



# SAW filters for infrastructure systems

## Series/Type: **B3882**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39171B3882Z710		2012-01-13	2012-12-31	2013-03-30

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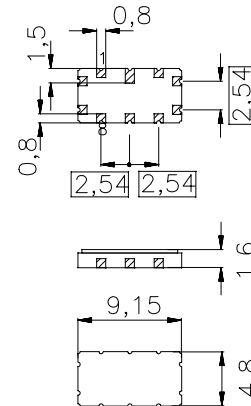
**Data Sheet**

 Ceramic package **QCC10B**
**Features**

- Low-loss filter
- Multichannel CDMA2000 capable
- Balanced or unbalanced operation possible
- Temperature stable
- Hermetically sealed ceramic SMD package

**Terminals**

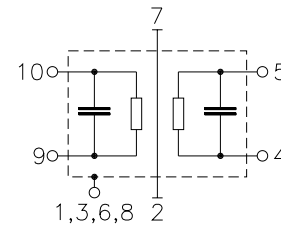
- Gold plated



Dimensions in mm, approx. weight 0,23 g

**Pin configuration**

- |            |                                  |
|------------|----------------------------------|
| 10         | Input                            |
| 9          | Input ground or balanced input   |
| 5          | Output                           |
| 4          | Output ground or balanced output |
| 2, 7       | Ground                           |
| 1, 3, 6, 8 | To be grounded                   |



Type	Ordering code	Marking and Package according to	Packing according to
B3882	B39171-B3882-Z710	C61157-A7-A49	F61074-V8172-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	-40/ +85	°C
Storage temperature range	$T_{stg}$	-40/ +85	°C
DC voltage	$V_{DC}$	5	V
Source power	$P_s$	10	dBm

<b>SAW Components</b>	<b>B3882</b>
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<b>Low-Loss Filter</b>	<b>168,96 MHz</b>
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**Data Sheet**
**Characteristics**

Operating temperature:  $T = 0 \dots +85 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$  single ended and matching network  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$  single ended and matching network

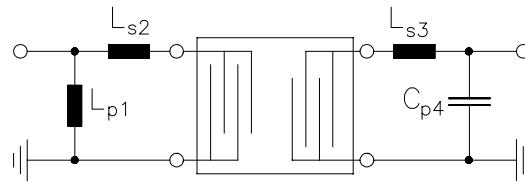
		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	168,96	—	MHz
<b>Minimum insertion attenuation</b> (including matching network)	$\alpha_{\min}$	—	13,0	14,5	dB
<b>Passband width</b>					
$\alpha_{\text{rel}} \leq 1 \text{ dB}$	$B_{1\text{dB}}$	—	4,4	—	MHz
$\alpha_{\text{rel}} \leq 5 \text{ dB}$	$B_{5\text{dB}}$	—	4,9	—	MHz
$\alpha_{\text{rel}} \leq 30 \text{ dB}$	$B_{30\text{dB}}$	—	6,1	—	MHz
<b>Amplitude ripple<sup>1)</sup> (p-p)</b>	$\Delta\alpha$				
$f_N \pm 1,92 \text{ MHz}$		—	0,5	0,9	dB
$f_N \pm k*1,25 \text{ MHz} \pm 0,6144 \text{ MHz}$		—	0,4	0,7	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
$f_N \pm 1,92 \text{ MHz}$		—	70	120	ns
<b>Phase Linearity<sup>1)</sup> (rms)</b>	$\Delta\phi$				
$f_N \pm 1,92 \text{ MHz}$		—	1,0	1,4	$^\circ$
$f_N \pm k*1,25 \text{ MHz} \pm 0,6144 \text{ MHz}$		—	1,0	1,4	$^\circ$
<b>Average Error Vector Magnitude<sup>1)</sup></b>	$EVM$				
$f_N \pm 1,92 \text{ MHz}$		—	1,9	3,0	%
$f_N \pm k*1,25 \text{ MHz} \pm 0,6144 \text{ MHz}$		—	1,9	3,0	%
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
$f_N \pm 2,5 \text{ MHz} \dots f_N \pm 3,0 \text{ MHz}$		4	5	—	dB
$f_N \pm 3,0 \text{ MHz} \dots f_N \pm 17,5 \text{ MHz}$		10	20	—	dB
$f_N \pm 17,5 \text{ MHz} \dots f_N \pm 66,0 \text{ MHz}$		45	50	—	dB
<b>Temperature coefficient of frequency<sup>2)</sup></b>	$TC_f$	—	- 0,036	—	ppm/ $K^2$
<b>Turnover temperature</b>	$T_0$	—	35	—	$^\circ\text{C}$

<sup>1)</sup>Amplitude ripple/Phase Linearity/Average Error Vector Magnitude: where  $k = (-1,0,1)$

<sup>2)</sup> Temperature dependence 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  $\Omega$  single ended input and output:**

(Element values depend upon PCB layout)



$$L_{p1} = 18 \text{ nH}$$

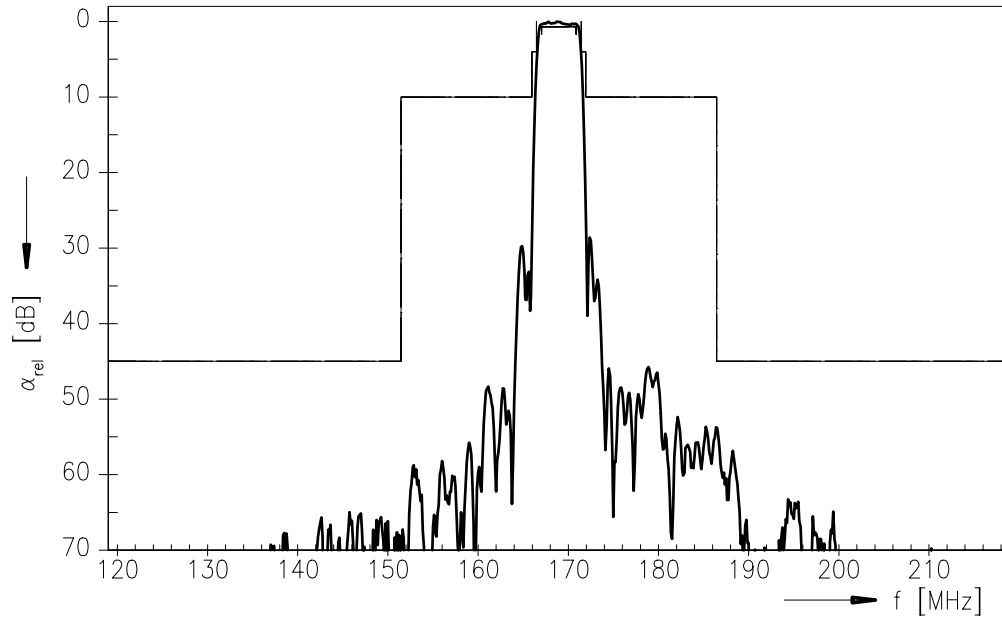
$$L_{s2} = 68 \text{ nH}$$

$$L_{s3} = 120 \text{ nH}$$

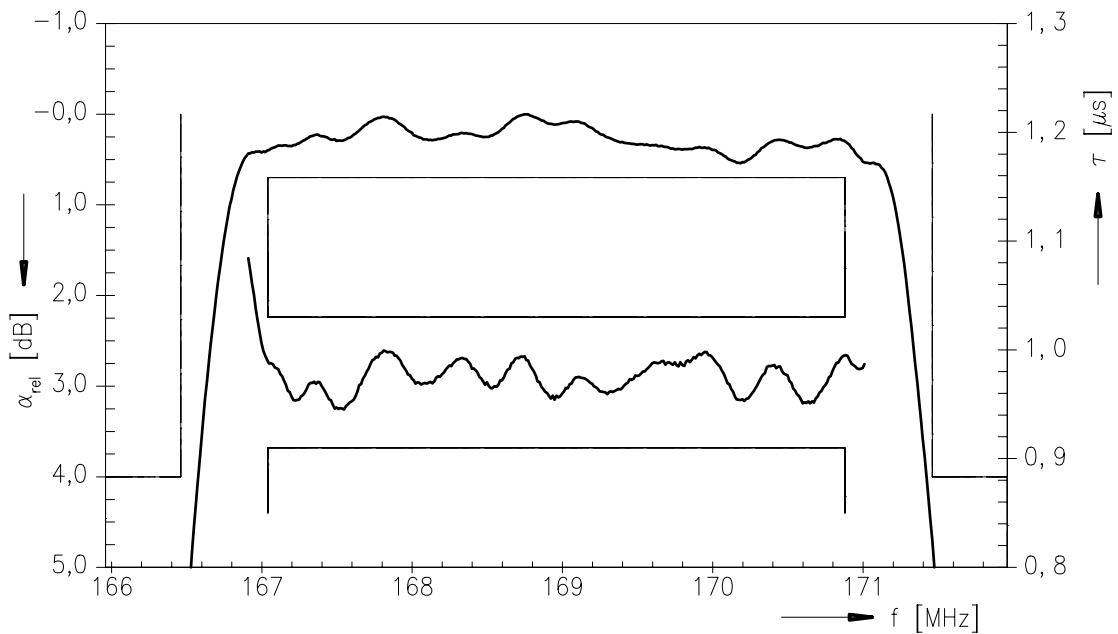
$$C_{p4} = 56 \text{ pF}$$

Data Sheet

Normalized frequency response



Normalized frequency response (pass band)



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