



# SAW Components

Data Sheet B3666





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B3666

Low-Loss Filter

82,20 MHz

Data Sheet

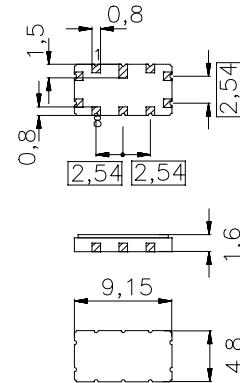
Ceramic SMD package QCC10B

Features

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

Terminals

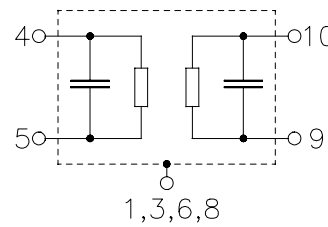
- Gold-plated



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:

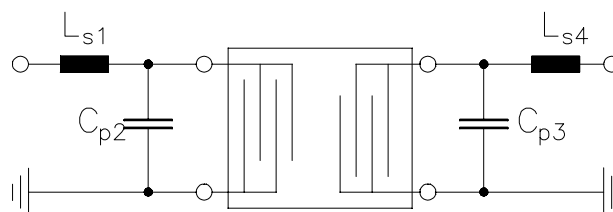
 $Z_L = 50 \text{ } \Omega$  unbalanced and matching network

		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  $f_c$ :  $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$

## Data Sheet

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



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

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

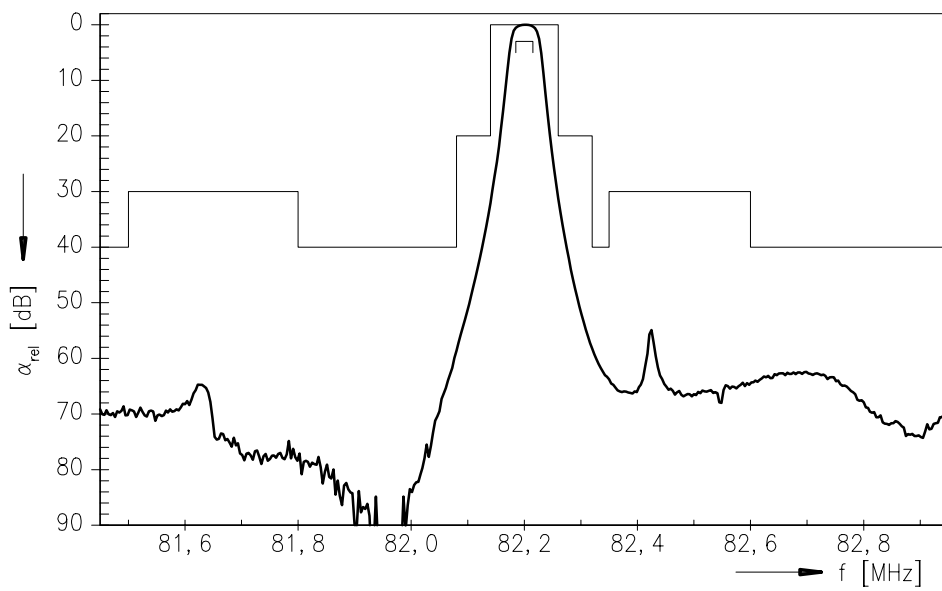
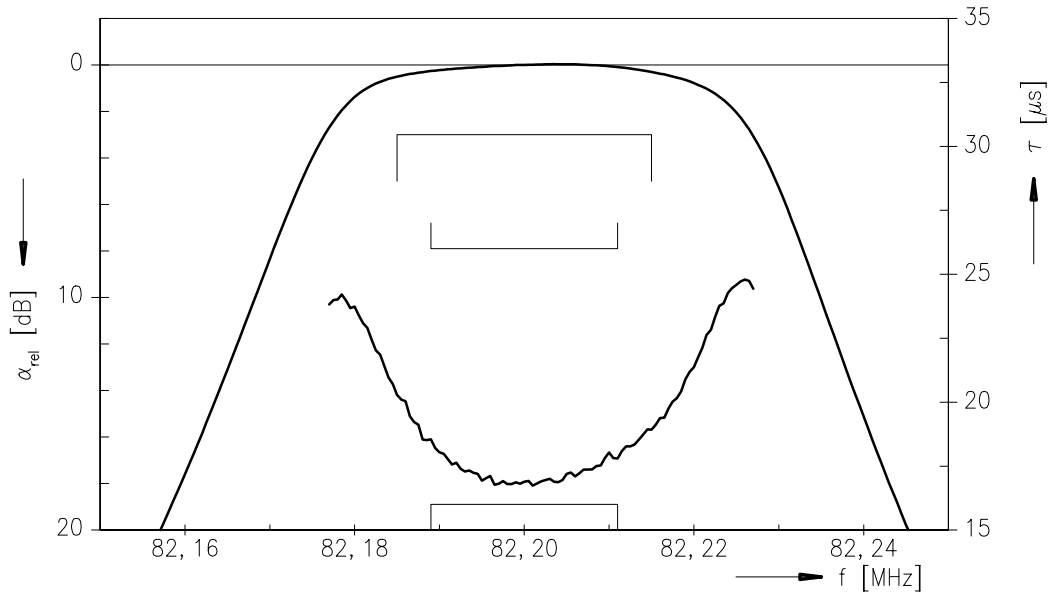
$$C_{p3} = 3,9 \text{ pF}$$

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



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Transfer function





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