



# SAW Components

Data Sheet B4069





**SAW Components**

**B4069**

**Low-Loss Filter**

**770,0 MHz**

**Data Sheet**

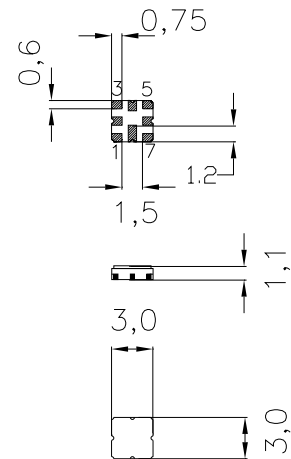
SMD ceramic package **QCC8D**

**Features**

- Low loss IF filter for HiperLAN
- Balanced to balanced operation
- Package for **Surface Mounted Technology (SMT)**

**Terminals**

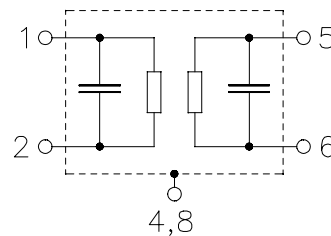
- Ni, gold-plated



Dimensions in mm, approx. weight 0,037 g

**Pin configuration**

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



Type	Ordering code	Marking and Package according to	Packing according to
B4069	B39771-B4069-U810	C61157-A7-A72	F61074-V8101-Z000

**Electrostatic Sensitive Device (ESD)**

**Maximum ratings**

Operable temperature range	$T$	-20 /+ 80	°C	
Storage temperature range	$T_{stg}$	- 40/+ 85	°C	
DC voltage	$V_{DC}$	0	V	
Source power	$P_s$	0	dBm	source impedance 250 $\Omega$



**SAW Components**

**B4069**

**Low-Loss Filter**

**770,0 MHz**

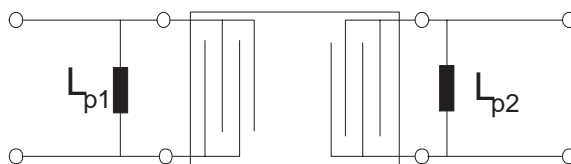
**Data Sheet**

**Characteristics**

Operating temperature range:  $T_A = -20 \dots +80 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 250 \text{ } \Omega \parallel 125\text{nH}$   
 Terminating load impedance:  $Z_L = 250 \text{ } \Omega \parallel 125\text{nH}$

		<b>min.</b>	<b>typ.</b>	<b>max.</b>		
<b>Nominal frequency</b>	$f_N$	—	770,0	—	MHz	
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	1,7	3,5	dB	
<b>Amplitude ripple in passband (p-p)</b>	$\Delta\alpha$	—	0,8	1,1	dB	
						$f_N \pm 7,0 \text{ MHz}$
						$f_N \pm 8,5 \text{ MHz}$
<b>Group delay ripple (p-p)</b>	$\Delta\tau$	—	25	50	ns	
						$f_N \pm 8,5 \text{ MHz}$
<b>Relative Attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$	20	30	—	dB	
		$f_N - 20,0 \text{ MHz}$	15	23	—	dB
		$f_N + 20,0 \text{ MHz}$	35	40	—	dB
		$f_N - 30,0 \text{ MHz}$	25	32	—	dB
		$f_N + 30,0 \text{ MHz}$	40	60	—	dB
		$f_N \pm 40,0 \text{ MHz}$	45	63	—	dB
		$f_N \pm 60,0 \text{ MHz}$	45	68	—	dB
		$f_N \pm 80,0 \text{ MHz}$	45	73	—	dB
		$f_N \pm 100,0 \text{ MHz}$	50	70	—	dB
		$f_N \pm 120,0 \text{ MHz}$				

**Matching network (Simulated)**



$L_{p1} = 125\text{nH}$

$L_{p2} = 125\text{nH}$



**SAW Components**

**B4069**

**Low-Loss Filter**

**770,0 MHz**

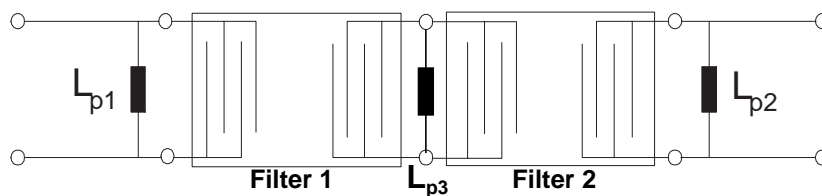
**Data Sheet**

**Characteristics (2 Cascaded filters with // 125nH between filters)**

Operating temperature range:  $T_A = -20 \dots +80 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 250 \text{ } \Omega \parallel 125\text{nH}$   
 Terminating load impedance:  $Z_L = 250 \text{ } \Omega \parallel 125\text{nH}$

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	770,0	—	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	3,5	7,0	dB
<b>Amplitude ripple in passband (p-p)</b>	$\Delta\alpha$				
	$f_N \pm 7,0 \text{ MHz}$	—	1,5	2,2	dB
	$f_N \pm 8,5 \text{ MHz}$	—	1,8	4,0	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
	$f_N \pm 8,5 \text{ MHz}$	—	50	100	ns
<b>Relative Attenuation (relative to <math>\alpha_{\max}</math>)</b>	$\alpha_{\text{rel}}$				
	$f_N - 20,0 \text{ MHz}$	45	54	—	dB
	$f_N + 20,0 \text{ MHz}$	30	48	—	dB
	$f_N - 30,0 \text{ MHz}$	70	78	—	dB
	$f_N + 30,0 \text{ MHz}$	50	66	—	dB
	$f_N \pm 40,0 \text{ MHz}$	80	116	—	dB
	$f_N \pm 60,0 \text{ MHz}$	90	125	—	dB
	$f_N \pm 80,0 \text{ MHz}$	90	136	—	dB
	$f_N \pm 100,0 \text{ MHz}$	90	140	—	dB
	$f_N \pm 120,0 \text{ MHz}$	100	135	—	dB

**Matching network (Simulated)**



$L_{p1} = 125\text{nH}$

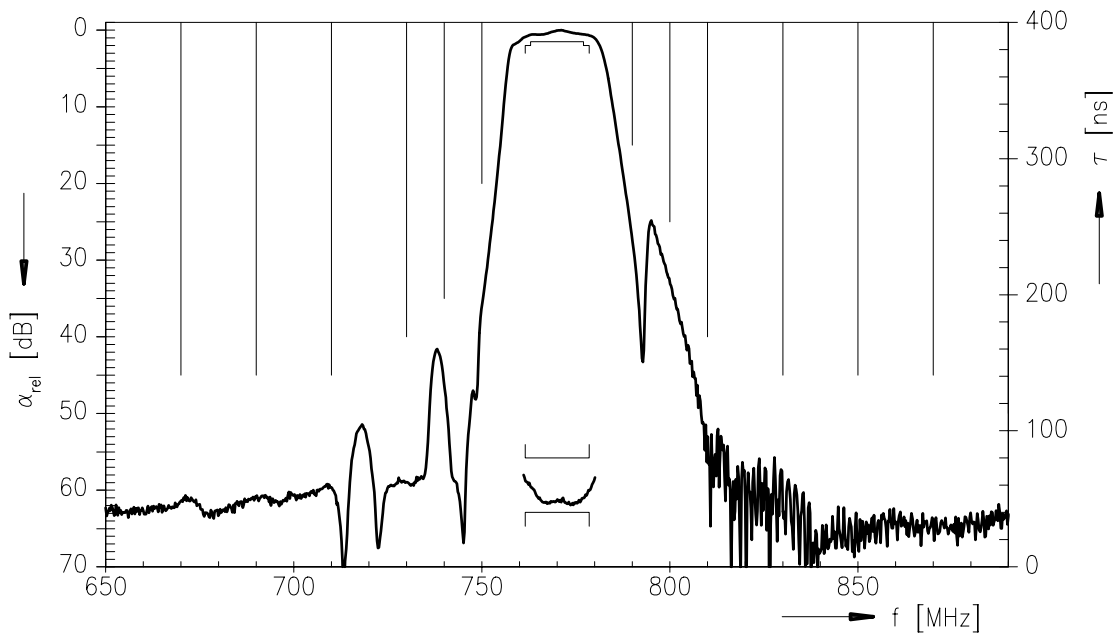
$L_{p2} = 125\text{nH}$

$L_{p3} = 125\text{nH}$

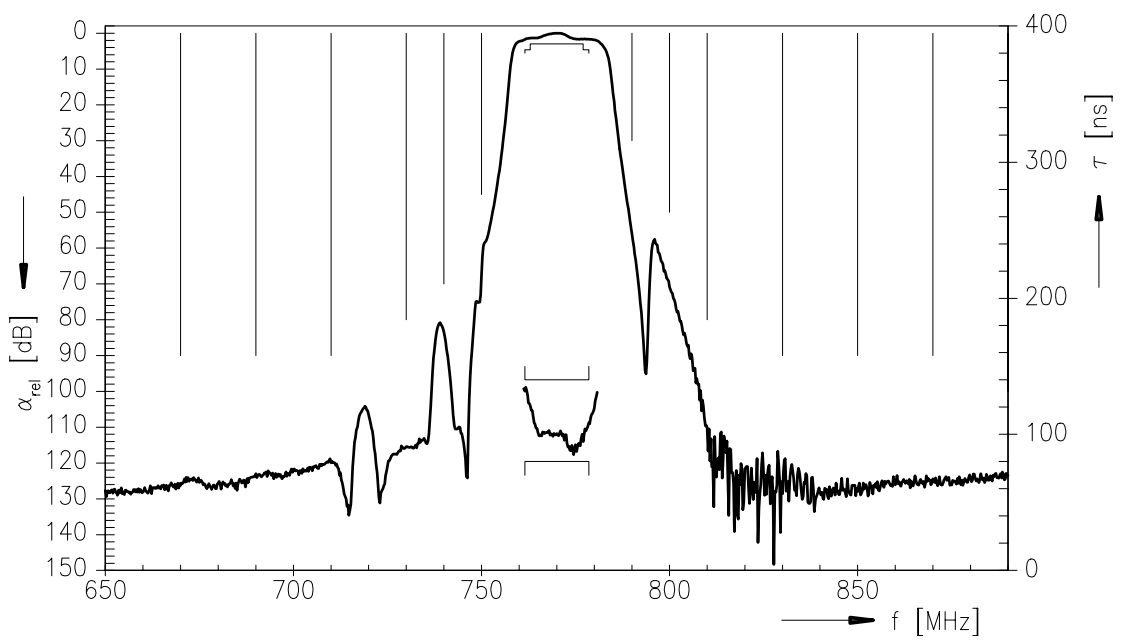


Data Sheet

Normalised Transfer Function (Single filter)



Normalised Transfer Function (2 Cascaded filters)

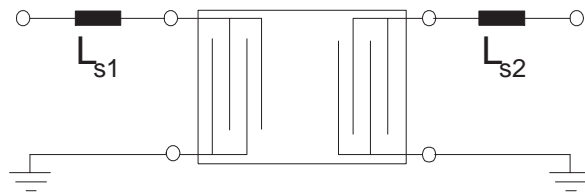




Data Sheet

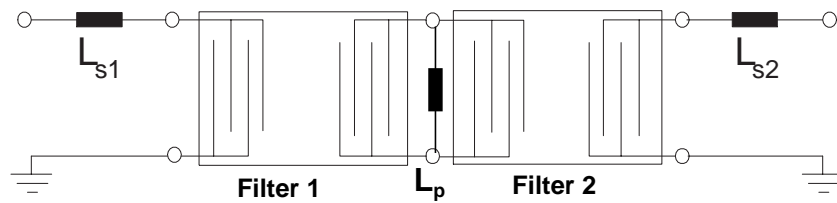
Matching network (element values may depend on pcb layout)

50  $\Omega$  unbalanced for single filter (test circuit for unbalanced input / output environment):



$$L_{s1} = 22\text{nH}$$
$$L_{s2} = 18\text{nH}$$

50  $\Omega$  unbalanced for cascaded filters (test circuit for unbalance input/ output environment):



$$L_{s1} = 22\text{nH}$$
$$L_{s2} = 18\text{nH}$$
$$L_p = 22\text{nH}$$



**SAW Components**

**B4069**

**Low-Loss Filter**

**770,0 MHz**

Data Sheet

**Published by EPCOS AG**

**Surface Acoustic Wave Components Division, SAW MC WT**

**P.O. Box 80 17 09, D-81617 München**

© EPCOS AG 2002. 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.