



SAW Components

Data Sheet B3571

Data Sheet

An abstract, high-tech graphic. The word "EPCOS" is rendered in large, glowing, 3D letters that appear to be floating or emerging from a dark, textured background. Behind the letters, a faint, stylized globe is visible, along with abstract patterns that suggest circuitry or data flow. The overall aesthetic is modern and technological.



SAW Components

B3571

Low-loss Filter

868,60 MHz

Data Sheet

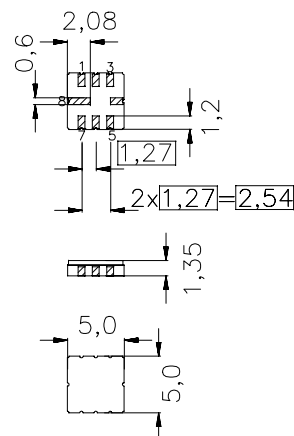
Features

- RF low-loss filter for remote control receivers
- Package for **Surface Mounted Technology (SMT)**

Terminals

- Ni, gold plated

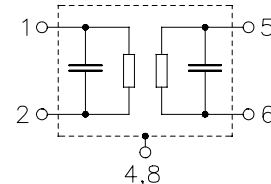
Ceramic package **QCC8C**



typ. dimensions in mm, approx. weight 0,1 g

Pin configuration

- 2 Input
- 1,3 Input Ground
- 6 Output
- 5,7 Output Ground
- 4,8 Case - Ground



Type	Ordering code	Marking and package according to	Packing according to
B3571	B39871-B3571-U310	C61157-A7-A56	F61074-V8070-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T_A	-45/+90	°C	source impedance 50 Ω
Storage temperature range	T_{stg}	-45/+90	°C	
DC voltage	V_{DC}	0	V	
Source power	P_S	0	dBm	



SAW Components	B3571
Low-loss Filter	868,60 MHz

Data Sheet

Characteristics

Reference temperature:	$T_A = 25\text{ °C}$
Terminating source impedance:	$Z_S = 50\text{ }\Omega$ and matching network
Terminating load impedance:	$Z_L = 50\text{ }\Omega$ and matching network

		min.	typ.	max.	
Center frequency	f_C	—	868,69	—	MHz
(center frequency between 3 dB points)					
Minimum insertion attenuation	$\alpha_{\min}$	—	3,1	4,6	dB
868,00 ... 869,38 MHz					
Pass band (relative to $\alpha_{\min}$)					
868,00 ... 869,38 MHz					
		—	1,5	3,0	dB
867,92 ... 869,46 MHz					
		—	2,0	6,0	dB
Relative attenuation (relative to $\alpha_{\min}$)	α_{rel}				
10,00 ... 700,00 MHz					
		50	55	—	dB
700,00 ... 830,00 MHz					
		33	38	—	dB
830,00 ... 858,00 MHz					
		30	35	—	dB
858,00 ... 866,40 MHz					
		20	25	—	dB
871,00 ... 880,00 MHz					
		17	22	—	dB
880,00 ... 910,00 MHz					
		30	35	—	dB
910,00 ... 1000,00 MHz					
		33	38	—	dB
Impedance for pass band matching ²⁾					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$					
		—	226 $\parallel$ 2,30	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$					
		—	222 $\parallel$ 2,20	—	$\Omega \parallel \text{pF}$
Temperature coefficient of frequency ¹⁾	TC_f	—	−0,03	—	ppm/K ²
Frequency inversion point	T_0	—	25	—	°C

¹⁾Temperature dependence of f_C : $f_C(T_A) = f_C(T_0) (1 + TC_f(T_A - T_0)^2)$

²⁾ Impedance for passband matching bases on an ideal, perfect matching of the SAW filter to source- and to load impedance (here 50 Ohm). After the SAW filter is removed and input impedance into the input matching / output matching network is calculated.

The conjugate complex value of these characteristic impedances are the input and output impedances for flat passband. For more details, we refer to EPCOS application note #4.



SAW Components

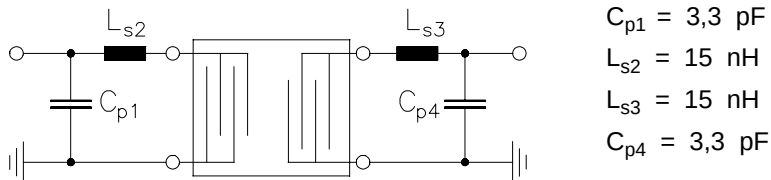
B3571

Low-loss Filter

868,60 MHz

Data Sheet

Matching network to 50 Ω (element values depend on pcb layout and equivalent circuit)

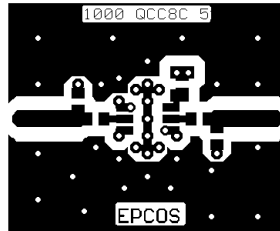


Minimising the crosstalk

For a good ultimate rejection a low crosstalk is necessary. Low crosstalk can be realised with a good RF layout.

Grounding pins for input transducer are pin 1,3 and for output transducer 5,7. Close to those pins via holes (through holes) should be placed to achieve a low impedance path to system ground. If a grounding plane at the top side of the PCB is present, the grounding plane can be connected to pin 1,3,5,7 at the top side too.

The optimised PCB layout, including matching network for transformation to 50 Ohm, is shown here.



Optimised PCB layout for SAW filters in QCC8C package, pinning 2,6 (top side, scale 1:1)

The bottom side is a copper plane (system ground area).

For good contact of the upper grounding area with the lower side it is necessary to place enough via holes.



SAW Components

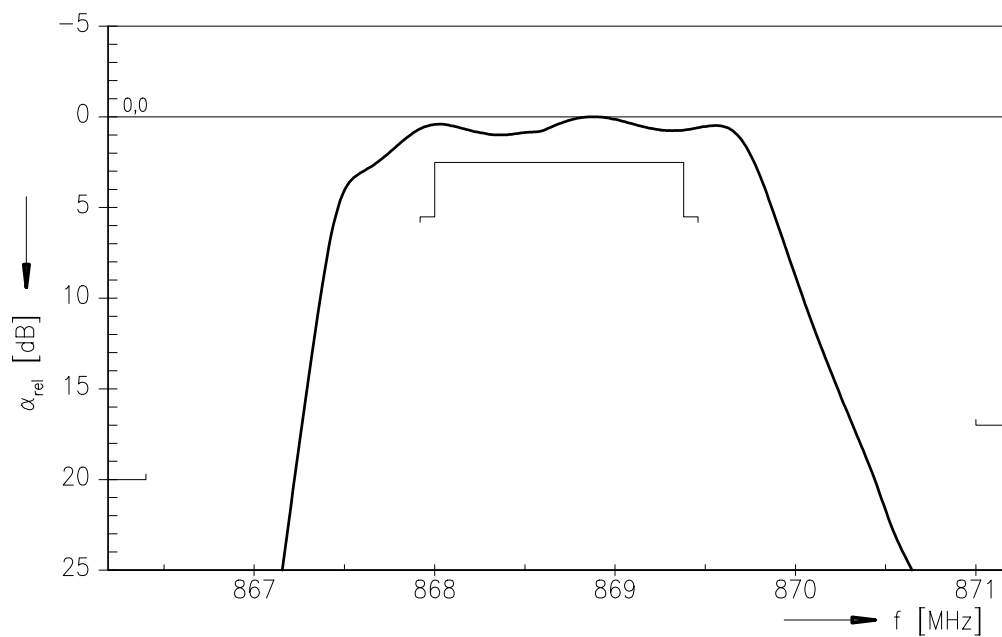
B3571

Low-loss Filter

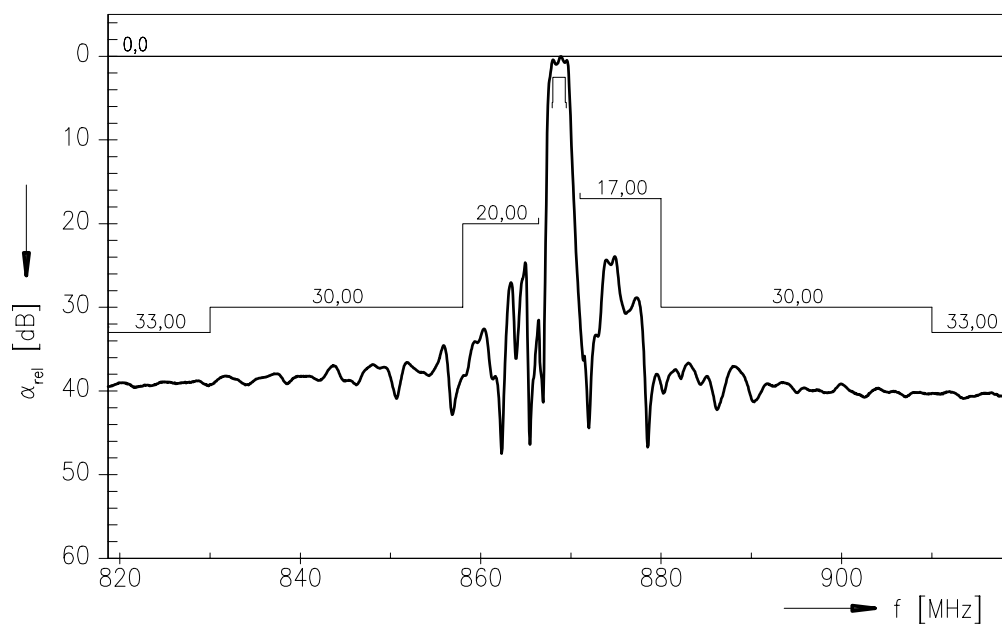
868,60 MHz

Data Sheet

Normalized frequency response



Normalized frequency response (wideband)





SAW Components	B3571
Low-loss Filter	868,60 MHz

Data Sheet

Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW CE AE PD
P.O. Box 80 17 09, D-81617 München

© EPCOS AG 2001. All Rights Reserved.

As far as patents or other rights of third parties are concerned, liability is only assumed for components per se, not for applications, processes and circuits implemented within components or assemblies.

The information describes the type of component and shall not be considered as assured characteristics.

Terms of delivery and rights to change design reserved.

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.