



SAW Components

Data Sheet B3866

Data Sheet

An abstract graphic featuring the word "EPCOS" in large, glowing, 3D letters. The letters are white with a bright, circular highlight in the center of each, giving them a three-dimensional appearance. They are set against a dark, textured background that includes a faint, glowing globe and circuitry patterns, suggesting a high-tech or electronic theme.



SAW Components

B3866

Low-Loss Filter

201,0 MHz

Data Sheet

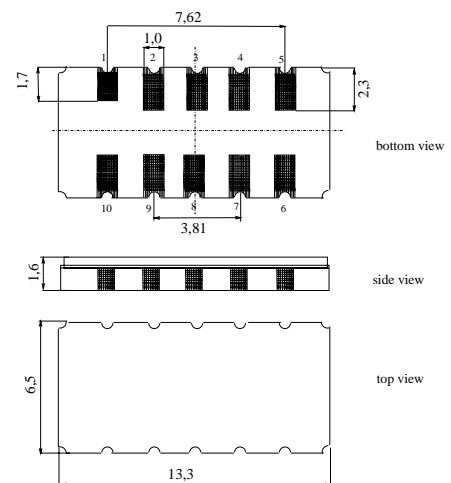
Ceramic package DCC12A

Features

- Low-loss IF filter for GSM / EDGE base station
- Channel selection in PCS, DCS systems
- Temperature stable
- Balanced and unbalanced operation possible
- Ceramic SMD package

Terminals

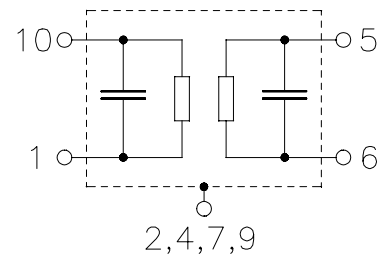
- Gold plated



Dimensions in mm, approx. weight 0,4 g

Pin configuration

1, 10	Balanced input
5, 6	Balanced output
3, 8	Ground
2, 4, 7, 9	Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B3866	B39201-B3866-H510	C61157-A7-A94	F61074-V8163-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T_A	-30 / +85	°C	between terminals 1 and 10 else
Storage temperature range	T_{stg}	-30 / +85	°C	
DC voltage	V_{DC}	5	V	
		0	V	
Source power	P_s	10	dBm	



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Characteristics

Operating temperature range:	$T_A = 0 - 70\text{ °C}$
Terminating source impedance:	$Z_S = 80\ \Omega \parallel 30\text{ nH}$
Terminating load impedance:	$Z_L = 90\ \Omega \parallel 35\text{ nH}$

		min.	typ.	max.	
Nominal frequency	f_N	—	201,0	—	MHz
Minimum insertion attenuation (including matching network)	α_{\min}	—	4,0	6,0	dB
Passband width $\alpha_{\text{rel}} \leq 3\text{ dB}$	$B_{3,0\text{dB}}$	—	300	—	kHz
Amplitude ripple in passband $f_N \pm 80\text{ kHz}$	$\Delta\alpha_{\text{rel}}$	—	$\pm 0,2$	$\pm 1,0$	dB
Absolute group delay (at f_N)	τ	—	2,2	—	μs
Group delay ripple (p-p) $f_N \pm 80\text{ kHz}$	$\Delta\tau$	—	0,7	1,5	μs
Relative attenuation (relative to α_{\min})	α_{rel}				
$f_N \pm 200\text{ kHz} \dots f_N \pm 300\text{ kHz}$		3	8	—	dB
$f_N \pm 300\text{ kHz} \dots f_N \pm 400\text{ kHz}$		13	20	—	dB
$f_N \pm 400\text{ kHz} \dots f_N \pm 700\text{ kHz}$		20	30	—	dB
$f_N \pm 700\text{ kHz} \dots f_N \pm 1600\text{ kHz}$		27	40	—	dB
$f_N \pm 1600\text{ kHz} \dots f_N \pm 3000\text{ kHz}$		30	45	—	dB
$f_N \pm 3000\text{ kHz} \dots f_N \pm 6000\text{ kHz}$		33	55	—	dB
$f_N \pm 6000\text{ kHz} \dots f_N \pm 35000\text{ kHz}$		40	55	—	dB
IM3 level (Input level -17 dBm)					
$f_N \pm 800\text{ kHz}$		—	—	-110	dBm
$f_N \pm 1600\text{ kHz}$		—	—	-110	dBm
Temperature coefficient of frequency¹⁾	TC_f	—	-0,036	—	ppm/K ²
Turnover temperature	T_0	—	35	—	°C

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



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Matching network to 200 Ω

4:1 transformers are only required for measurement in a 50 Ω environment
(element values depend on PCB layout)

$$C_{p1} = 6,8 \text{ pF}$$

$$L_{p5} = 33 \text{ nH}$$

$$L_{s2} = 27 \text{ nH}$$

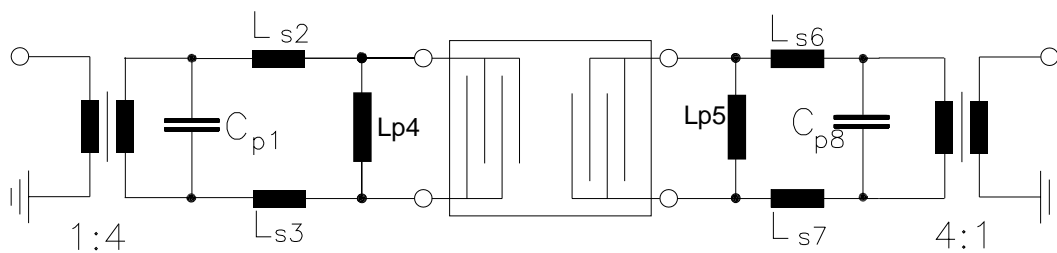
$$L_{s6} = 27 \text{ nH}$$

$$L_{s3} = 27 \text{ nH}$$

$$L_{s7} = 27 \text{ nH}$$

$$L_{p4} = 33 \text{ nH}$$

$$C_{p8} = 5,6 \text{ pF}$$





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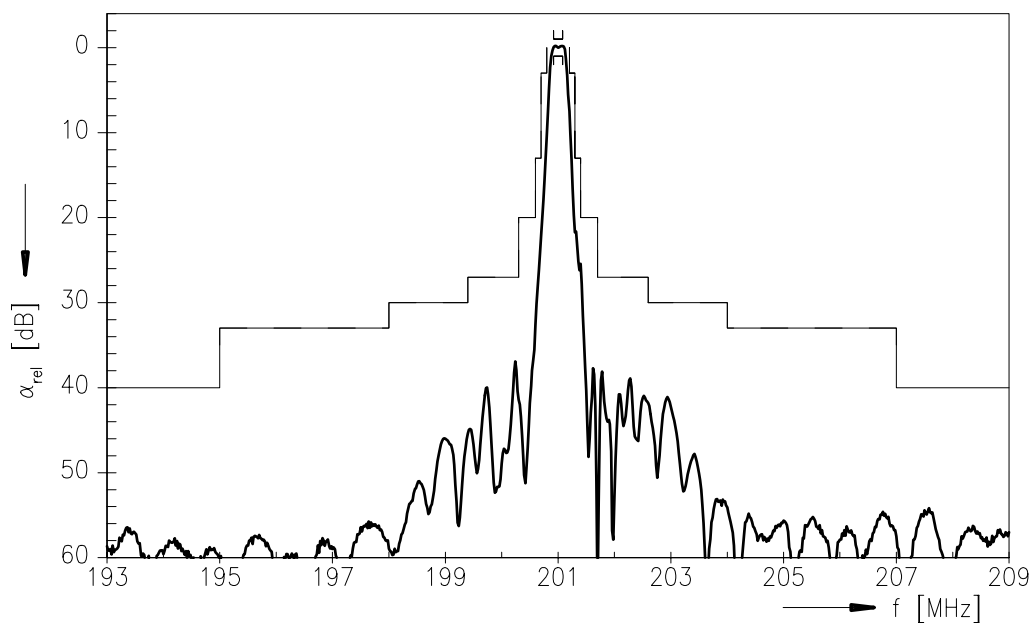
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Low-Loss Filter

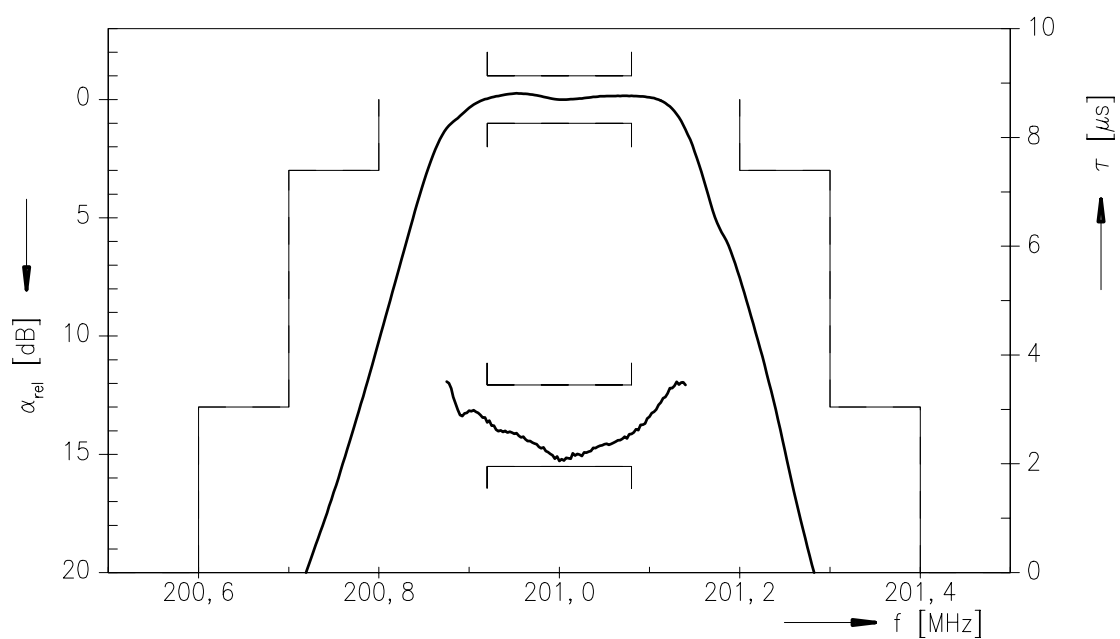
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Transfer function



Transfer function (pass band)





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

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