



# SAW Components

Data Sheet B3876





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Low-Loss Filter

174,20 MHz

Data Sheet

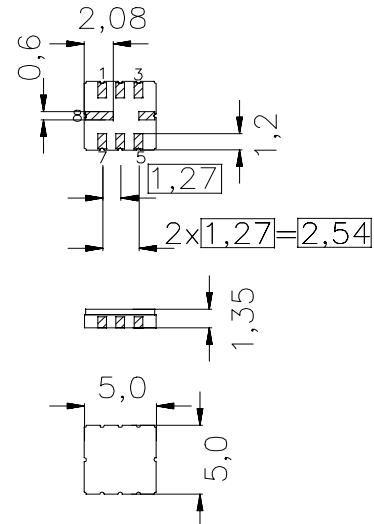
Ceramic package **QCC8C**

Features

- Low-loss IF filter for GSM base station
- Usable passband 200 kHz
- Ceramic SMD package

Terminals

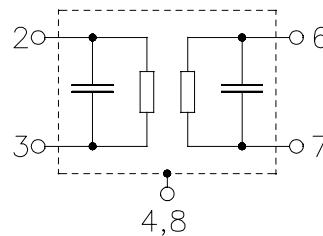
- Gold plated



Dimensions in mm, approx. weight 0,116 g

Pin configuration

- 3 Input
- 2 Input or input ground
- 7 Output
- 6 Output ground
- 4, 8 Case ground
- 1, 5 to be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B3876	B39171-B3876-U310	C61157-A7-A56	F61074-V8169-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	$T$	-40/ +85	°C	
Storage temperature range	$T_{stg}$	-40/ +85	°C	
DC voltage	$V_{DC}$	0	V	
Source power	$P_s$	10	dBm	



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**Characteristics**

Operating temperature:  $T = 25 \pm 2 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 200 \text{ } \Omega$  and matching network  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

			<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Nominal frequency</b>	$f_N$		—	174,2	—	MHz
<b>Insertion attenuation</b>	@ $f_N$	$\alpha_N$	—	1,5	2,0	dB
<b>Pass bandwidth</b>		$B_{0,3dB}$				
		$\alpha_{rel} \leq 0,3 \text{ dB}$	0,2	1,9	—	MHz
<b>Amplitude ripple (p-p)</b>		$\Delta\alpha$				
	$f_N - 0,1 \text{ MHz} \dots f_N + 0,1 \text{ MHz}$		—	0,1	0,3	dB
<b>Group delay</b>	@ $f_N$	$\tau$	—	220	—	ns
<b>Group delay ripple (p-p)</b>		$\Delta\tau$				
	$f_N - 0,1 \text{ MHz} \dots f_N + 0,1 \text{ MHz}$		—	30	100	ns
<b>Return Loss</b>	@ $f_N$		9	12	—	dB
<b>Relative attenuation (relative to <math>\alpha_N</math>)</b>		$\alpha_{rel}$				
	23,00 MHz ... 149,00 MHz		60	70	—	dB
	149,00 MHz ... 160,00 MHz		40	55	—	dB
	160,00 MHz ... 168,00 MHz		20	40	—	dB
	168,00 MHz ... 169,50 MHz		10	20	—	dB
	178,50 MHz ... 184,00 MHz		10	18	—	dB
	184,00 MHz ... 195,00 MHz		20	45	—	dB
	195,00 MHz ... 199,00 MHz		40	55	—	dB
	199,00 MHz ... 232,00 MHz		45	55	—	dB
	232,00 MHz ... 252,00 MHz		35	40	—	dB
	252,00 MHz ... 326,00 MHz		45	60	—	dB
	326,00 MHz ... 500,00 MHz		40	65	—	dB
<b>Temperature coefficient of frequency</b>	$TC_f$		—	- 27	—	ppm/K



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**Characteristics**

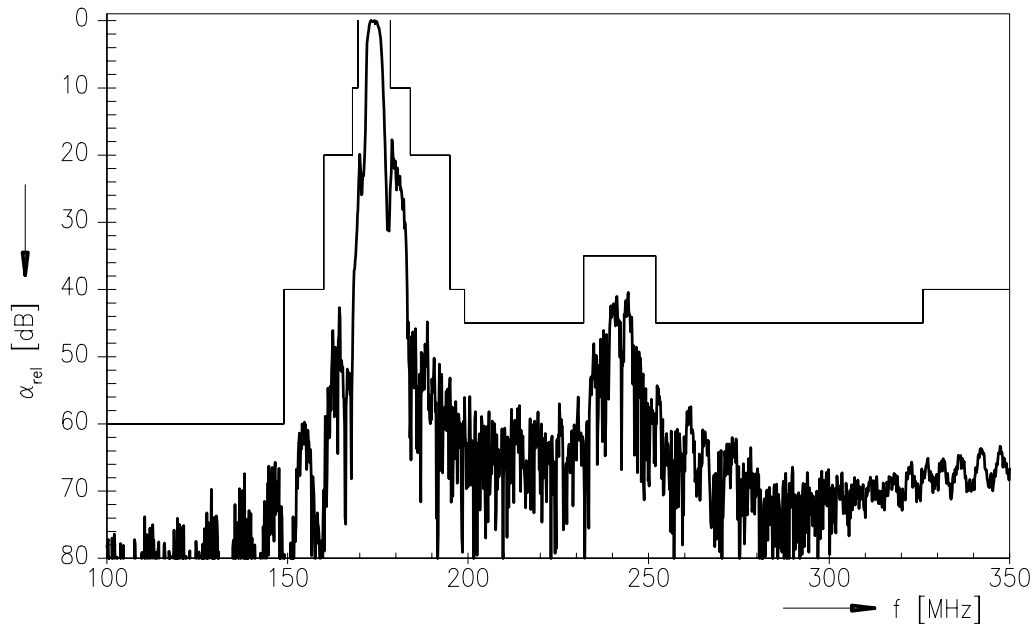
Operating temperature:  $T = -10 \dots +85 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 200 \text{ } \Omega$  and matching network  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

			<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Nominal frequency</b>	$f_N$		—	174,2	—	MHz
<b>Insertion attenuation</b>	@ $f_N$	$\alpha_N$	—	1,5	2,5	dB
<b>Pass bandwidth</b>		$B_{0,3dB}$				
		$\alpha_{rel} \leq 0,3 \text{ dB}$	0,2	1,9	—	MHz
<b>Relative attenuation (relative to <math>\alpha_N</math>)</b>		$\alpha_{rel}$				
	23,00 MHz ... 149,00 MHz		60	70	—	dB
	149,00 MHz ... 160,00 MHz		40	55	—	dB
	160,00 MHz ... 168,00 MHz		20	40	—	dB
	168,00 MHz ... 169,50 MHz		10	20	—	dB
	178,50 MHz ... 184,00 MHz		10	18	—	dB
	184,00 MHz ... 195,00 MHz		20	45	—	dB
	195,00 MHz ... 199,00 MHz		40	55	—	dB
	199,00 MHz ... 232,00 MHz		45	55	—	dB
	232,00 MHz ... 252,00 MHz		35	40	—	dB
	252,00 MHz ... 326,00 MHz		45	60	—	dB
	326,00 MHz ... 500,00 MHz		40	65	—	dB
<b>Temperature coefficient of frequency</b>		$TC_f$	—	-27	—	ppm/K

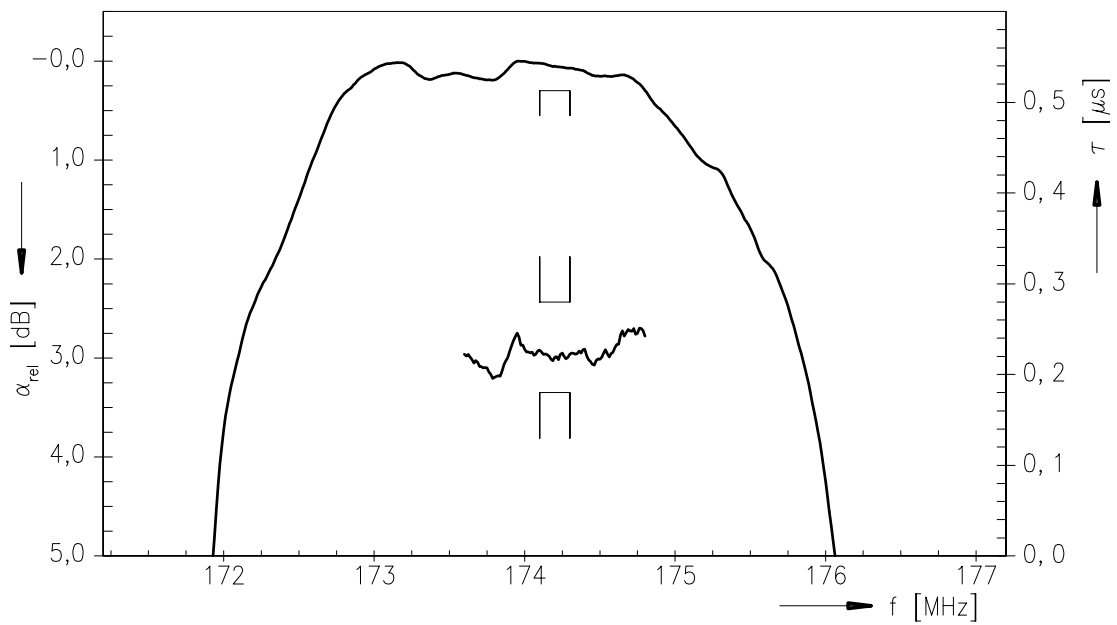


Data Sheet

Normalized frequency response



Normalized frequency response (pass band; +25 ± 2 °C)

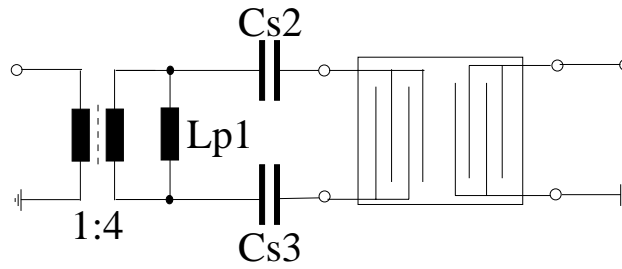




Data Sheet

Matching network (200  $\Omega$  balanced input, 50  $\Omega$  single ended output)

(Element values depend upon PCB layout)



$$L_{p1} = 390 \text{ nH}$$

$$C_{s2} = 15 \text{ pF}$$

$$C_{s3} = 15 \text{ pF}$$



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