



# SAW Components

Data Sheet B3665





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B3665

Low-Loss Filter

380,00 MHz

Data Sheet

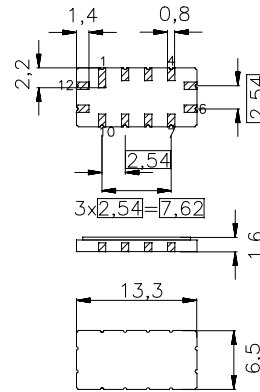
Ceramic package QCC12

Features

- IF filter for WCDMA
- Low insertion loss
- Ceramic SMD package
- Temperature stable

Terminals

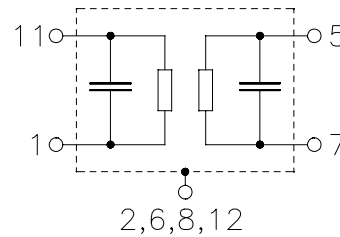
- Gold plated



Dimensions in mm, appr. weight 0,4 g

Pin configuration

- |             |                |
|-------------|----------------|
| 11          | Input          |
| 1           | Input ground   |
| 5           | Output         |
| 7           | Output ground  |
| 2, 6, 8, 12 | Case ground    |
| 3           | To be grounded |
| 4, 9, 10    | Not connected  |



Type	Ordering code	Marking and Package according to	Packing according to
B3665	B39381-B3665-Z510	C61157-A7-A55	F61074-V8026-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	$T_A$	-40 / +85	°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**

Operating temperature:	$T_A = -10 \dots +85 \text{ }^\circ\text{C}$
Terminating source impedance:	$Z_S = 50 \text{ } \Omega$ and matching network
Terminating load impedance:	$Z_L = 50 \text{ } \Omega$ and matching network
Group delay aperture:	50 kHz

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	380,00	—	MHz
<b>Minimum insertion attenuation</b> (including matching network)	$\alpha_{\min}$	15,0	16,0	17,0	dB
<b>Passband width</b>					
	$\alpha_{\text{rel}} \leq 1 \text{ dB}$	$B_{1\text{dB}}$	4,2	4,5	—
	$\alpha_{\text{rel}} \leq 3 \text{ dB}$	$B_{3\text{dB}}$	5,0	5,2	—
	$\alpha_{\text{rel}} \leq 10 \text{ dB}$	$B_{10\text{dB}}$	—	6,3	6,5
	$\alpha_{\text{rel}} \leq 30 \text{ dB}$	$B_{30\text{dB}}$	—	7,8	8,0
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	$f_N \pm 2,05 \text{ MHz}$	—	0,6	1,0	dB
<b>Phase ripple (p-p)</b>	$\Delta\varphi$				
	$f_N \pm 2,05 \text{ MHz}$	—	2,5	4	$^\circ$
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
	$f_N \pm 2,05 \text{ MHz}$	—	50	100	ns
<b>Absolute group delay</b>	$\tau$				
mean value within $f_N \pm 2,05 \text{ MHz}$ at $25 \text{ }^\circ\text{C}$ 1)		938	943	948	ns
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
346 MHz ... 350 MHz		50	60	—	dB
362 MHz ... 366 MHz		55	60	—	dB
$f_N \pm 3,5 \text{ MHz}$ ... $f_N \pm 4,5 \text{ MHz}$		10	15	—	dB
$f_N \pm 4,5 \text{ MHz}$ ... $f_N \pm 5,5 \text{ MHz}$		30	35	—	dB
$f_N \pm 5,5 \text{ MHz}$ ... $f_N \pm 50,00 \text{ MHz}$		40	45	—	dB
<b>Temperature coefficient of frequency<sup>2)</sup></b>	$TC_f$	—	-0,036	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	—	25	—	$^\circ\text{C}$

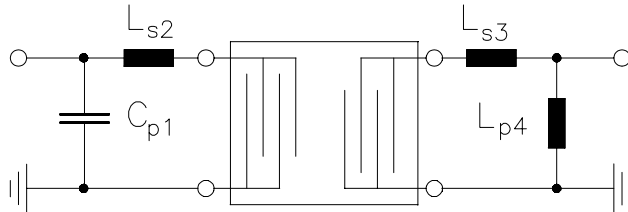
1) At other temperatures the variation from filter to filter is also restricted to +/- 5 ns.

2) 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  $\Omega$  (element values depend on pcb layout)



$C_{p1} = 27 \text{ pF}$

$L_{s2} = 33 \text{ nH}$

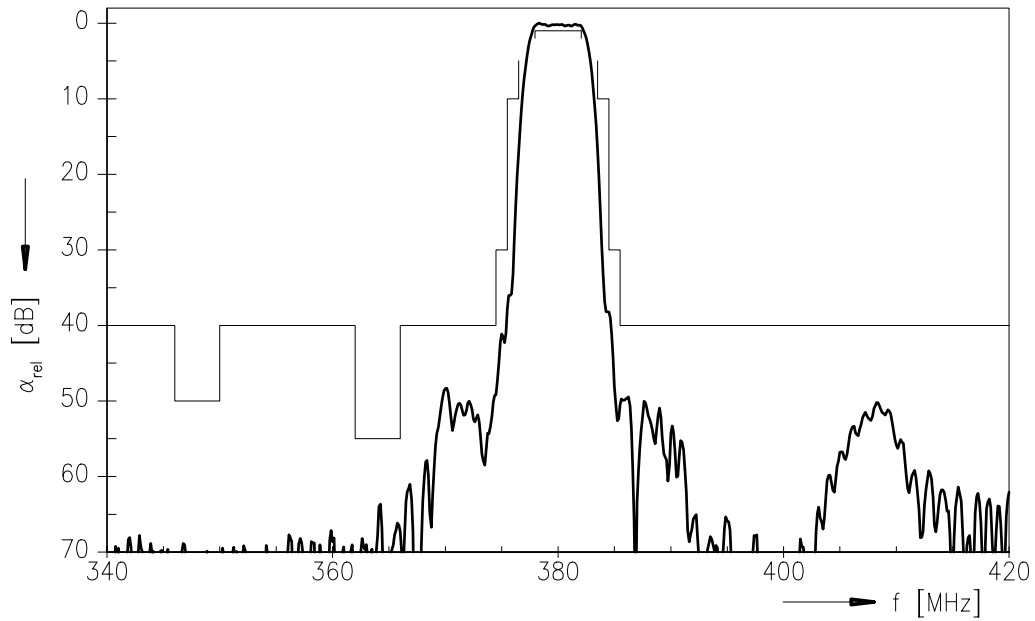
$L_{s3} = 10 \text{ nH}$

$L_{p4} = 22 \text{ nH}$

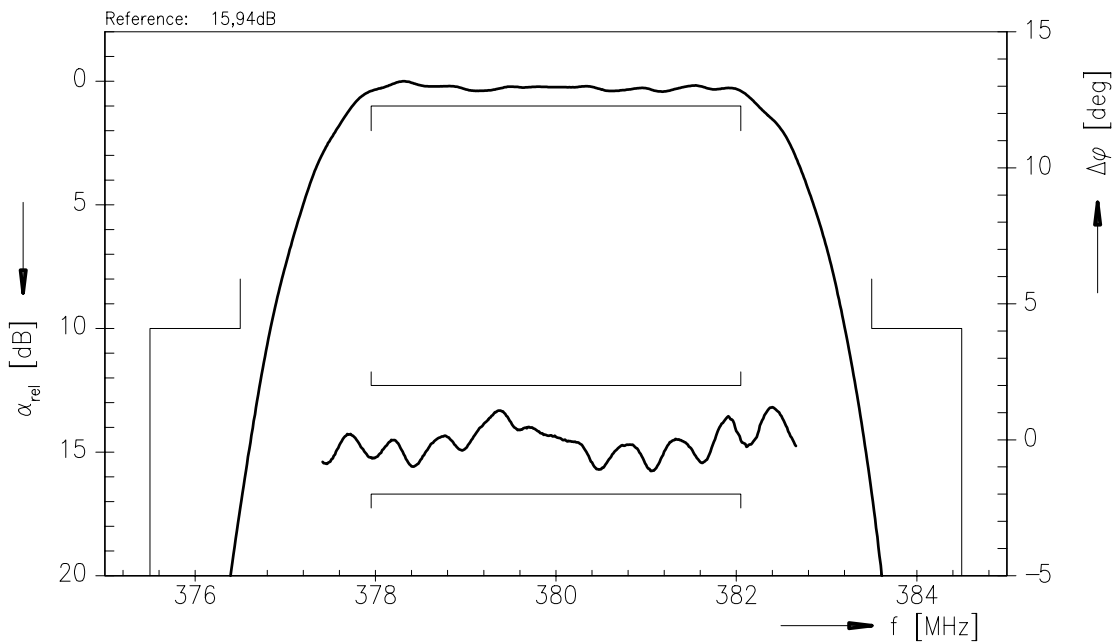


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Transfer function



Transfer function (pass band)





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