



SAW Components

Data Sheet B3767

Data Sheet

An abstract, grayscale graphic featuring a globe with a grid pattern, overlaid with a large, stylized, and slightly blurred "EPCOS" logo. The logo is rendered in a light gray, almost white, color, giving it a three-dimensional appearance as if it's floating or attached to the globe. The background is dark and textured with some light streaks and gradients.

EPCOS



SAW Components

B3767

Low-loss Filter

447,725 MHz

Data Sheet

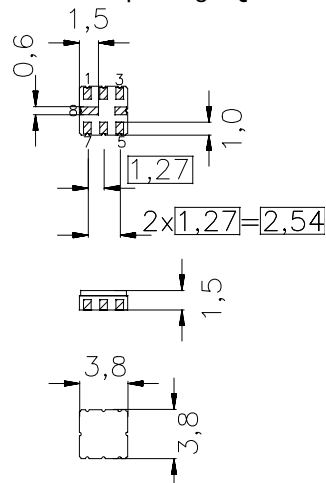
Features

- RF low-loss filter for remote control receivers
- Package for **Surface Mounted Technology (SMT)**
- Balanced and unbalanced operation possible
- Protection layer: Elpas
- AEC-Q200 qualified component family

Terminals

- Ni, gold plated

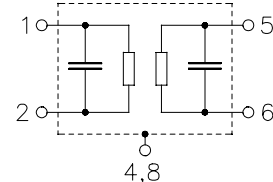
Ceramic package QCC8B



typ. dimensions in mm, approx. weight 0,07 g

Pin configuration¹⁾

- 1 Input Ground (recommended) or Input
- 2 Input (recommended) or Input Ground
- 5 Output (recommended) or Output Ground
- 6 Output Ground (recommended) or Output
- 4,8 Case - Ground
- 3,7 to be grounded



Type	Ordering code	Marking and package according to	Packing according to
B3767	B39451-B3767-Z810	C61157-A7-A46	F61074-V8167-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T_A	-45/+120	°C	
Storage temperature range	T_{stg}	-45/+120	°C	
DC voltage	V_{DC}	6	V	
Source power	P_S	10	dBm	source impedance 50 Ω

¹⁾ The recommended pin configuration usually offers best suppression of electrical crosstalk. The filter characteristics refer to this configuration.



SAW Components	B3767
Low-loss Filter	447,725 MHz

Data Sheet

Characteristics

Reference temperature:	$T_A = -40 \dots +95^\circ \text{C}$
Terminating source impedance:	$Z_S = 50 \Omega$ and matching network
Terminating load impedance:	$Z_L = 50 \Omega$ and matching network

		min.	typ.	max.	
Center frequency	f_C	—	447,725	—	MHz
(center frequency between 3 dB points)					
Minimum insertion attenuation	$\alpha_{\min}$				
including loss in matching elements		—	1,9	2,7	dB
excluding loss in matching elements		—	1,4	2,2	dB
Pass band (relative to $\alpha_{\min}$)					
447,60 ... 447,85 MHz		—	0,5	2,0	dB
447,58 ... 447,87 MHz		—	0,7	3,0	dB
447,56 ... 447,91 MHz		—	1,0	6,0	dB
Filter bandwidth					
$\alpha_{\text{rel}} \leq 3 \text{ dB}$		0,61	0,67	0,73	MHz
Relative attenuation (relative to $\alpha_{\min}$)	α_{rel}				
10,00 ... 427,80 MHz		51	55	—	dB
427,80 ... 437,30 MHz		47	51	—	dB
437,30 ... 445,52 MHz		29	34	—	dB
445,52 ... 445,92 MHz		22	27	—	dB
445,92 ... 446,90 MHz		17	21	—	dB
448,72 ... 455,80 MHz		18	21	—	dB
455,80 ... 500,00 MHz		39	44	—	dB
500,00 ... 720,00 MHz		50	55	—	dB
720,00 ... 830,00 MHz		45	50	—	dB
830,00 ... 1000,00 MHz		60	65	—	dB
1000,00 ... 2500,00 MHz		45	50	—	dB
Impedance for pass band matching ¹⁾					
Input: $Z_{\text{IN}} = R_{\text{IN}} \parallel C_{\text{IN}}$		—	240 $\parallel$ 2,2	—	$\Omega \parallel \text{pF}$
Output: $Z_{\text{OUT}} = R_{\text{OUT}} \parallel C_{\text{OUT}}$		—	240 $\parallel$ 2,2	—	$\Omega \parallel \text{pF}$

¹⁾ 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

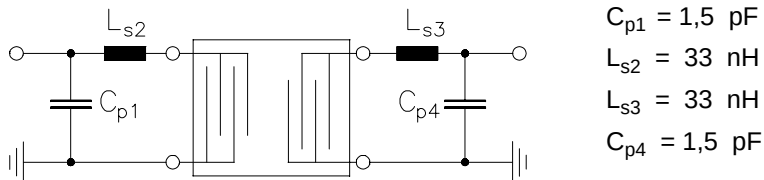
B3767

Low-loss Filter

447,725 MHz

Data Sheet

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



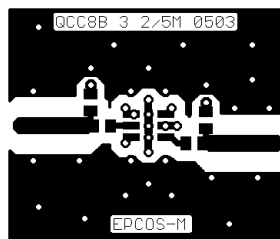
Minimising the crosstalk

For a good ultimate rejection a low crosstalk is necessary. Low crosstalk can be realised with a good RF layout. The major crosstalk mechanism is caused by the "ground-loop" problem.

Grounding loops are created if input-and output transducer GND are connected on the top-side of the PCB and fed to the system grounding plane by a common via hole. To avoid the common ground path, the ground pin of the input- and output transducer are fed to the system ground plane (bottom PCB plane) by their own via hole. The transducers' grounding pins should be isolated from the upper grounding plane.

A common GND inductivity of 0.5nH degrades the ultimate rejection (crosstalk) by 20dB.

The optimised PCB layout, including matching network for transformation to 50 Ohm, is shown here. In this PCB layout the grounding loops are minimised to realise good ultimate rejection.



Optimised PCB layout for SAW filters in QCC8B package, pinning 2,5 (top side, scale 1:1)

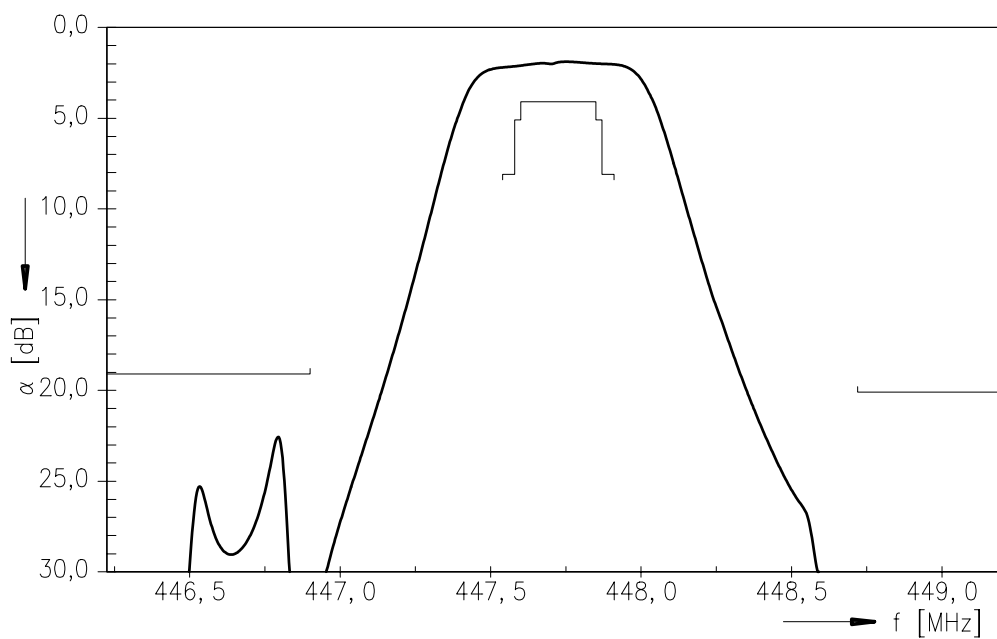
The bottom side is a copper plane (system ground area). The input and output grounding pins are isolated and connected to the common ground by separated via holes.

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

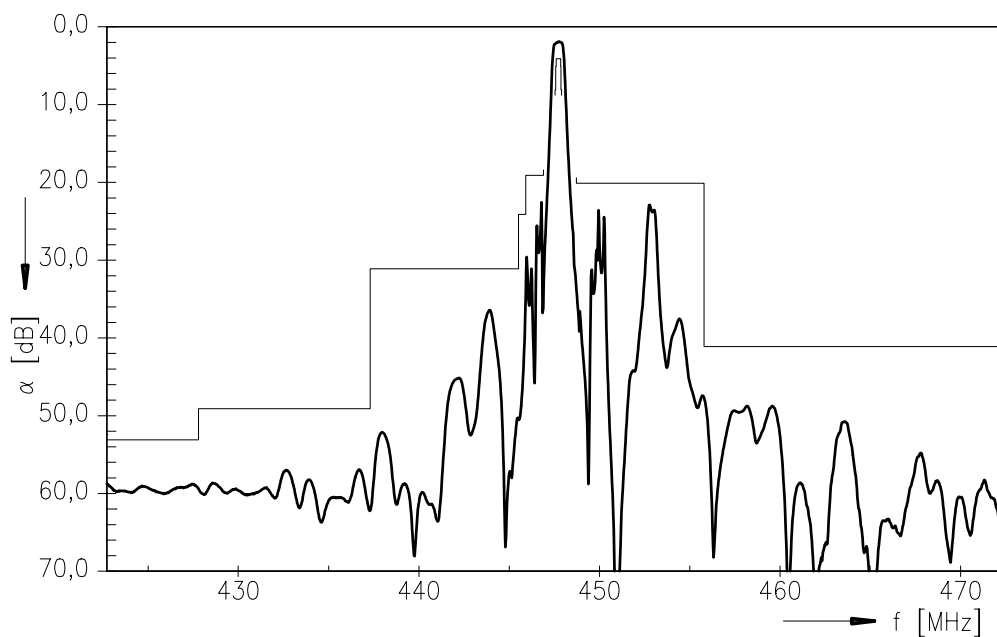


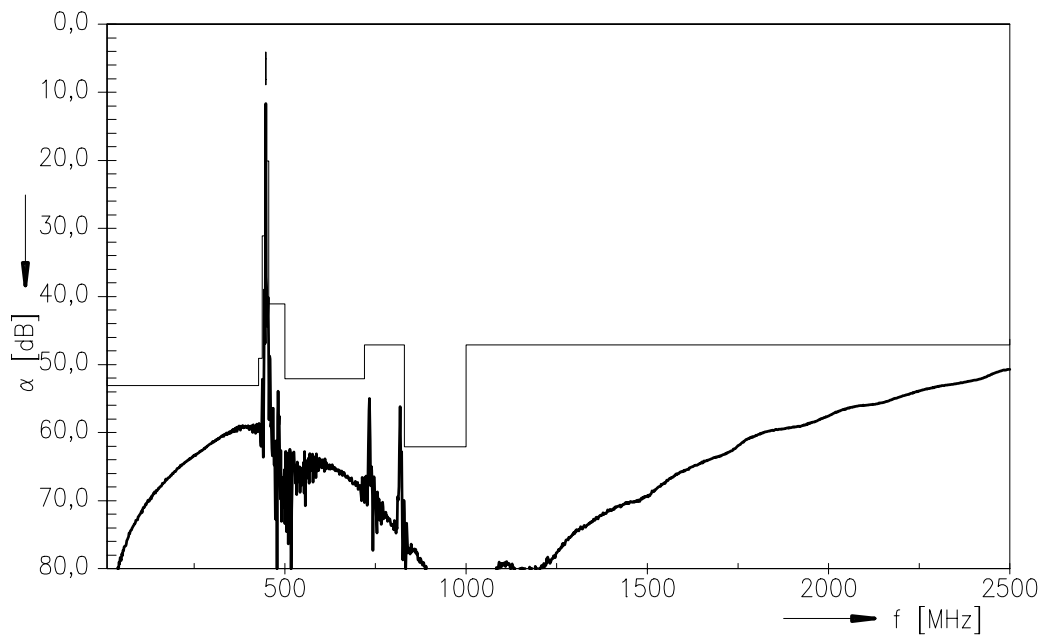
Data Sheet

Frequency response



Frequency response (wideband)



**SAW Components****B3767****Low-loss Filter****447,725 MHz****Data Sheet****Frequency response (ultimate rejection)****Published by EPCOS AG****Surface Acoustic Wave Components Division, SAW CE AE PD****P.O. Box 80 17 09, D-81617 München**

© EPCOS AG 2004. All Rights Reserved. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

The information contained in this brochure describes the type of component and shall not be considered as guaranteed characteristics. 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.

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9