



SAW Components

Data Sheet B3865

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 a sense of motion or depth.

EPCOS



SAW Components

B3865

Low-Loss Filter

240,0 MHz

Data Sheet

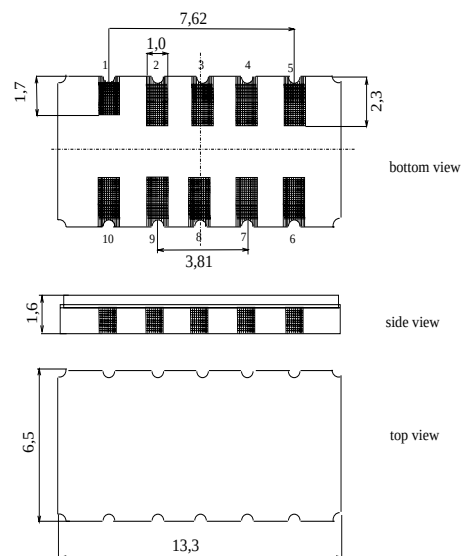
Features

- High performance IF bandpass filter
- Temperature stable
- Hermetically sealed ceramic package

Terminals

- Gold plated

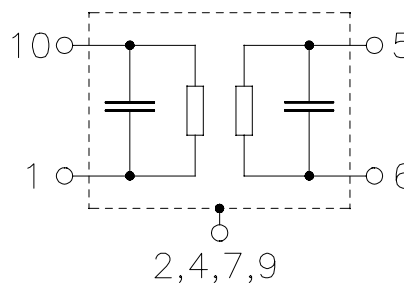
Ceramic package DCC12A



Dimensions in mm, approx. weight 0,44 g

Pin configuration

10	Input
1	Input ground
5	Output
6	Output ground
3, 8	Ground
2, 4, 7, 9	Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B3865	B39241-B3865-H510	C61157-A7-A94	F61074-V8163-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	-40/ +85	°C	
Storage temperature range	T_{stg}	-40/ +85	°C	
DC voltage	V_{DC}	0	V	
Source power	P_s	0	dBm	



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Characteristics

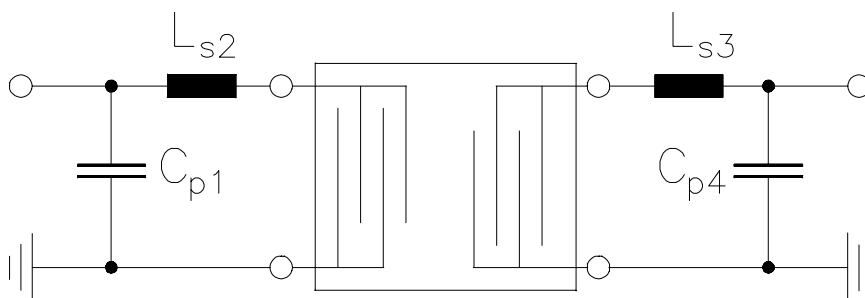
Operating temperature range:	$T = -10 \dots 85^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50 \Omega$ and matching network
Terminating load impedance:	$Z_S = 50 \Omega$ and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	240,0	—	MHz
Minimum insertion attenuation (including matching network)	$\alpha_{\min}$	12,0	14,0	16,0	dB
Passband width	$\alpha_{\text{rel}} \leq 1 \text{ dB}$	$B_{1\text{dB}}$	3,6	4,0	— MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
	$f_N \pm 1,8 \text{ MHz}$	—	0,8	1,1	dB
Absolute group delay (at f_N)	τ	—	1,07	2,5	μs
Group delay ripple (p-p)	$\Delta\tau$				
	$f_N \pm 1,7 \text{ MHz}$	—	150	200	ns
	$f_N \pm 1,8 \text{ MHz}$	—	150	300	ns
Deviation of linear phase (p-p)	$\Delta\phi$				
	$f_N \pm 1,8 \text{ MHz}$	—	4	6	$^{\circ}$
Relative attenuation (relative to $\alpha_{\min}$)	α_{rel}				
$f_N \pm 2,13 \text{ MHz} \dots f_N \pm 2,5 \text{ MHz}$		5	8	—	dB
$f_N \pm 2,5 \text{ MHz} \dots f_N \pm 2,93 \text{ MHz}$		13	16	—	dB
$f_N \pm 2,93 \text{ MHz} \dots f_N \pm 3,3 \text{ MHz}$		24	27	—	dB
$f_N - 5,0 \text{ MHz} \dots f_N - 3,3 \text{ MHz}$		35	38	—	dB
$f_N - 70 \text{ MHz} \dots f_N - 5,0 \text{ MHz}$		40	43	—	dB
$f_N + 3,3 \text{ MHz} \dots f_N + 3,7 \text{ MHz}$		32	35	—	dB
$f_N + 3,7 \text{ MHz} \dots f_N + 5,0 \text{ MHz}$		35	38	—	dB
$f_N + 5,0 \text{ MHz} \dots f_N + 5,4 \text{ MHz}$		38	40	—	dB
$f_N + 5,4 \text{ MHz} \dots f_N + 70 \text{ MHz}$		40	43	—	dB
Input and output return loss		12	15	—	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 : $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$

**SAW Components****B3865****Low-Loss Filter****240,0 MHz****Data Sheet****Matching network to 50 Ω**

(Element values depend upon PCB layout)



$$C_{p1} = 38,6 \text{ pF}$$

$$L_{s2} = 42 \text{ nH}$$

$$L_{s3} = 39 \text{ nH}$$

$$C_{p4} = 36,9 \text{ pF}$$



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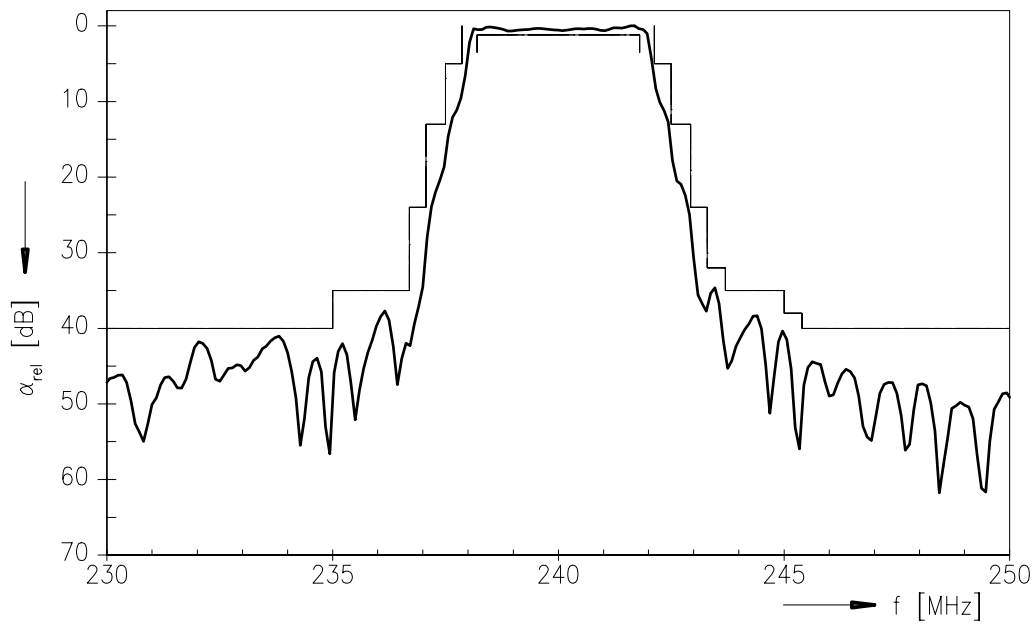
B3865

Low-Loss Filter

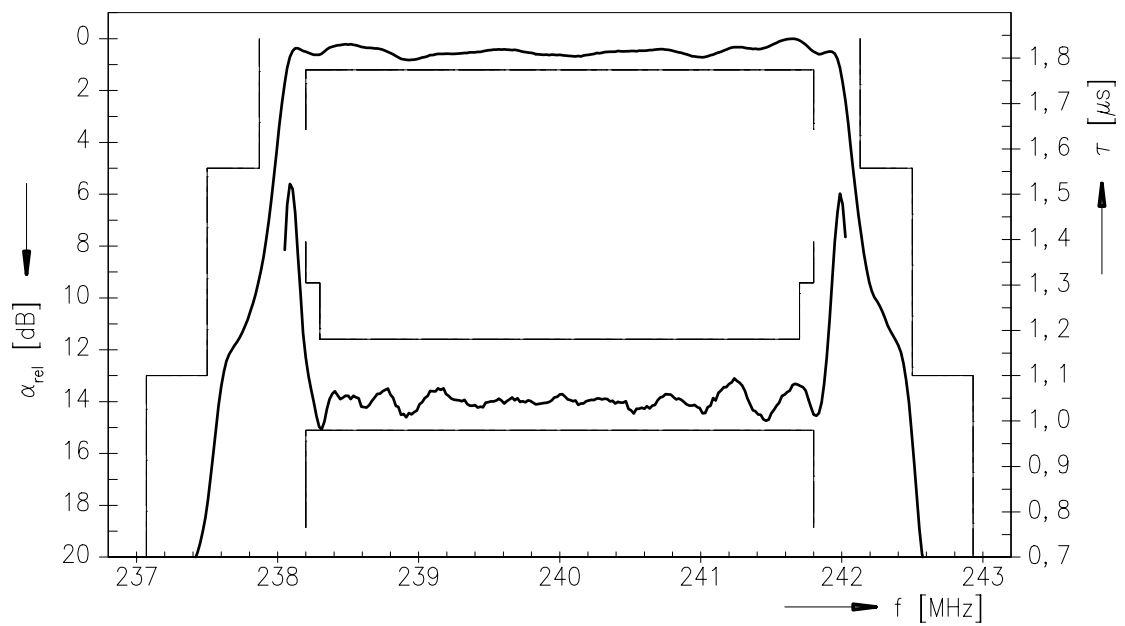
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Normalized frequency response



Normalized frequency response (pass band)





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