



SAW Components

Data Sheet B3876

Data Sheet

EPCOS



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Low-Loss Filter

174,20 MHz

Data Sheet

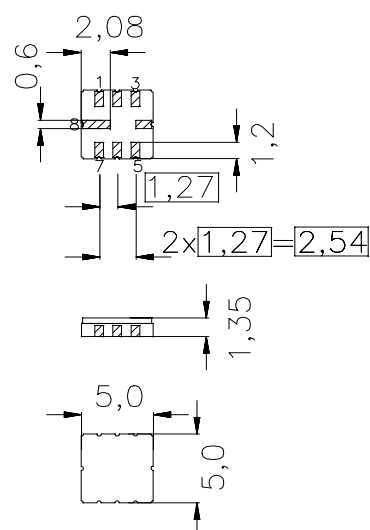
Features

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

Terminals

- Gold plated

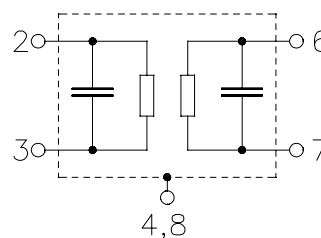
Ceramic package QCC8C



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:	$Z_L = 50 \text{ } \Omega$

		min.	typ.	max.	
Nominal frequency	f_N	—	174,2	—	MHz
Insertion attenuation	@ f_N α_N	—	1,5	2,0	dB
Pass bandwidth	$B_{0,3\text{dB}}$ $\alpha_{\text{rel}} \leq 0,3 \text{ dB}$	0,2	1,9	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$ $f_N - 0,1 \text{ MHz} \dots f_N + 0,1 \text{ MHz}$	—	0,1	0,3	dB
Group delay	@ f_N τ	—	220	—	ns
Group delay ripple (p-p)	$\Delta\tau$ $f_N - 0,1 \text{ MHz} \dots f_N + 0,1 \text{ MHz}$	—	30	100	ns
Return Loss	@ f_N	9	12	—	dB
Relative attenuation (relative to α_N)	α_{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
Temperature coefficient of frequency	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: $Z_L = 50 \text{ } \Omega$

			min.	typ.	max.	
Nominal frequency	f_N		—	174,2	—	MHz
Insertion attenuation	@ f_N	α_N	—	1,5	2,5	dB
Pass bandwidth		$B_{0,3\text{dB}}$				
		$\alpha_{\text{rel}} \leq 0,3 \text{ dB}$	0,2	1,9	—	MHz
Relative attenuation (relative to α_N)		α_{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
Temperature coefficient of frequency	TC_f		—	- 27	—	ppm/K



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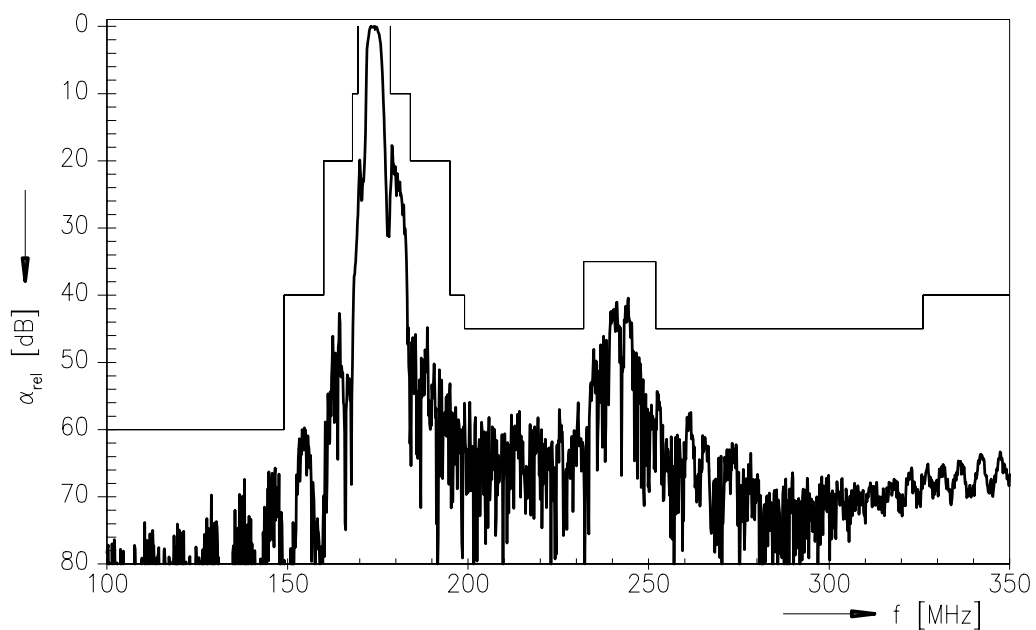
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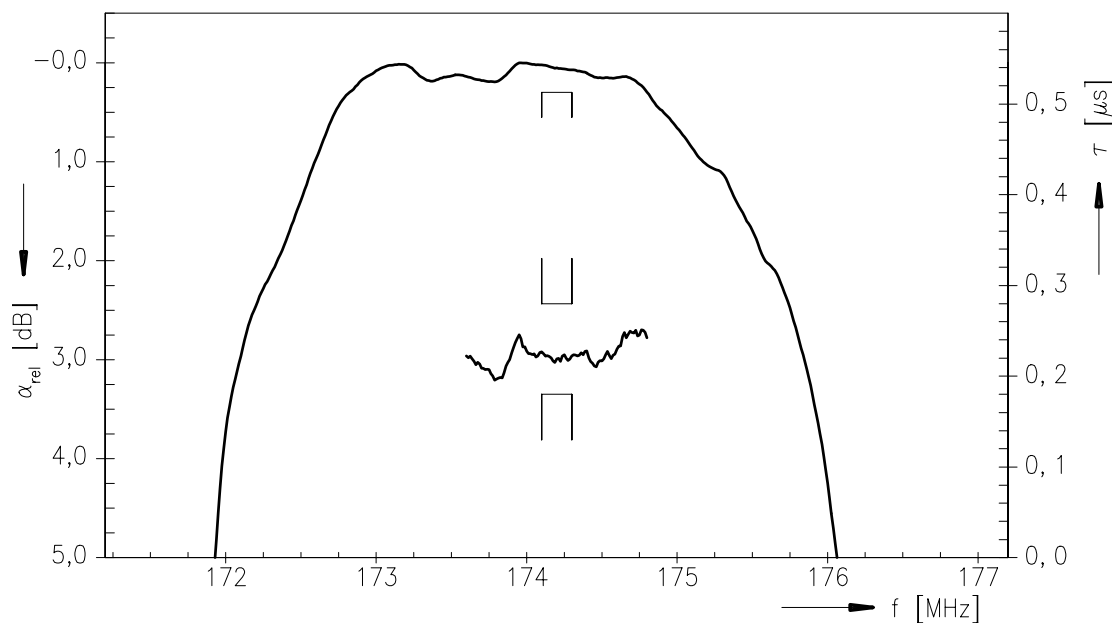
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Normalized frequency response

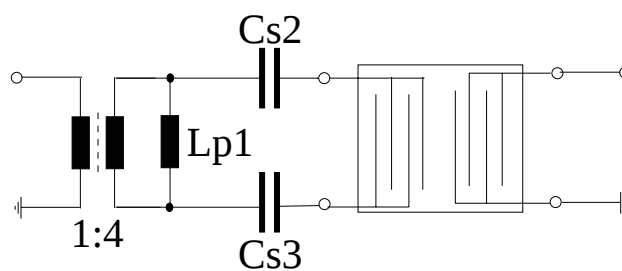


Normalized frequency response (pass band; $+25 \pm 2^\circ\text{C}$)



**SAW Components****B3876****Low-Loss Filter****174,20 MHz****Data Sheet****Matching network (200 Ω balanced input, 50 Ω 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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