



SAW Components

Data Sheet B9202





SAW Components

B9202

Low-Loss Dual Band Filter for Mobile Communication

942,5 / 1842,5 MHz

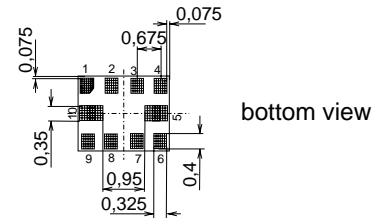
Data Sheet



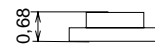
Chip sized SAW package **QCS10F**

Features

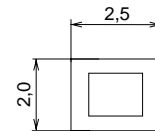
- Low-loss RF filter for mobile telephone EGSM and PCN system , receive path
- Usable passband:
Filter 1 (EGSM): 35 MHz
Filter 2 (PCN): 75 MHz
- Unbalanced to balanced operation of both filters
- Impedance transformation from 50 Ω to 150 Ω for both filters
- Suitable for GPRS Class 1 to 12
- Ceramic package for **Surface Mounted Technology (SMT)**



bottom view



side view



top view

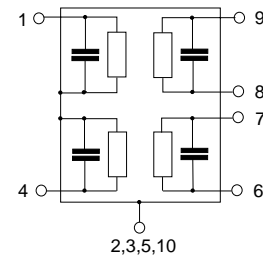
Dimensions in mm, approx. weight 12mg

Terminals

- Ni, gold-plated

Pin configuration

- 1 Input [Filter 1]
- 4 Input [Filter 2]
- 6, 7 Output, balanced [Filter 2]
- 8, 9 Output, balanced [Filter 1]
- 2, 3, 5,10 Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B9202	B39182-B9202-G810	C61157-A7-A133	F61074-V8153-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 40 / + 85	°C	Machine Model, 10 pulses
Storage temperature range	T_{stg}	- 40 / + 85	°C	
DC voltage	V_{DC}	3	V	
ESD voltage	V_{ESD}^*	50*	V	
Input power at GSM850, GSM900, GSM1800, GSM1900 Tx bands:				peak power of GSM signal, duty cycle 4:8
Filter 1 (EGSM-Rx)	P_{IN}	15	dBm	
Filter 2 (PCN-Rx)	P_{IN}	12	dBm	

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



Characteristics Filter 1 (EGSM)

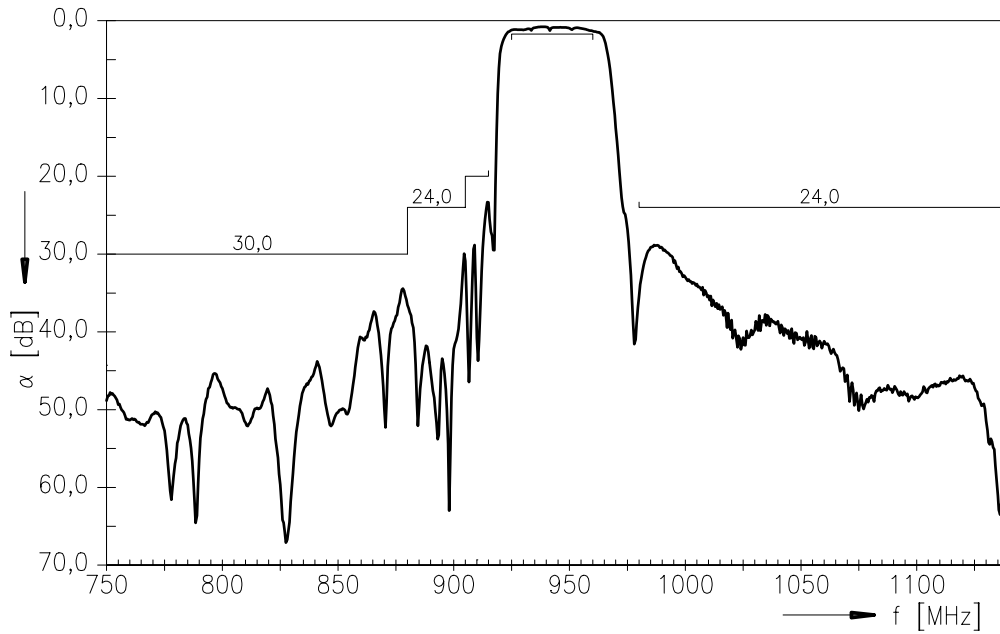
Operating temperature range: $T = -20$ to $+75^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$ (unbalanced)
 Terminating load impedance: $Z_L = 150\ \Omega$ (balanced) || 56nH

			min.	typ.	max.	
Center frequency	f_c		—	942,5	—	MHz
Maximum insertion attenuation	α_{max}	925,0 ... 960,0 MHz	—	1,5	2,1	dB
		925,0 ... 960,0 MHz 1)	—	1,4	1,7	dB
Amplitude ripple (p-p)	$\Delta\alpha$	925,0 ... 960,0 MHz	—	0,7	1,4	dB
		925,0 ... 960,0 MHz 1)	—	0,6	1,0	dB
Input VSWR		925,0 ... 960,0 MHz	—	1,8	2,0	
Output VSWR		925,0 ... 960,0 MHz	—	1,7	2,0	
Output amplitude balance (S_{31}/S_{21})		925,0 ... 960,0 MHz	-1,0	-0,6/+0,5	1,0	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^{\circ}$)		925,0 ... 960,0 MHz	-10	-2/+3	10	degree
Attenuation	α_{min}	10,0 ... 480,0 MHz	45	54	—	dB
		480,0 ... 880,0 MHz	30	34	—	dB
		880,0 ... 905,0 MHz	24	30	—	dB
		905,0 ... 915,0 MHz	20	23	—	dB
		980,0 ... 1500,0 MHz	24	29	—	dB
		1500,0 ... 6000,0 MHz	30	44	—	dB

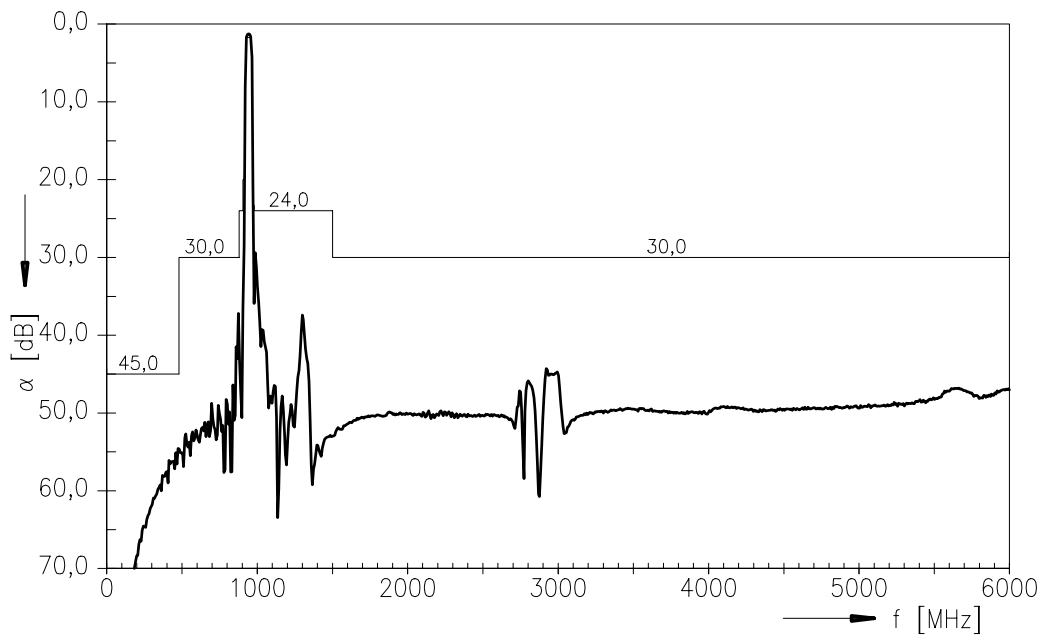
1) $T = +25 \pm 2^{\circ}\text{C}$



Transfer function Filter 1 (EGSM)



Transfer function Filter 1 (EGSM) - wideband





Characteristics Filter 2 (PCN)

Operating temperature range:

$T = -20$ to $+75^{\circ}\text{C}$

Terminating source impedance:

$Z_S = 50 \Omega$ (unbalanced)

Terminating load impedance:

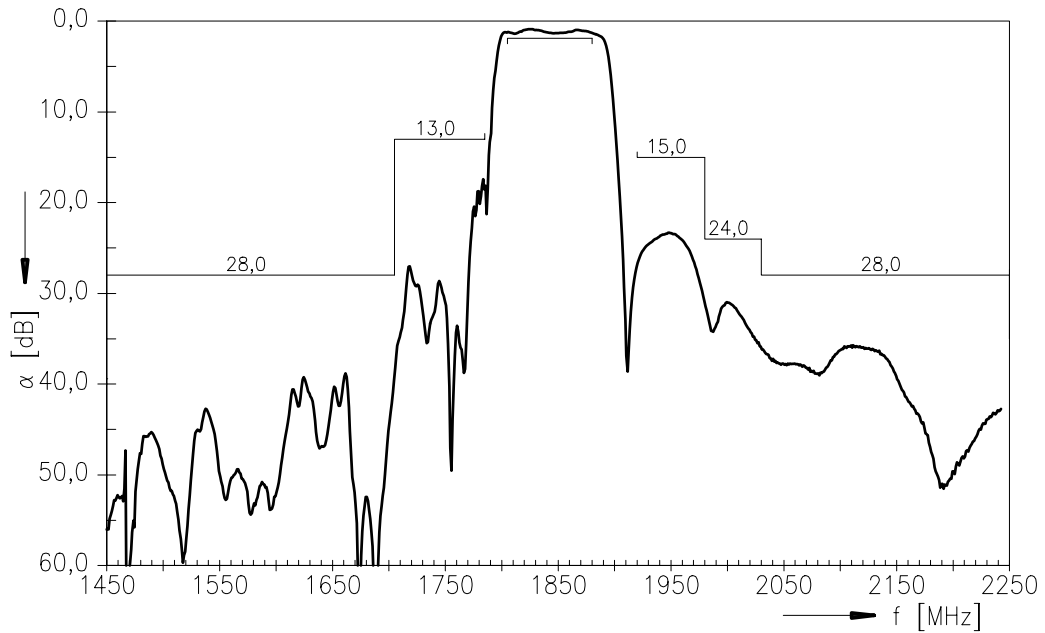
$Z_L = 150 \Omega$ (balanced) || 12nH

			min.	typ.	max.	
Center frequency	f_c		—	1842,5	—	MHz
Maximum insertion attenuation	α_{max}					
	1805,0 ... 1880,0	MHz	—	1,5	2,2	dB
	1805,0 ... 1880,0	MHz 1)	—	1,4	1,9	dB
Amplitude ripple (p-p)	$\Delta\alpha$					
	1805,0 ... 1880,0	MHz	—	0,7	1,4	dB
	1805,0 ... 1880,0	MHz 1)	—	0,6	1,1	dB
Input VSWR						
	1805,0 ... 1880,0	MHz	—	2,0	2,3	
Output VSWR						
	1805,0 ... 1880,0	MHz	—	1,9	2,2	
Output amplitude balance (S_{31}/S_{21})						
	1805,0 ... 1880,0	MHz	-1,0	-0,6/+0,6	1,0	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^{\circ}$)						
	1805,0 ... 1880,0	MHz	-10	-4/+4	10	degree
Attenuation	α_{min}					
	10,0 ... 1000,0	MHz	40	54	—	dB
	1000,0 ... 1705,0	MHz	28	38	—	dB
	1705,0 ... 1785,0	MHz	13	18	—	dB
	1920,0 ... 1980,0	MHz	15	23	—	dB
	1980,0 ... 2030,0	MHz	24	30	—	dB
	2030,0 ... 2775,0	MHz	28	36	—	dB
	2775,0 ... 5640,0	MHz	35	49	—	dB
	5640,0 ... 6000,0	MHz	28	49	—	dB

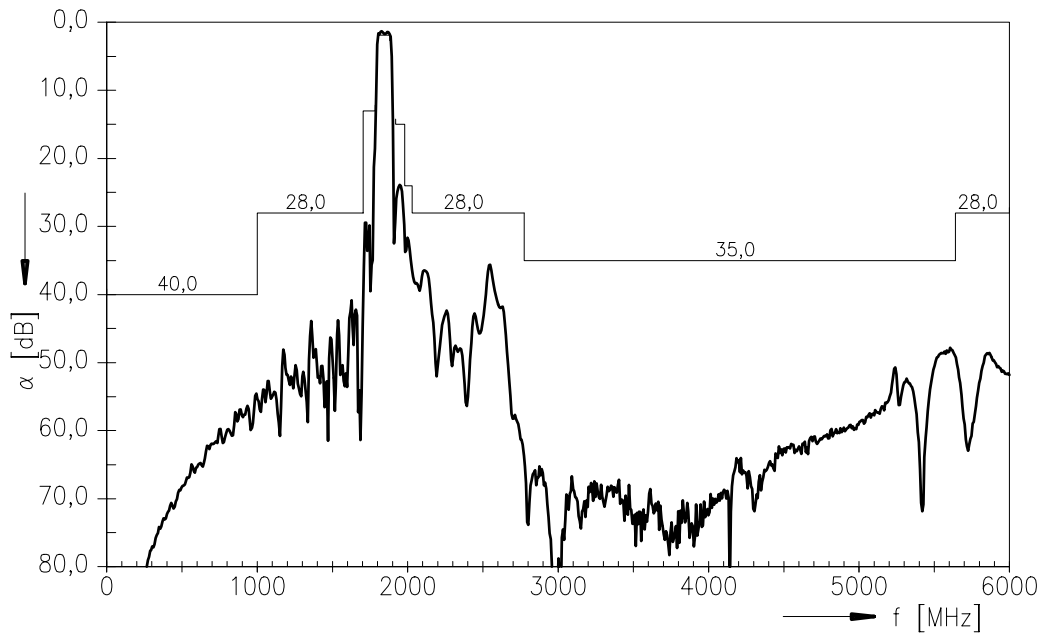
1) $T = +25 \pm 2^{\circ}\text{C}$



Transfer function Filter 2 (PCN)



Transfer function Filter 2 (PCN) - wideband





SAW Components

B9202

Low-Loss Dual Band Filter for Mobile Communication

942,5 / 1842,5 MHz

Data Sheet



Published by EPCOS AG

Surface Acoustic Wave Components Division, SAW MC WT

P.O. Box 80 17 09, 81617 Munich, GERMANY

© EPCOS AG 2004. 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.