



SAW Components

Data Sheet B3677

Data Sheet

An abstract graphic featuring the word "EPCOS" in large, glowing, 3D letters. The letters are white with a blue glow and are positioned diagonally across the frame. In the background, there is a faint, stylized globe and some circuitry patterns, all in a dark, monochromatic color scheme.



SAW Components	B3677
Low-Loss Filter	374,0 MHz

Data Sheet

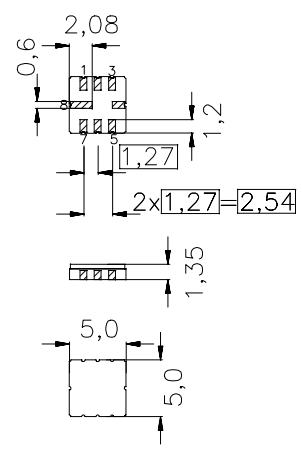
Ceramic package QCC8C

Features

- Low-loss IF filter
- Ceramic SMD package
- Balanced or unbalanced operation

Terminals

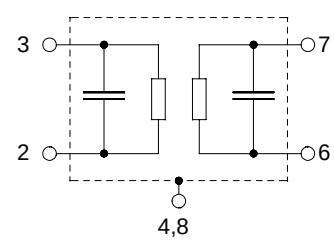
- Gold plated



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

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B3677	B39371-B3677-U310	C61157-A7-A56	F61074-V8070-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T_A	-45 / +85	°C	
Storage temperature range	T_{stg}	-45 / +85	°C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	



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Characteristics

Operating temperature:

$$T_A = -10 \dots 80 \text{ }^{\circ}\text{C}$$

Terminating source impedance:

$$Z_S = 50 \text{ } \Omega \text{ unbalanced and matching network}$$

Terminating load impedance:

$$Z_L = 50 \text{ } \Omega \text{ unbalanced and matching network}$$

			min.	typ.	max.	
Nominal frequency	f_N		—	374,00	—	MHz
Minimum insertion attenuation (including matching network)	$\alpha_{\min}$		—	8,5	10,0	dB
Bandwidth	$\alpha_{\text{rel}} \leq 3 \text{ dB}$	$B_{3\text{dB}}$	17	22	—	MHz
Amplitude ripple (p-p)	$f_N \pm 7 \text{ MHz}$	$\Delta\alpha$	—	0,5	1	dB
Group delay ripple (p-p)	$f_N \pm 7 \text{ MHz}$	$\Delta\tau$	—	40	100	ns
Triple transit suppression			30	40	—	dB
Relative attenuation (relative to $\alpha_{\min}$)		α_{rel}				
$f_N - 16,5 \text{ MHz} \dots f_N - 22 \text{ MHz}$			30	42	—	dB
$f_N - 22 \text{ MHz} \dots f_N - 33 \text{ MHz}$			40	45	—	dB
$f_N - 33 \text{ MHz} \dots f_N - 150 \text{ MHz}$			48	52	—	dB
$f_N + 16,5 \text{ MHz} \dots f_N + 18 \text{ MHz}$			20	38	—	dB
$f_N + 18 \text{ MHz} \dots f_N + 22 \text{ MHz}$			30	42	—	dB
$f_N + 22 \text{ MHz} \dots f_N + 48 \text{ MHz}$			38	44	—	dB
$f_N + 48 \text{ MHz} \dots f_N + 80 \text{ MHz}$			40	45	—	dB
$f_N + 80 \text{ MHz} \dots f_N + 150 \text{ MHz}$			48	55	—	dB
Adjacent channel suppression						
average attenuation relative to $\alpha_{\min}$		α_{rel}				
$f_N - 16,5 \dots f_N - 33,5 \text{ MHz}$			40	64	—	dB
$f_N + 16,5 \dots f_N + 33,5 \text{ MHz}$			40	56	—	dB
Temperature coefficient of frequency	TC_f		—	- 87	—	ppm/K



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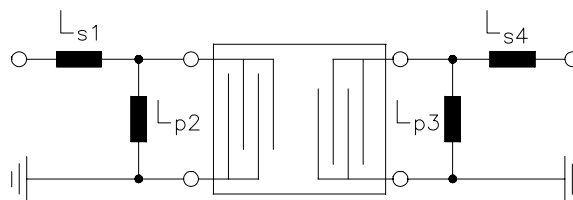
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Matching network (element values may depend on pcb layout)

50 Ω unbalanced:



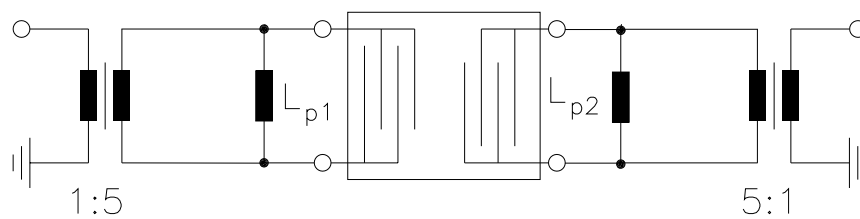
$$L_{s1} = 27 \text{ nH}$$

$$L_{p2} = 47 \text{ nH}$$

$$L_{p3} = 47 \text{ nH}$$

$$L_{s4} = 27 \text{ nH}$$

250 Ω balanced:



$$L_{p1} = 24 \text{ nH} \quad (\text{e.g. Coilcraft 0603CS-24NX_BC})$$

$$L_{p2} = 24 \text{ nH}$$



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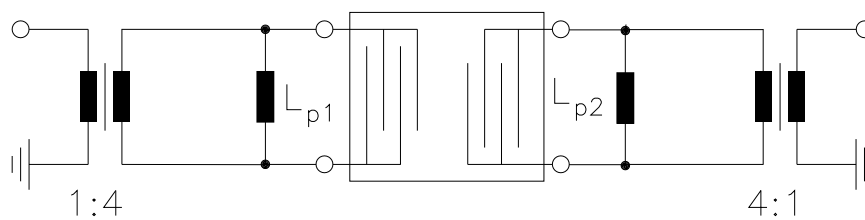
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200 Ω balanced:



$$L_{p1} = 27 \text{ nH}$$

$$L_{p2} = 22 \text{ nH}$$



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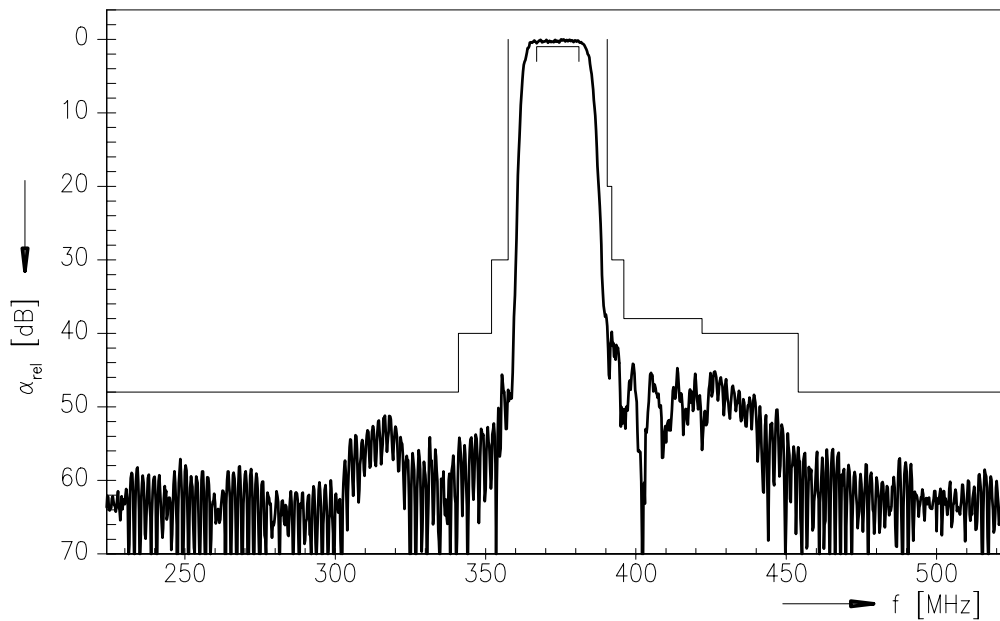
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Low-Loss Filter

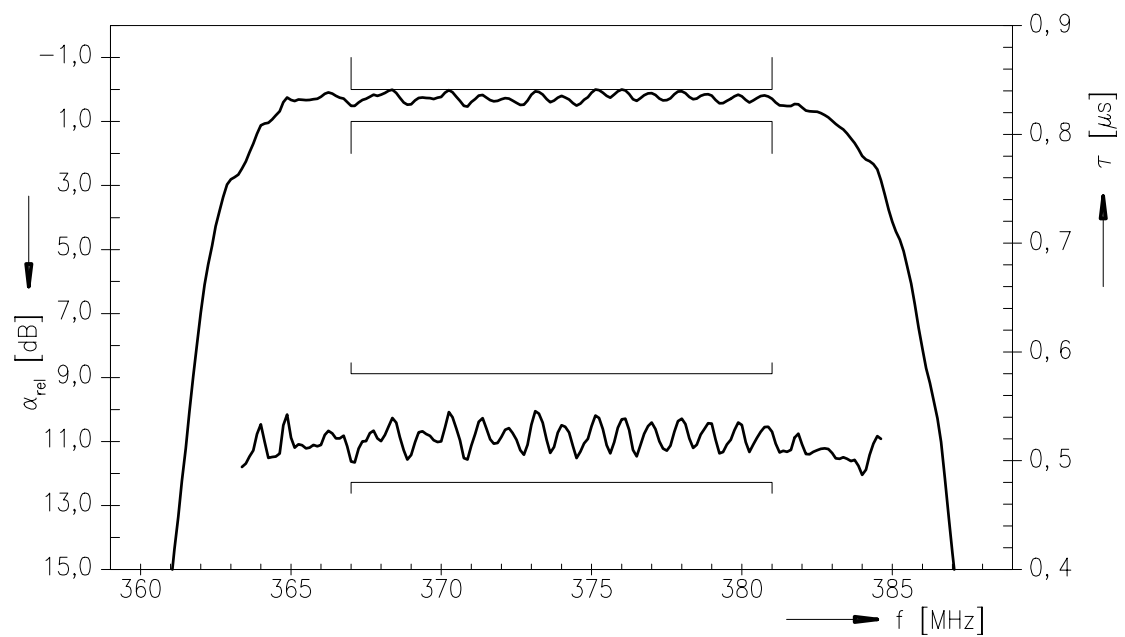
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Transfer function:



Transfer function (pass band):





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