



SAW Components

Data Sheet B3841

Data Sheet

An abstract, grayscale graphic featuring a large, stylized, and slightly blurred "EPCOS" logo. The logo is set against a background of curved, overlapping bands and a faint world map, creating a sense of global connectivity and technological advancement.



SAW Components	B3841
Low-Loss Filter	174,2 MHz

Data Sheet

Characteristics

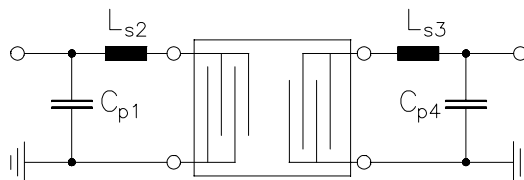
Operating temperature range:	$T = -5 \text{ to } +85 \text{ }^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 250 \text{ } \Omega \parallel 43 \text{ nH}$
Terminating load impedance:	$Z_L = 400 \text{ } \Omega \parallel 92 \text{ nH}$

			min.	typ.	max.	
Nominal frequency	f_N		—	174,2	—	MHz
Minimum insertion attenuation	$\alpha_{\min}$		—	6,2	8,0	dB
3dB bandwidth						
	$\alpha_{\text{rel}} \leq 3,0 \text{ dB}$	$B_{3,0\text{dB}}$	660	730	—	kHz
Amplitude ripple (p-p)	$f_N \pm 67 \text{ kHz}$	$\Delta\alpha$	—	0,1	0,25	dB
	$f_N \pm 125 \text{ kHz}$	$\Delta\alpha$	—	0,3	1,0	dB
	$f_N \pm 200 \text{ kHz}$	$\Delta\alpha$	—	0,6	1,2	dB
Absolute group delay (at f_N)		τ	—	2,3	2,6	μs
Group delay ripple (p-p)	$f_N \pm 200 \text{ kHz}$	$\Delta\tau$	—	190	260	ns
Relative attenuation (relative to $\alpha_{\min}$)		α_{rel}				
	$f_N \pm 469 \text{ kHz} \dots f_N \pm 600 \text{ kHz}$		4	10	—	dB
	$f_N \pm 600 \text{ kHz} \dots f_N \pm 860 \text{ kHz}$		11	20	—	dB
	$f_N \pm 860 \text{ kHz} \dots f_N \pm 1200 \text{ kHz}$		20	30	—	dB
	20 MHz ... 168,2 MHz		50	60	—	dB
	168,2 MHz ... $f_N - 1200 \text{ kHz}$		40	50	—	dB
	$f_N + 1200 \text{ kHz} \dots 180,2 \text{ MHz}$		40	43	—	dB
	180,2 MHz ... 400 MHz		50	70	—	dB
Return loss (at f_N)			10	12	—	dB
Temperature coefficient of frequency ¹⁾	TC_f		—	-0,036	—	ppm/K ²
Turnover temperature	T_0		—	40	—	$^{\circ}\text{C}$

¹⁾ Temperature dependance of f_c : $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$

Data Sheet
Matching network to 50 Ω

(Element values depend on PCB layout)



$$C_{p1} = 47 \text{ pF}$$

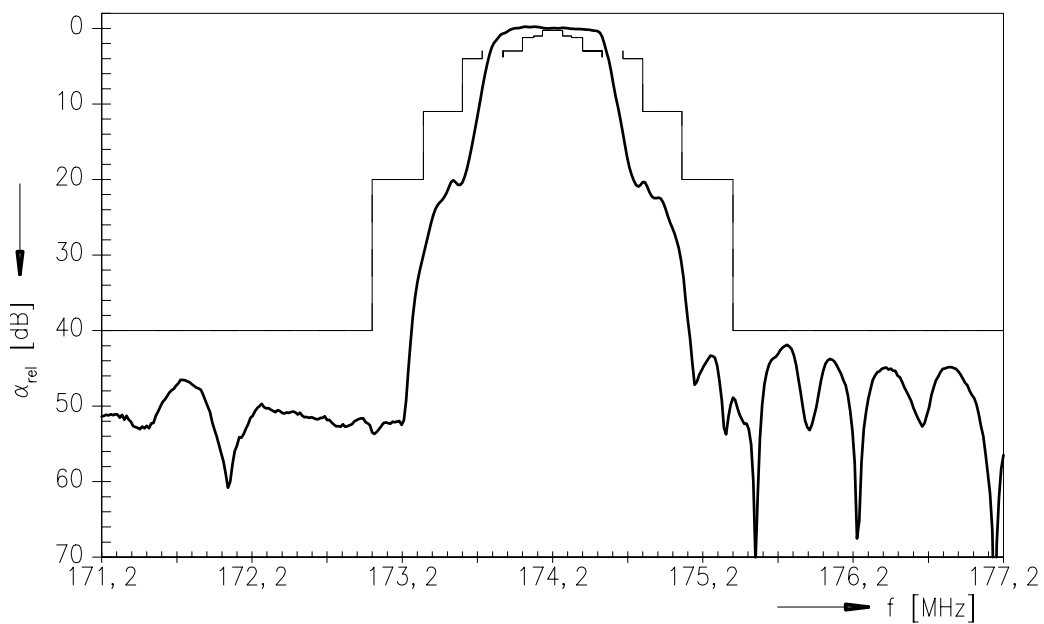
$$L_{s2} = 39 \text{ nH}$$

$$L_{s3} = 36 \text{ nH}$$

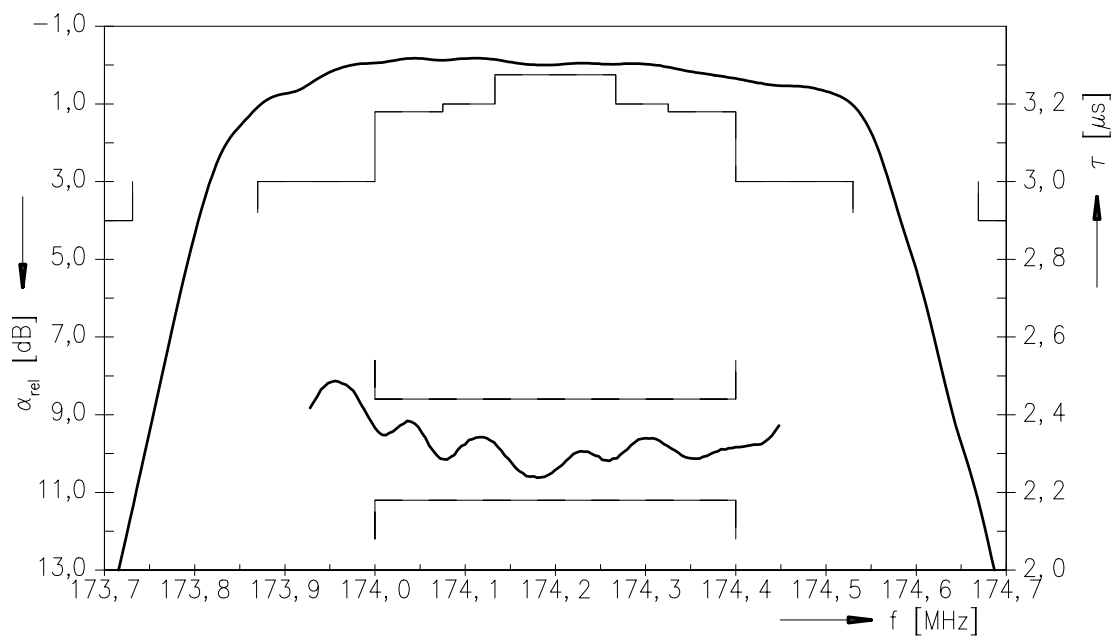
$$C_{p4} = 56 \text{ pF}$$

Data Sheet

Normalized frequency response



Normalized frequency response (pass band)





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

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