



SAW Components

Data Sheet B9307





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Low-Loss Dual Band Filter for Mobile Communication

942,5 / 1842,5 MHz

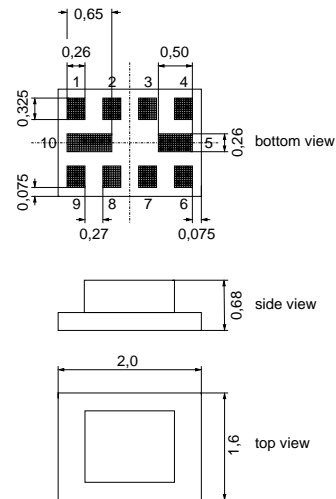
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Chip Sized Saw Package QCS10H

Features

- Low-loss 2in1 RF filter for mobile telephone GSM900/1800 systems, receive path
- Usable passband:
 Filter 1 (GSM900): 35 MHz
 Filter 2 (GSM1800): 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)**



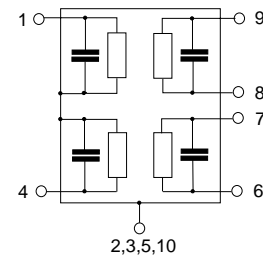
Dimensions in mm, approx. weight 0,008g.

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
B9307	B39182-B9307-G110	C61157-A7-A141	F61074-V8152-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}	5	V	
ESD voltage	V_{ESD}	50*	V	
Input power at GSM850, GSM900, GSM1800, GSM1900 Tx bands:				effective power in the on-state, duty cycle 4:8
Filter 1 (GSM900)	P_{IN}	15	dBm	
Filter 2 (GSM1800)	P_{IN}	15	dBm	

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



Characteristics Filter 1 (GSM900)

Operating temperature range: $T = -20$ to $+75^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 150\ \Omega \parallel 82\text{nH}$ (balanced)

				min.	typ.	max.	
Center frequency	f_c			—	942,5	—	MHz
Maximum insertion attenuation	α_{max}	925,0 ... 960,0 MHz		—	1,5	2,0	dB
		925,0 ... 960,0 MHz	1)	—	1,4	1,7	dB
Amplitude ripple (p-p)	$\Delta\alpha$	925,0 ... 960,0 MHz		—	0,8	1,2	dB
Input VSWR		925,0 ... 960,0 MHz		—	1,9	2,1	
Output VSWR		925,0 ... 960,0 MHz		—	1,9	2,1	
Output amplitude balance (S_{31} / S_{21})		925,0 ... 960,0 MHz		-1,0	-0,6/+0,7	1,0	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^{\circ}$)		925,0 ... 960,0 MHz		-10	-2/+2	10	degree
Attenuation	α_{min}	10,0 ... 480,0 MHz		45	53	—	dB
		480,0 ... 905,0 MHz		30	34	—	dB
		905,0 ... 915,0 MHz		20	25	—	dB
		980,0 ... 1000,0 MHz		25	28	—	dB
		1000,0 ... 1850,0 MHz		28	38	—	dB
		1850,0 ... 1920,0 MHz		40	59	—	dB
		1920,0 ... 6000,0 MHz		35	48	—	dB

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



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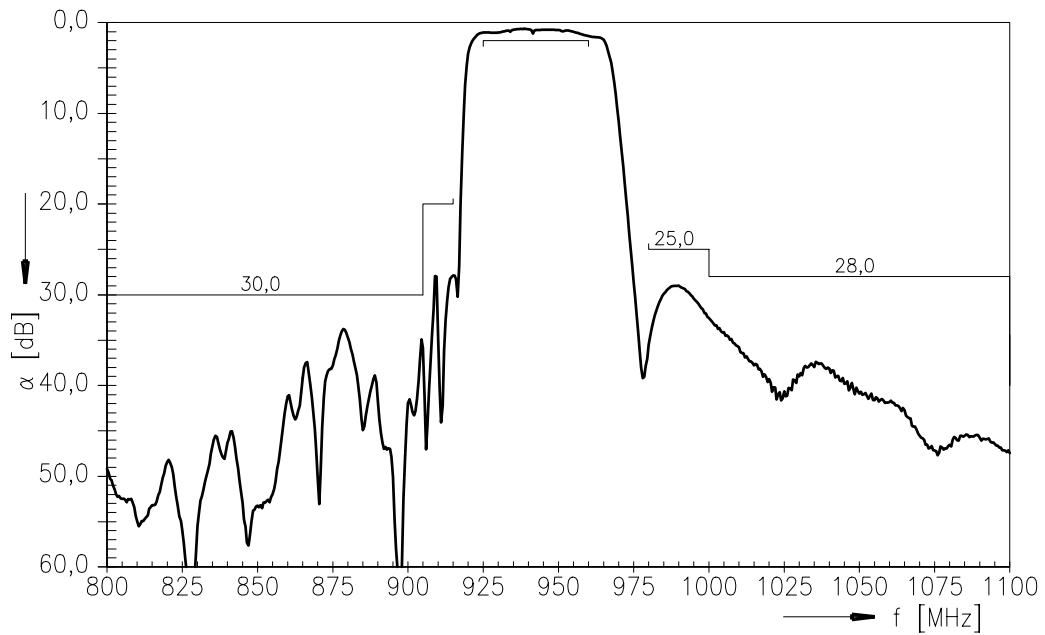
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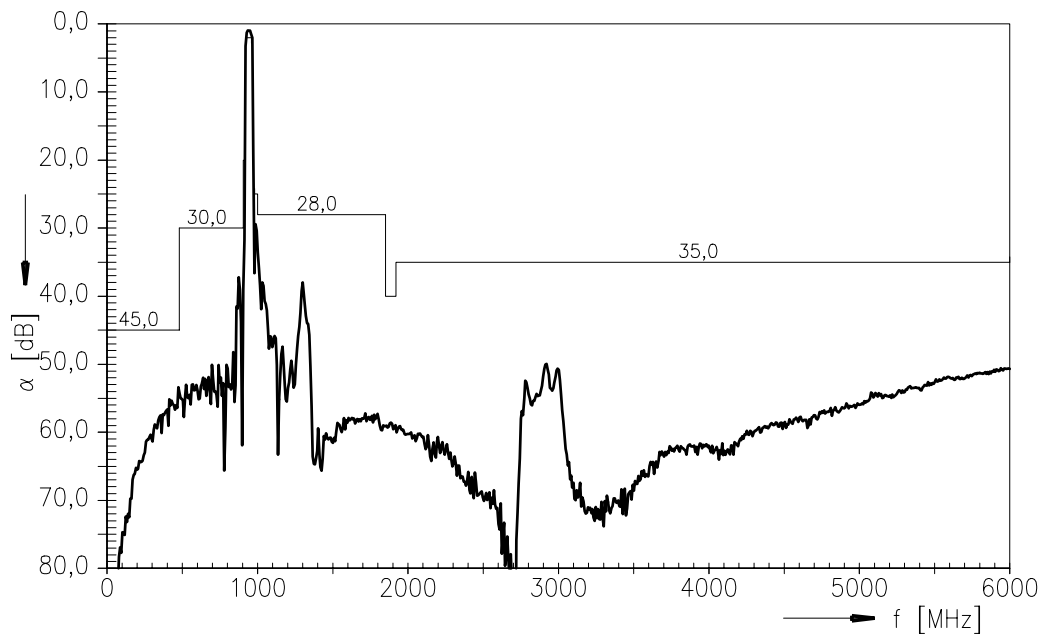
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Transfer Function Filter 1 (GSM900)



Transfer Function Filter 1 (GSM900) - wideband





Characteristics Filter 2 (GSM1800)

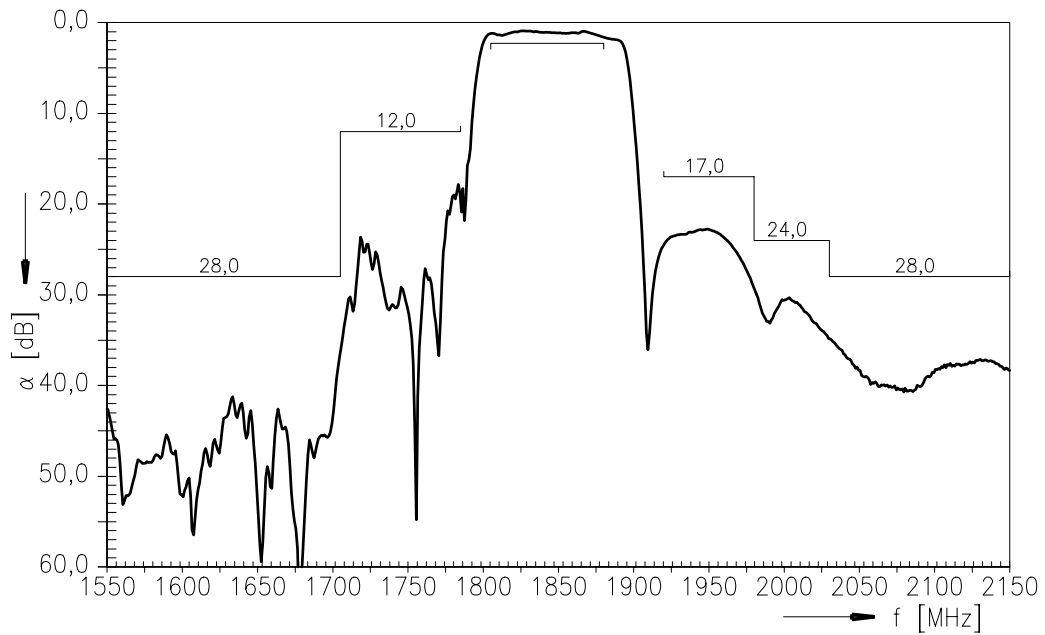
Operating temperature range: $T = -20$ to $+75^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 150\ \Omega \parallel 15\text{nH}$ (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	1842,5	—	MHz
Maximum insertion attenuation	α_{max}	—	1,8	2,3	dB
	1805,0 ... 1880,0 MHz	—	1,6	2,1	
	1805,0 ... 1880,0 MHz 1)	—	1,6	2,1	dB
Amplitude ripple (p-p)	$\Delta\alpha$	—	0,7	1,3	dB
	1805,0 ... 1880,0 MHz	—	0,7	1,3	
Input VSWR		—	1,8	2,2	
	1805,0 ... 1880,0 MHz	—	1,8	2,2	
Output VSWR		—	1,7	2,2	
	1805,0 ... 1880,0 MHz	—	1,7	2,2	
Output amplitude balance (S_{31} / S_{21})		-1,0	-0,7/+0,5	+1,0	dB
	1805,0 ... 1880,0 MHz	-1,0	-0,7/+0,5	+1,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^{\circ}$)		-10	-3/+3	+10	°
	1805,0 ... 1880,0 MHz	-10	-3/+3	+10	
Attenuation	α	40	52	—	dB
	10,0 ... 940,0 MHz	40	52	—	
	940,0 ... 1705,0 MHz	28	42	—	
	1705,0 ... 1785,0 MHz	12	15	—	
	1920,0 ... 1980,0 MHz	17	23	—	
	1980,0 ... 2030,0 MHz	24	28	—	
	2030,0 ... 2775,0 MHz	28	34	—	
	2775,0 ... 5640,0 MHz	38	43	—	
5640,0 ... 6000,0 MHz	28	43	—		

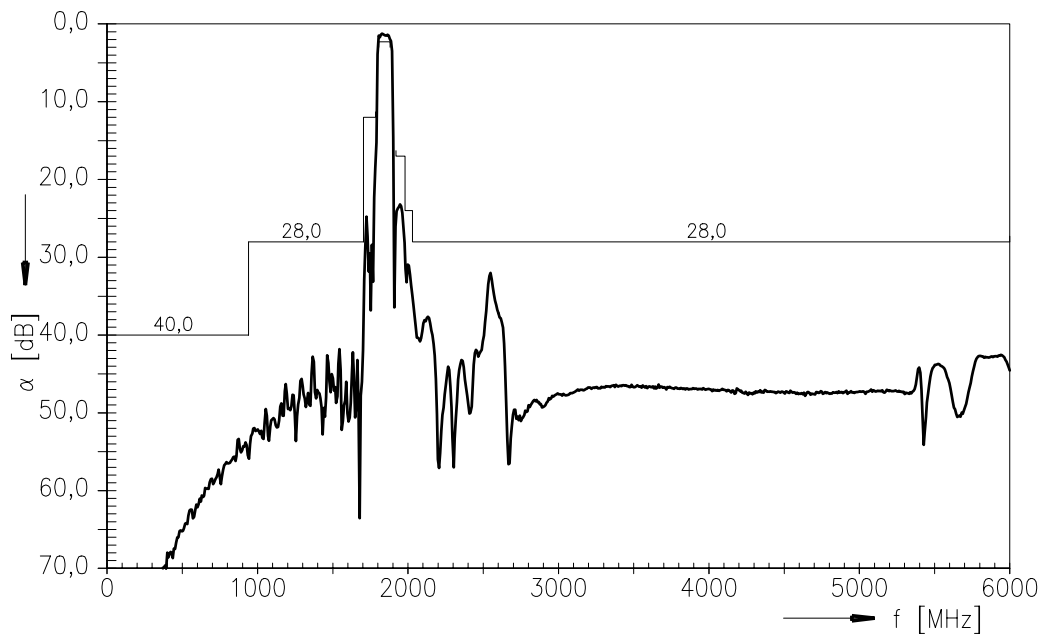
1) $T = +25 \pm 2^{\circ}\text{C}$



Transfer Function Filter 2 (GSM1800)



Transfer Function Filter 2 (GSM1800) - wideband





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Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC
P.O. Box 80 17 09, 81617 Munich, GERMANY

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