



# SAW Components

Data Sheet B3666

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 technology.



<b>SAW Components</b>	<b>B3666</b>
<b>Low-Loss Filter</b>	<b>82,20 MHz</b>

# Data Sheet

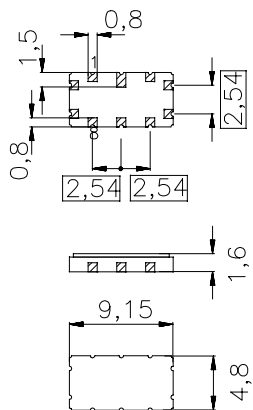
Ceramic SMD package QCC10B

## Features

- Low-loss IF filter
- Ceramic SMD package
- Balanced or unbalanced operation possible
- Low insertion attenuation, high selectivity

## Terminals

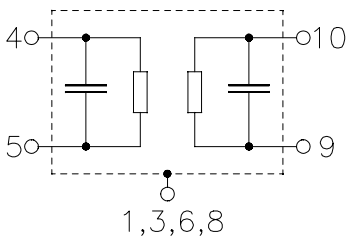
- Gold-plated



Dimensions in mm, approx. weight 0,23 g

## Pin configuration

4, 5	Input
9,10	Output
1,3,6,8	Case ground
2,7	To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B3666	B39820-B3666-Z710	C61157-A7-A49	F61064-V8035-Z000

Electrostatic Sensitive Device (ESD)

## Maximum ratings

Operable temperature range	$T$	- 30/+ 80	°C
Storage temperature range	$T_{stg}$	- 40/+ 85	°C
DC voltage	$V_{DC}$	0	V
Source power	$P_s$	10	dBm



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### Characteristics

Reference temperature:	$T = -10 \dots +80 \text{ }^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50 \text{ } \Omega$ unbalanced and matching network
Terminating load impedance:	$Z_L = 50 \text{ } \Omega$ unbalanced and matching network

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	82,2	—	MHz
<b>Minimum insertion loss</b>	$\alpha_{\min}$	—	3,7	5,0	dB
<b>3dB bandwidth</b>		30	50	—	kHz
<b>Amplitude variation (p-p)</b> $f_N - 15 \text{ kHz} \dots f_N + 15 \text{ kHz}$	$\Delta\alpha$	—	0,9	3,0	dB
<b>Amplitude ripple (peak to adjacent valley)</b> $f_N - 15 \text{ kHz} \dots f_N + 15 \text{ kHz}$	$\Delta\alpha$	—	0,0	1,5	dB
<b>Absolute group delay (at <math>f_N</math>)</b>	$\tau$	—	16	—	$\mu\text{s}$
<b>Group delay ripple (p-p)</b> $f_N - 11 \text{ kHz} \dots f_N + 11 \text{ kHz}$	$\Delta\tau$	—	1,6	10	$\mu\text{s}$
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
$f_N - 1000 \text{ kHz} \dots f_N - 925 \text{ kHz}$		40	70	—	dB
$f_N - 925 \text{ kHz} \dots f_N - 885 \text{ kHz}$		70	75	—	dB
$f_N - 885 \text{ kHz} \dots f_N - 700 \text{ kHz}$		40	70	—	dB
$f_N - 700 \text{ kHz} \dots f_N - 400 \text{ kHz}$		30	65	—	dB
$f_N - 400 \text{ kHz} \dots f_N - 120 \text{ kHz}$		40	60	—	dB
$f_N - 120 \text{ kHz} \dots f_N - 60 \text{ kHz}$		20	34	—	dB
$f_N + 60 \text{ kHz} \dots f_N + 120 \text{ kHz}$		20	29	—	dB
$f_N + 120 \text{ kHz} \dots f_N + 150 \text{ kHz}$		40	57	—	dB
$f_N + 150 \text{ kHz} \dots f_N + 400 \text{ kHz}$		30	55	—	dB
$f_N + 400 \text{ kHz} \dots f_N + 1000 \text{ kHz}$		40	55	—	dB
<b>Intermodulation distortion</b> Intermodulation in the composit signal by $f_N \pm 60$ kHz and $f_N \pm 120$ kHz, each of -20 dBm			—	-90	dB
<b>Temperature coefficient of frequency <sup>1)</sup></b>	$TC_f$	—	-0,036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	—	30	—	$^{\circ}\text{C}$

<sup>1)</sup> Temperature dependance of  $f_c$ :  $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$



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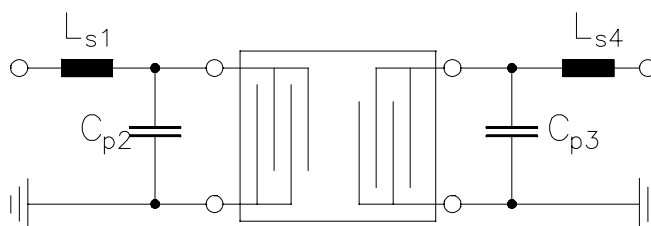
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Low-Loss Filter

82,20 MHz

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**Matching network** (element values depend on pcb layout)

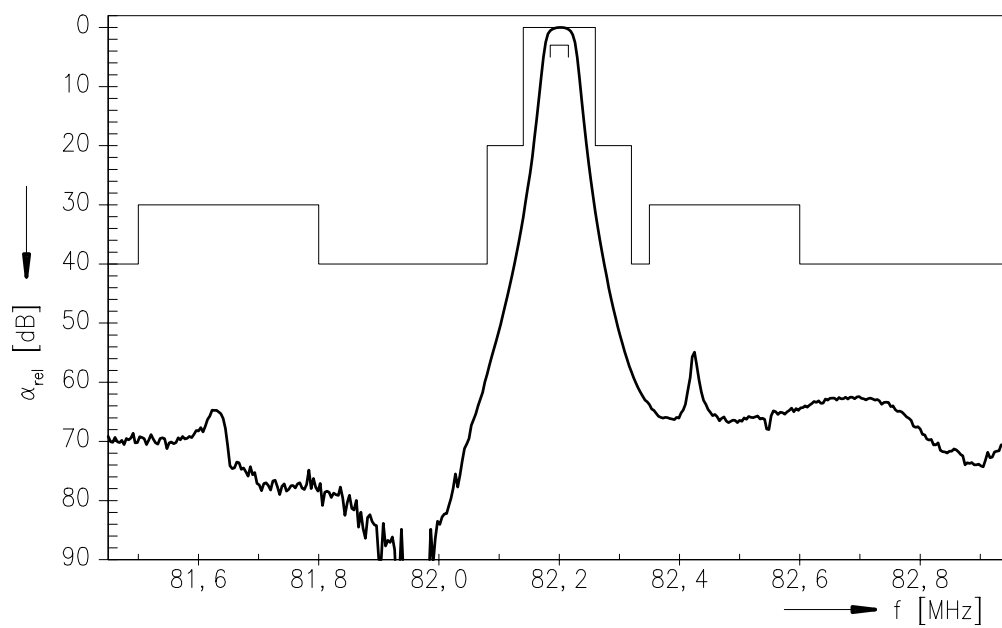
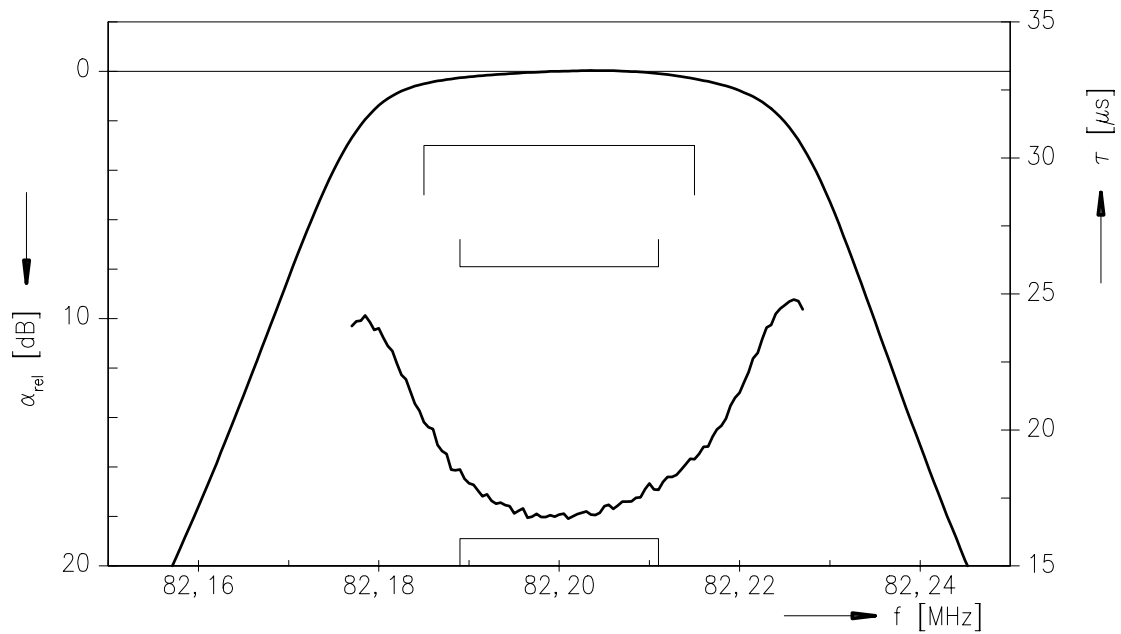


$$L_{s1} = 470 \text{ nH}$$

$$C_{p2} = 3,9 \text{ pF}$$

$$C_{p3} = 3,9 \text{ pF}$$

$$L_{s4} = 470 \text{ nH}$$

**SAW Components****B3666****Low-Loss Filter****82,20 MHz****Data Sheet****Transfer function**



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**Published by EPCOS AG**  
**Surface Acoustic Wave Components Division, OFW E NK**  
**P.O. Box 80 17 09, D-81617 München**

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