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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) || 18nH

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

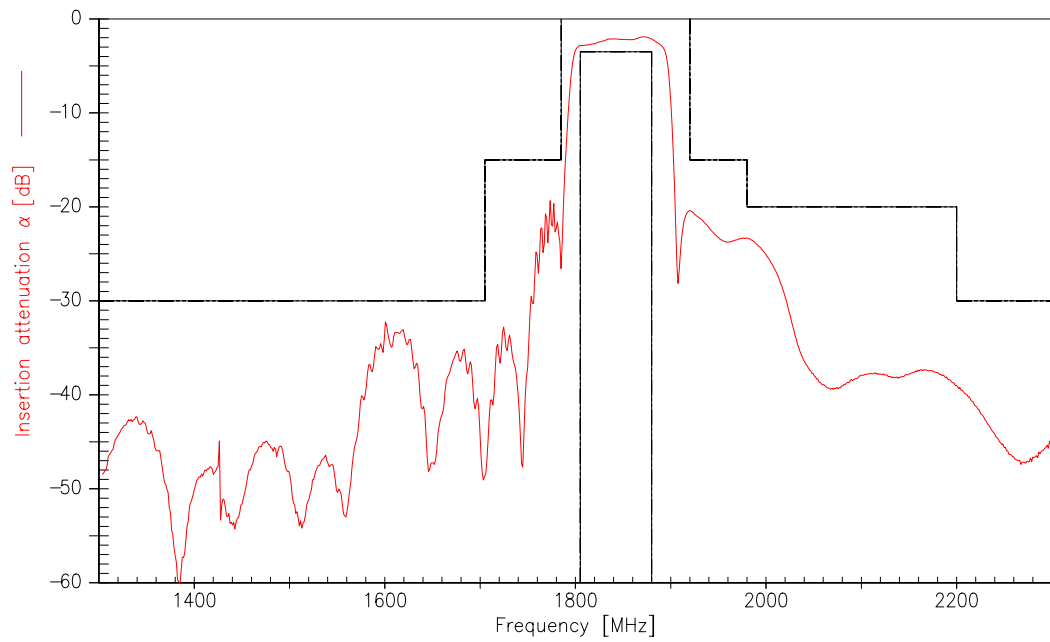


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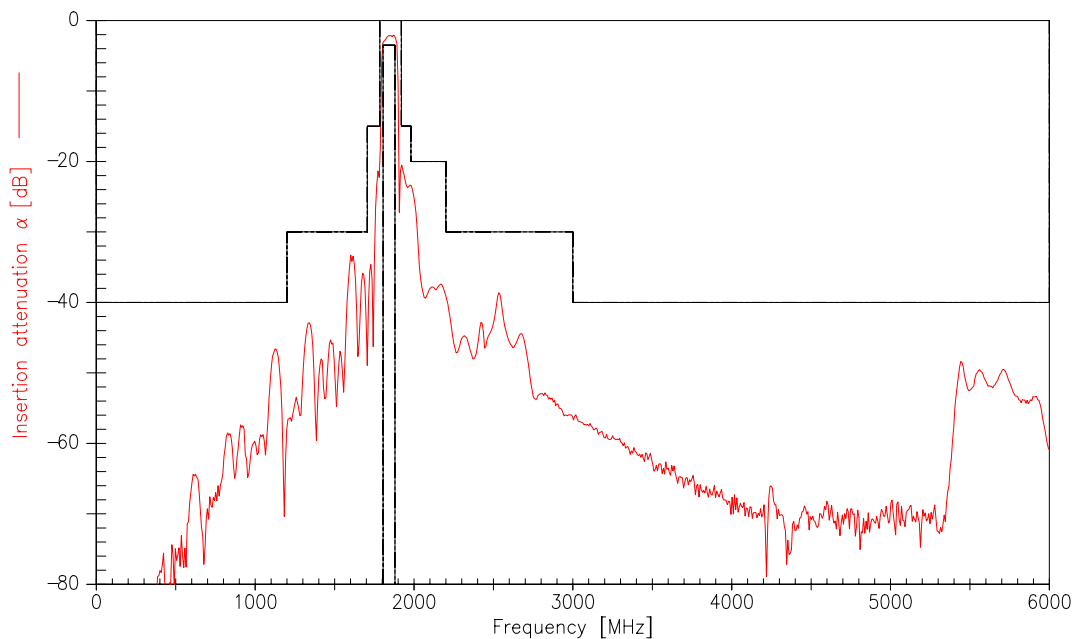
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Transfer function (spec for 25°C)



Transfer function (wideband)





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