EPCOS

SAW Components

Data Sheet B4069

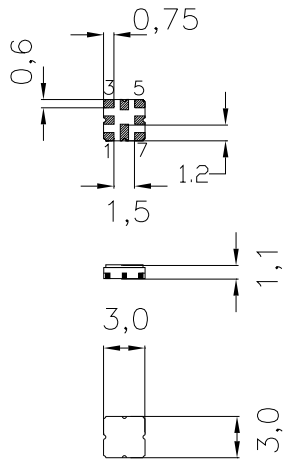
SMD ceramic package **QCC8D**

Features

- Low loss IF filter for HiperLAN
- Balanced to balanced operation
- Package for **S**urface **M**ounted **T**echnology **(SMT)**

Terminals

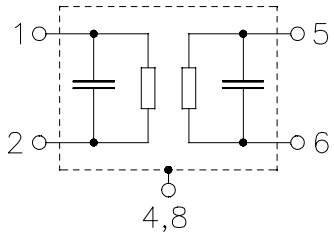
- Ni, gold-plated



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 **S**ensitive **D**evice (**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 Ω

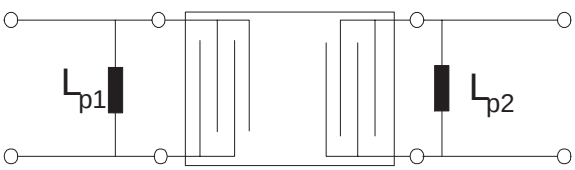
Data Sheet

Characteristics

Operating temperature range: T_A = -20 ... +80 °C
Terminating source impedance: Z_S = 250 Ω ||125nH
Terminating load impedance: Z_L = 250 Ω ||125nH

		min.	typ.	max.	
Nominal frequency	f_N	—	770,0	—	MHz
Minimum insertion attenuation	α_{min}	—	1,7	3,5	dB
Amplitude ripple in passband (p-p)	$\Delta\alpha$				
$f_N \pm 7{,}0$ MHz		—	0,8	1,1	dB
$f_N \pm 8{,}5$ MHz		—	0,9	2,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 8{,}5$ MHz		—	25	50	ns
Relative Attenuation (relative to α_{min})	α_{rel}				
f_N - 20,0 MHz		20	30	—	dB
f_N + 20,0 MHz		15	23	—	dB
f_N - 30,0 MHz		35	40	—	dB
f_N + 30,0 MHz		25	32	—	dB
$f_N \pm 40{,}0$ MHz		40	60	—	dB
$f_N \pm 60{,}0$ MHz		45	63	—	dB
$f_N \pm 80{,}0$ MHz		45	68	—	dB
$f_N \pm 100{,}0$ MHz		45	73	—	dB
$f_N \pm 120{,}0$ MHz		50	70	—	dB

Matching network (Simulated)



L_{p1} = 125nH

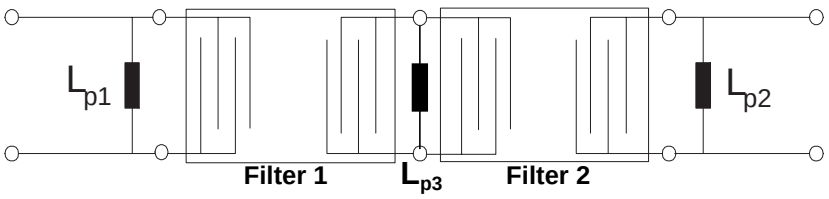
L_{p2} = 125nH

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

Operating temperature range: T_A = -20 ... +80 °C
Terminating source impedance: Z_S = 250 Ω ||125nH
Terminating load impedance: Z_L = 250 Ω ||125nH

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

Matching network (Simulated)

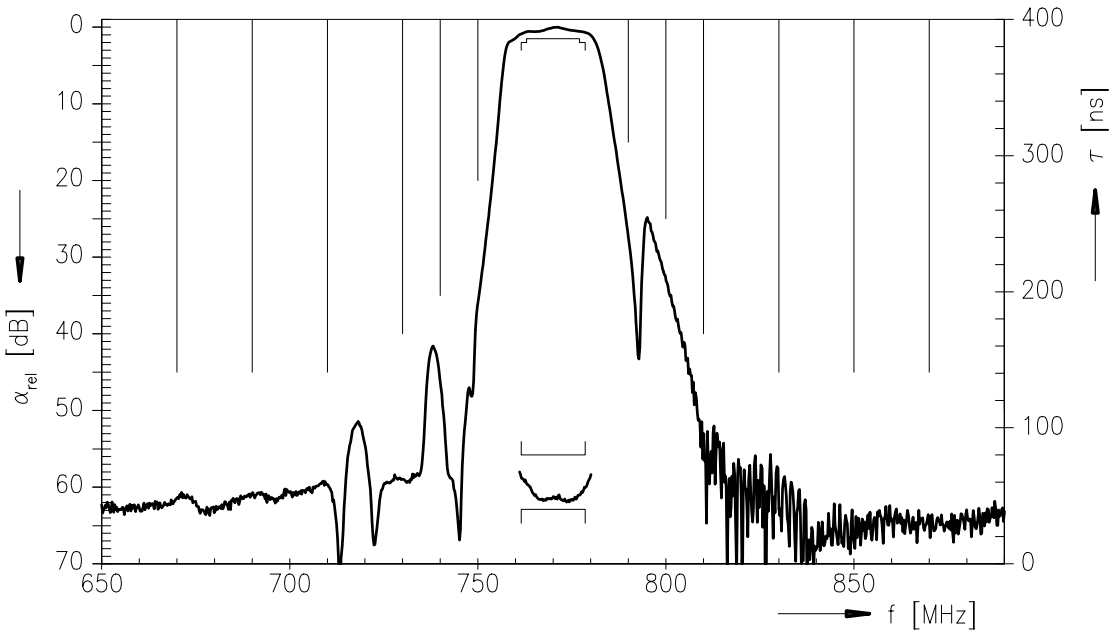


L_{p1} = 125nH

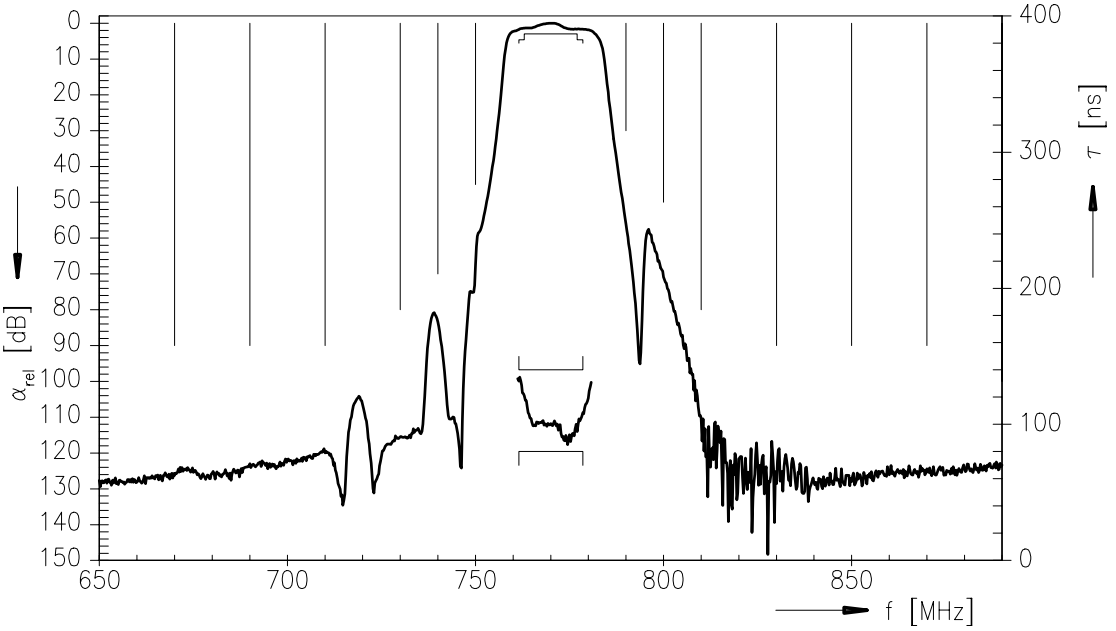
L_{p2} = 125nH

L_{p3} = 125nH

Normalised Transfer Function (Single filter)

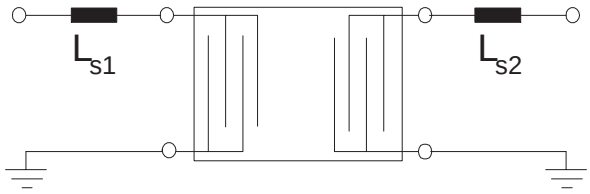


Normalised Transfer Function (2 Cascaded filters)



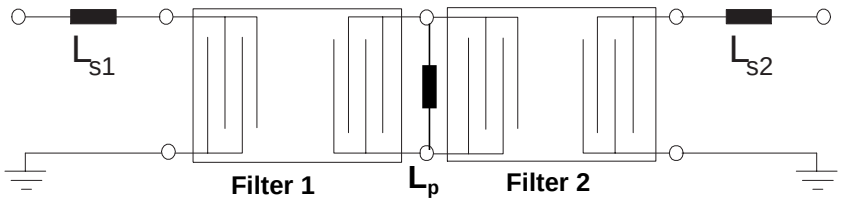
Matching network (element values may depend on pcb layout)

50 Ω unbalanced for single filter (test circuit for unbalanced input / output enviroment):



L_{s1} = 22nH
L_{s2} = 18nH

50 Ω unbalanced for cascaded filters (test circuit for unbalance input/ output enviroment):



L_{s1} = 22nH
L_{s2} = 18nH
L_p = 22nH

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This brochure replaces the previous edition.

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