



SAW filters for mobile communications

Series/Type: B4219

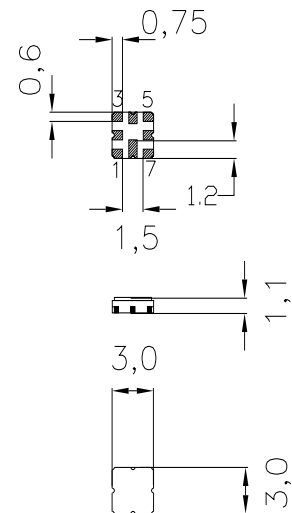
The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39202B4219U810		2009-07-31	2009-11-30	2010-02-28

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.


 Ceramic package **QCC8D**
Features

- Low-loss 2-in-1 RF filter for mobile telephone AMPS and PCS CDMA systems, receive path
- Device with two integrated Rx-filters
- Usable passband of PCS Rx filter: 60 MHz
- Usable passband of AMPS Rx-filter: 25 MHz
- No matching network required for operation at 50 Ω
- Package for **S**urface **M**ounted **T**echnology (**SMT**)



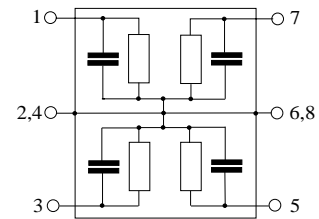
Dimensions in mm, approx. weight 0,037 g

Terminals

- Ni, gold-plated

Pin configuration

- | | |
|---------|-----------------------------|
| 1 | Input PCS filter |
| 7 | Output PCS filter |
| 3 | Input AMPS filter |
| 5 | Output AMPS filter |
| 2,4,6,8 | Case-ground, to be grounded |



Type	Ordering code	Marking and Package according to	Packing according to
B4219	B39202-B4219-U810	C61157-A7-A72	F61074-V8101-Z0000

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}	3	V	
Input power max.	P_{IN}	13	dBm	source and load impedance 50 Ω
824...849 MHz				continuous wave
1850...1910 MHz				continuous wave


Characteristics of PCS Rx filter

Operating temperature range: $T = -30$ to $+85$ °C
 Terminating source impedance: $Z_S = 50$ Ω
 Terminating load impedance: $Z_L = 50$ Ω

		min.	typ.	max.	
Center frequency	f_c	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}	—	3,7	4,3	dB
	1930,0... 1990,0MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,9	2,5	dB
	1930,0... 1990,0MHz				
Input return loss		10,0	11,5	—	dB
	1930,0... 1990,0 MHz				
Output return loss		10,0	11,5	—	dB
	1930,0... 1990,0 MHz				
Attenuation	α	20,0	22,0	—	dB
	30,0... 1850,0 MHz				
	2110,0... 2400,0 MHz	20,0	31,0	—	dB
Tx band suppression		13,0	20,0	—	dB
	1850,0... 1910,0 MHz				


Characteristics of PCS Rx filter

Operating temperature range: $T = -30$ to $+70$ °C
 Terminating source impedance: $Z_S = 50$ Ω
 Terminating load impedance: $Z_L = 50$ Ω

		min.	typ.	max.	
Center frequency	f_c	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}	—	3,7	4,2	dB
	1930,0... 1990,0MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,9	2,4	dB
	1930,0... 1990,0MHz				
Input return loss		10,0	12,0	—	dB
	1930,0... 1990,0 MHz				
Output return loss		10,0	12,0	—	dB
	1930,0... 1990,0 MHz				
Attenuation	α	20,0	22,0	—	dB
	30,0... 1850,0 MHz				
	2110,0... 2400,0 MHz	20,0	31,0	—	dB
Tx band suppression		15,0	20,0	—	dB
	1850,0... 1910,0 MHz				


Characteristics of PCS Rx filter

 Operating temperature range: $T = 25 \pm 2^\circ\text{C}$

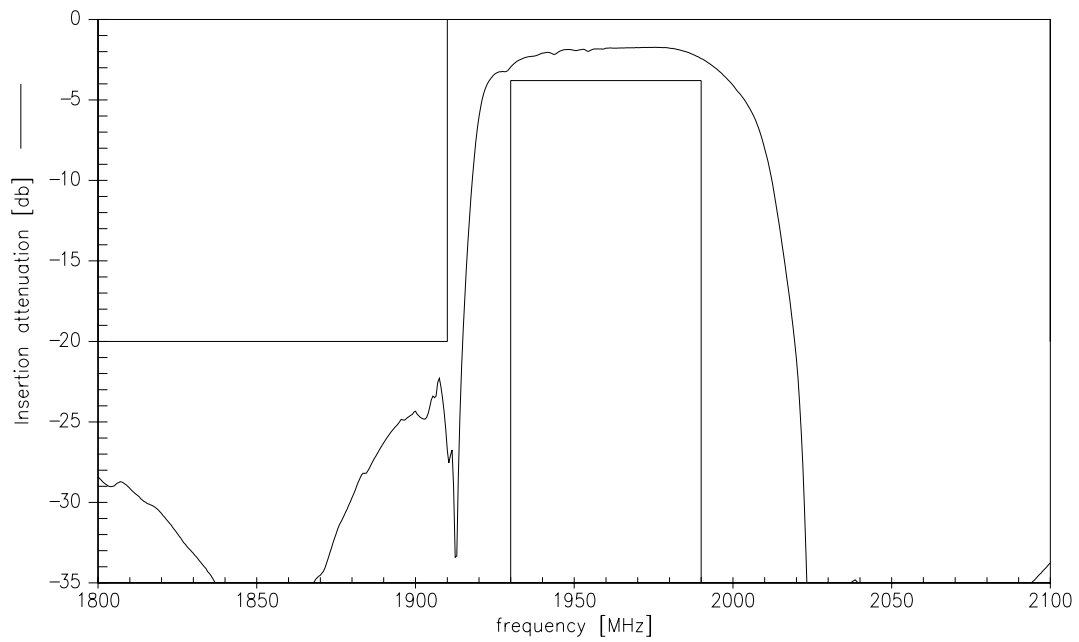
 Terminating source impedance: $Z_S = 50 \Omega$

 Terminating load impedance: $Z_L = 50 \Omega$

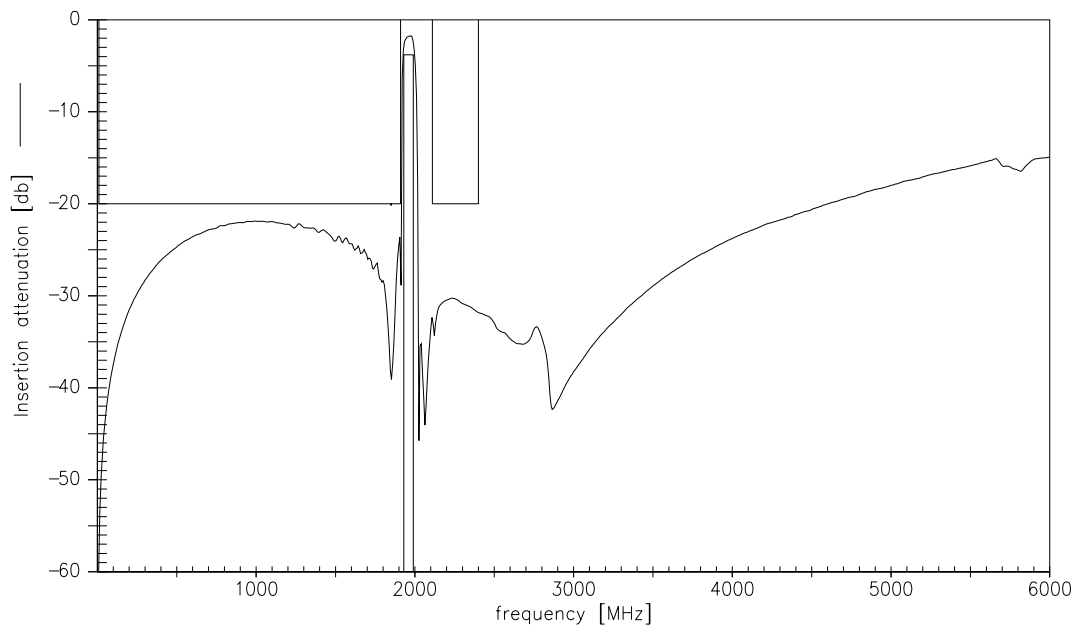
		min.	typ.	max.	
Center frequency	f_c	—	1960,0	—	MHz
Maximum insertion attenuation	α_{\max}	—	3,4	3,7	dB
1930,0...1990,0MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,6	1,9	dB
1930,0...1990,0MHz					
Input return loss		10,0	12,5	—	dB
1930,0...1990,0 MHz					
Output return loss		10,0	12,5	—	dB
1930,0...1990,0 MHz					
Attenuation	α	20,0	22,0	—	dB
30,0...1850,0 MHz					
		20,0	31,0	—	dB
2110,0...2400,0 MHz					
Tx band suppression		20,0	22,0	—	dB
1850,0...1910,0 MHz					



Transfer function of the PCS filter (narrow band measurement)

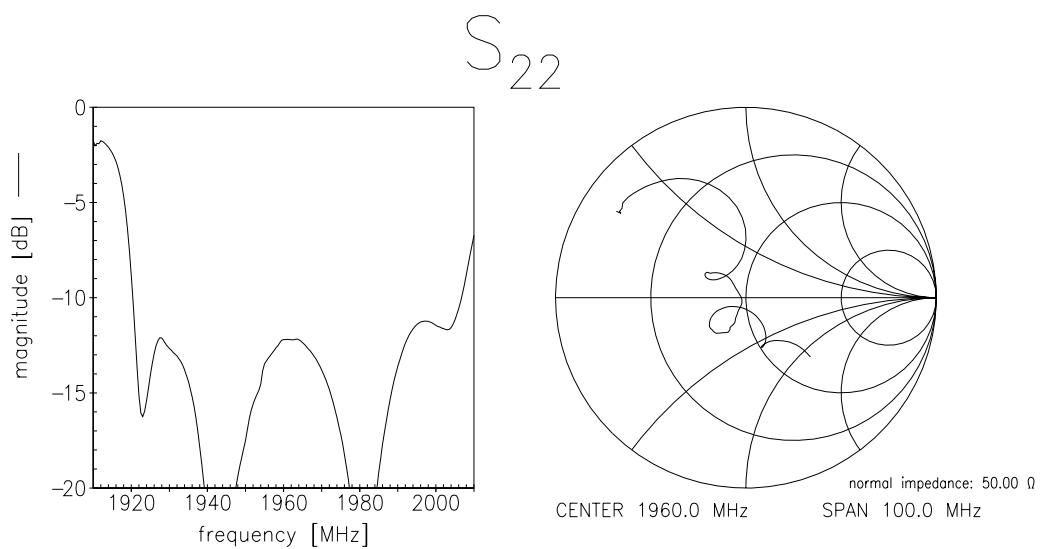
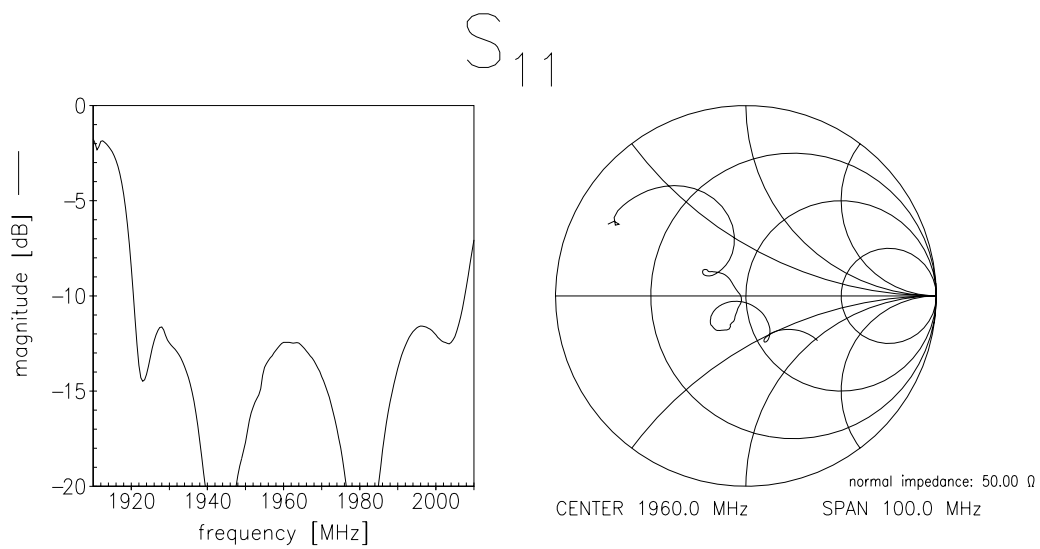


Transfer function of the PCS filter (wide band measurement)





Reflection coefficients of the PCS filter (measurement)




Characteristics of AMPS Rx filter

Operating temperature range: $T = -30$ to $+70$ °C *
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 50 \Omega$

		min.	typ.	max.	
Center frequency	f_c	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}	—	2,5	3,0	dB
869,0...894,0MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,9	1,4	dB
869,0...894,0MHz					
Input return loss		10,0	12,0	—	dB
869,0...894,0 MHz					
Output return loss		10,0	13,0	—	dB
869,0...894,0 MHz					
Attenuation	α				
30,0...824,0MHz		35,0	42,0	—	dB
1050,0...1080,0MHz		38,0	42,0	—	
1080,0...2300,0MHz		30,0	31,5	—	
2300,0...2600,0MHz		25,0	30,0	—	
Tx band suppression		35,0	40,0	—	dB
824,0...849,0MHz					

* all values also fulfill the temperature range -30 to $+85$ °C

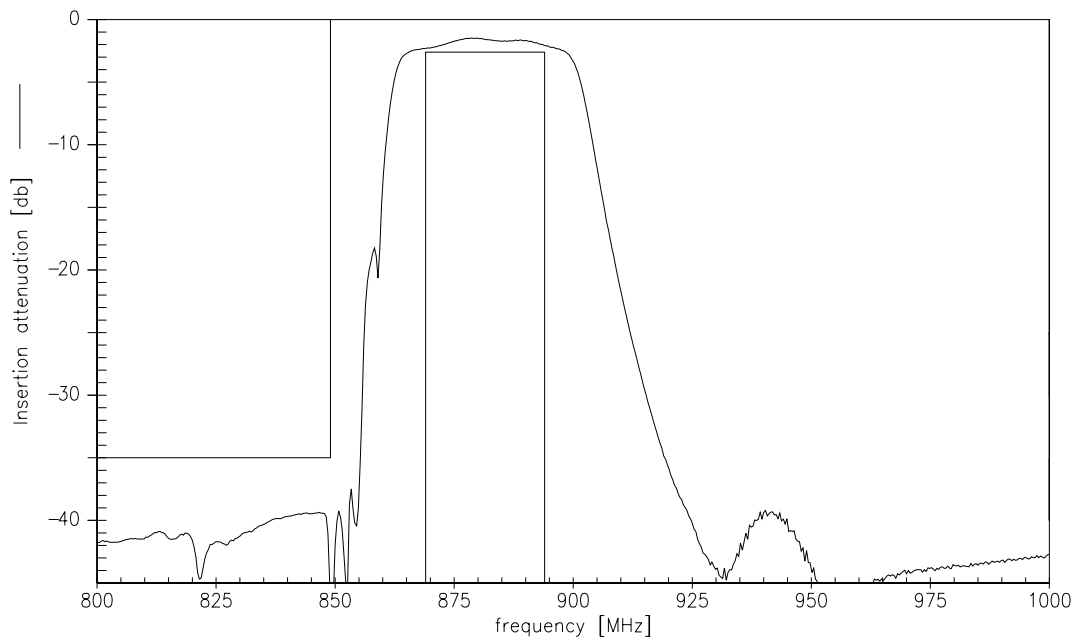

Characteristics of AMPS Rx filter

Operating temperature range: $T = 25 \pm 2 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega$
 Terminating load impedance: $Z_L = 50 \text{ } \Omega$

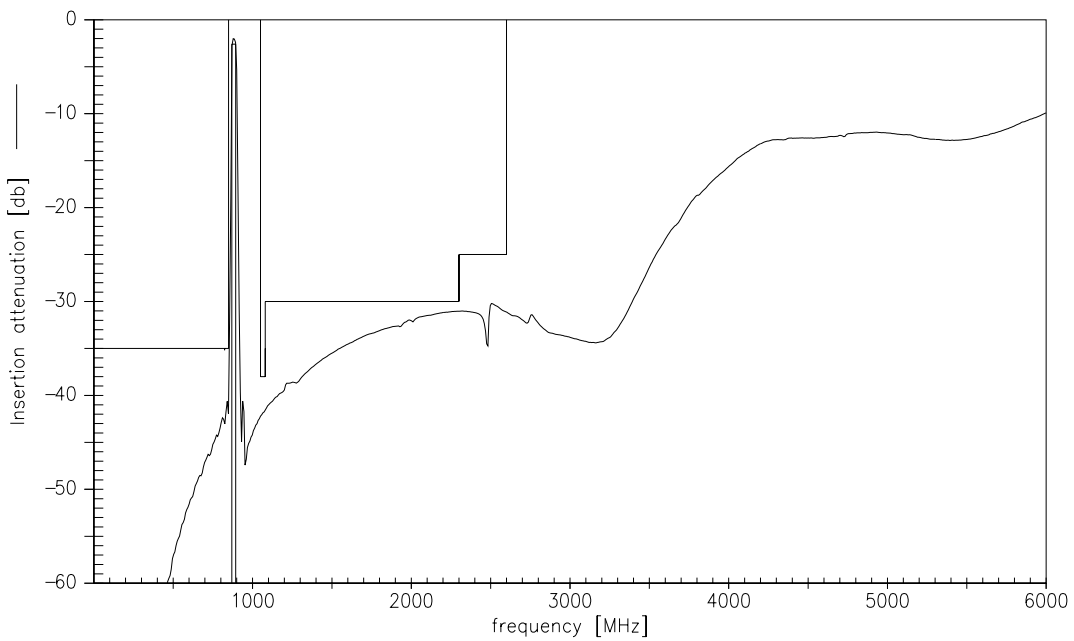
		min.	typ.	max.	
Center frequency	f_c	—	881,5	—	MHz
Maximum insertion attenuation	α_{\max}	—	2,4	2,6	dB
869,0...894,0MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,6	1,1	dB
869,0...894,0MHz					
Input return loss		10,0	12,5	—	dB
869,0...894,0 MHz					
Output return loss		10,0	13,5	—	dB
869,0...894,0 MHz					
Attenuation	α				
30,0...824,0MHz		35,0	42,0	—	dB
1050,0...1080,0MHz		38,0	42,0	—	
1080,0...2300,0MHz		30,0	31,5	—	
2300,0...2600,0MHz		25,0	30,0	—	
Tx band suppression		35,0	40,0	—	dB
824,0...849,0MHz					



Transfer function of the AMPS filter (narrow band measurement)

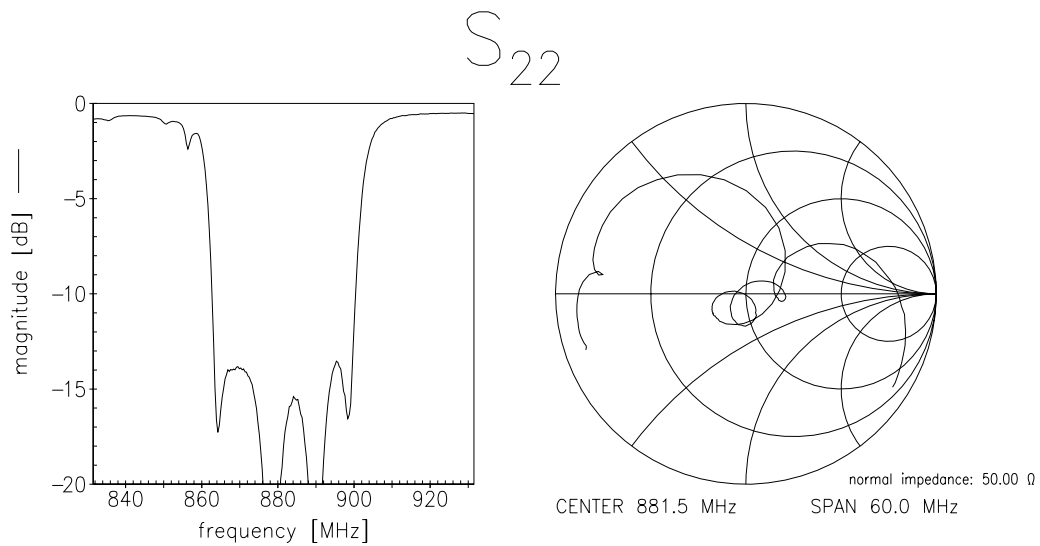
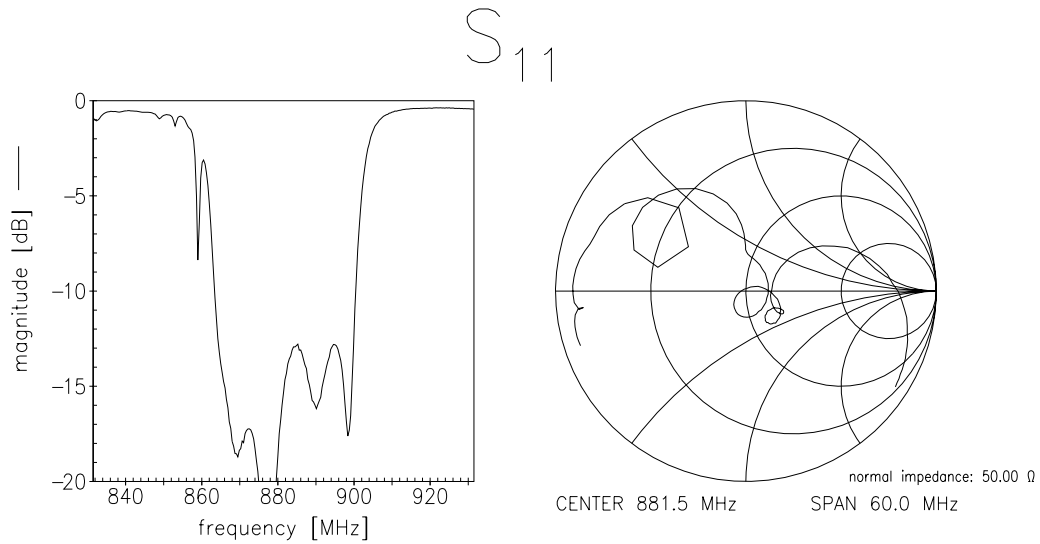


Transfer function of the AMPS filter (wide band measurement)





Reflection coefficients of the AMPS filter (measurement)



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