



SAW Components

Data Sheet B7821

Data Sheet

An abstract, grayscale graphic featuring a stylized, glowing globe or sphere. The word "EPCOS" is written in large, white, sans-serif capital letters across the globe, appearing to be part of the design. The background is dark and textured with light rays or motion blur effects.



SAW Components

B7821

Low-Loss Filter for Mobile Communication

1842,50 MHz

Data Sheet



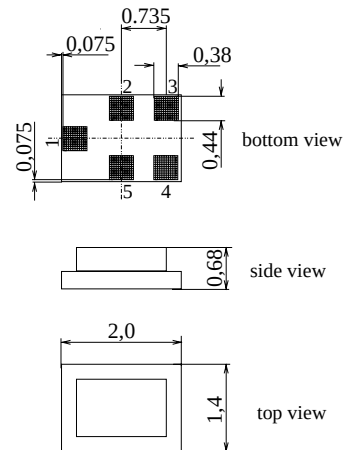
Chip sized SAW package QCS5C

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 150Ω
- Suitable for GPRS class 1 to 12
- Package for **Surface Mount Technology (SMT)**

Terminals

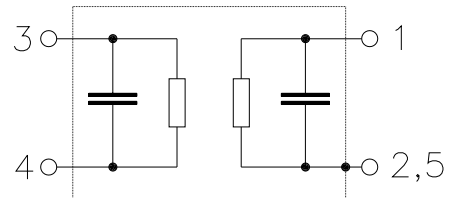
- Ni, gold-plated



Dimensions in mm, approx. weight 0,007 g

Pin configuration

- | | |
|------|-------------------|
| 1 | Input, unbalanced |
| 3, 4 | Output, balanced |
| 2, 5 | Case ground |



Type	Ordering code	Marking and Package according to	Packing according to
B7821	B39182-B7821-C710	C61157-A7-A111	F61074-V8151-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	$V_{ESD}^{1)}$	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				

1) -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: $Z_S = 50\Omega$ (unbalanced)
Terminating load impedance: $Z_L = 150\Omega$ (balanced) || 15 nH

		min.	typ.	max.	
Center frequency	f_C	—	1842,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
1805,0 ... 1880,0 MHz		—	2,2	2,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1805,0 ... 1880,0 MHz		—	0,7	1,5	dB
Input VSWR					
1805,0 ... 1880,0 MHz		—	2,0	2,3	
Output VSWR					
1805,0 ... 1880,0 MHz		—	1,8	2,2	
Output amplitude balance (S_{31} / S_{21})					
1805,0 ... 1880,0 MHz		-1,2	+0,6 / -1,0	1,2	dB
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$)					
1805,0 ... 1880,0 MHz		-12	+6 / -8	12	$^{\circ}$
Attenuation	α				
0,0 ... 1000,0 MHz		40	55	—	dB
1000,0 ... 1550,0 MHz		30	45	—	dB
1550,0 ... 1705,0 MHz		26	34	—	dB
1705,0 ... 1785,0 MHz		16	18	—	dB
1920,0 ... 1980,0 MHz		16	20	—	dB
1980,0 ... 2400,0 MHz		26	30	—	dB
2400,0 ... 5145,0 MHz		30	38	—	dB
5145,0 ... 5640,0 MHz		38	53	—	dB
5640,0 ... 6000,0 MHz		30	55	—	dB



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		min.	typ.	max.	
Center frequency	f_C	—	1842,5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$	—	2,4	3,2	dB
1805,0 ... 1880,0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,9	1,9	dB
1805,0 ... 1880,0 MHz					
Input VSWR		—	2,0	2,3	
1805,0 ... 1880,0 MHz					
Output VSWR		—	1,8	2,2	
1805,0 ... 1880,0 MHz					
Output amplitude balance (S_{21}/S_{31})		-1,2	+0,6 / -1,0	1,2	dB
1805,0 ... 1880,0 MHz					
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1705,0 ... 1785,0 MHz		12	18	—	dB
1920,0 ... 1980,0 MHz		15	20	—	dB
1980,0 ... 2400,0 MHz		22	30	—	dB
2400,0 ... 5145,0 MHz		30	38	—	dB
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5640,0 ... 6000,0 MHz		30	55	—	dB



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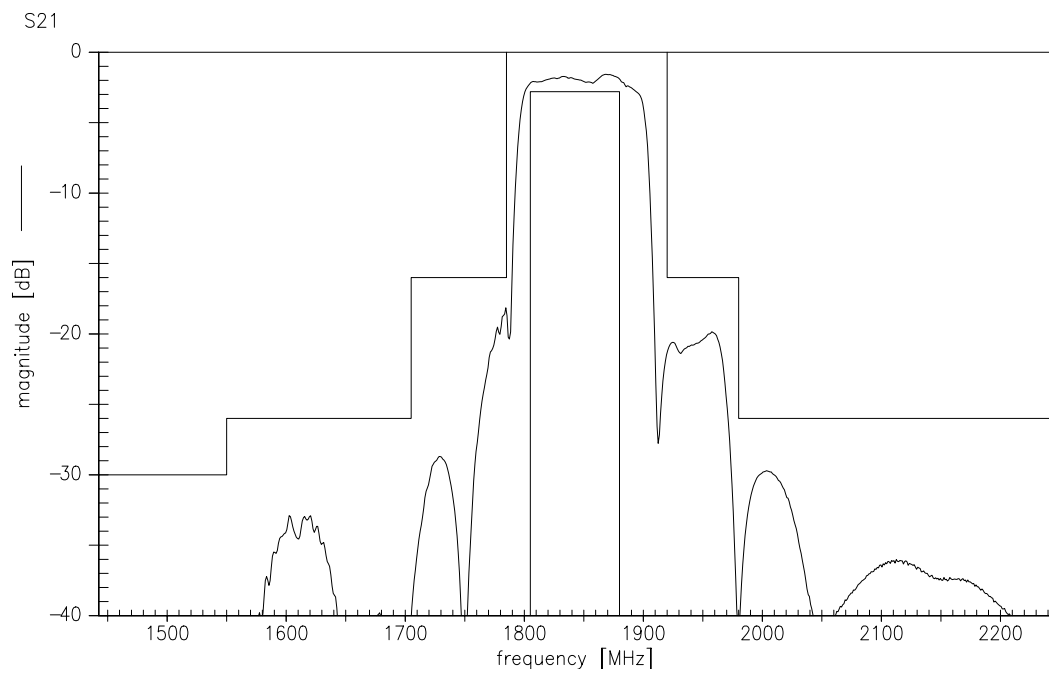
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1842,50 MHz

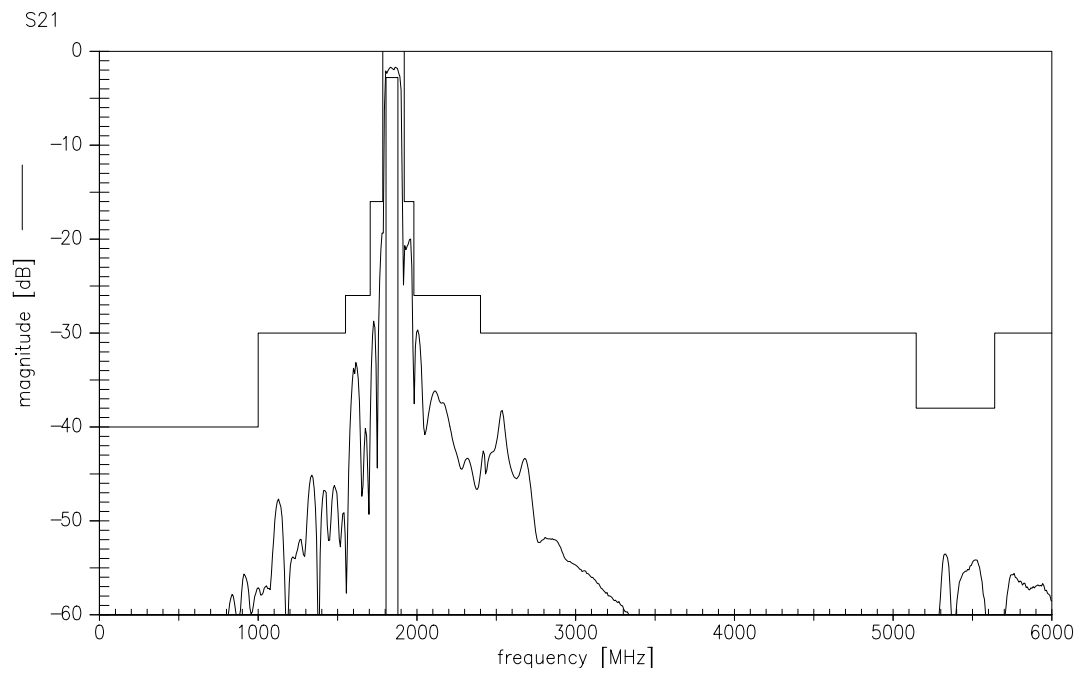
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Transfer function (spec for 25°C)



Transfer function (wideband)





SAW Components	B7821
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Data Sheet	SMD

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