



# SAW Components

Data Sheet B3680





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B3680

Low-Loss Filter

352,0 MHz

Data Sheet

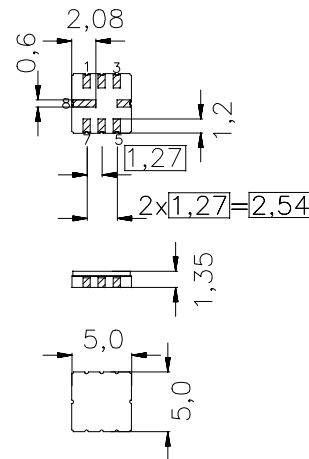
Ceramic package QCC8C

**Features**

- Low-loss IF filter for Wireless LAN
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 12 MHz
- Balanced or unbalanced operation
- Hermetically sealed ceramic package
- Package for Surface Mounted Technology (SMT)

**Terminals**

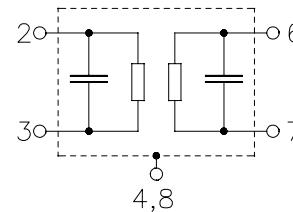
- Gold plated



typ. Dimensions in mm, approx. weight 0,1 g

**Pin configuration**

- 2, 3 Input, input ground or bal. input
- 6, 7 Output, outp. ground or bal. outp.
- 4, 8 Case ground
- 1, 5 Ground



Type	Ordering code	Marking and Package according to	Packing according to
B3680	B39351-B3680-U310	C61157-A7-A56	F61074-V8070-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T_A$	-25 / +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 range:

$T_A = 25 \text{ }^\circ\text{C}$

Terminating source impedance:

$Z_S = 50 \text{ } \Omega \text{ and matching network}$

Terminating load impedance:

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

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Nominal frequency</b>	$f_N$	—	352,0	—	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	2,7	3,0	dB
<b>Amplitude ripple in passband (p-p)</b> 346,0 .... 358,0 MHz	$\Delta\alpha$	—	1,4	2,5	dB
<b>Group delay ripple (p-p)</b> 346,0 .... 358,0 MHz	$\Delta\tau$	—	40	100	ns
346,5 .... 358,0 MHz		—	40	80	ns
<b>Pass bandwidth</b> $\alpha_{\text{rel}} \leq 3\text{dB}$	$B_{3\text{dB}}$	15,0	15,6	—	MHz
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
0,3 .... 333,0 MHz		45	54	—	dB
333,0 .... 341,0 MHz		11	34	—	dB
363,0 .... 366,0 MHz		11	19	—	dB
366,0 .... 371,0 MHz		22	25	—	dB
371,0 .... 374,0 MHz		25	35	—	dB
374,0 .... 392,0 MHz		34	36	—	dB
392,0 .... 400,0 MHz		45	54	—	dB
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 70	—	ppm/K


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Operating temperature range:

$T_A = 0 \dots 85 \text{ }^\circ\text{C}$

Terminating source impedance:

$Z_S = 50 \text{ } \Omega \text{ and matching network}$

Terminating load impedance:

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

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	352,0	—	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	2,7	3,5	dB
<b>Amplitude ripple in passband (p-p)</b> 346,0 .... 358,0 MHz	$\Delta\alpha$	—	1,4	3,0	dB
<b>Group delay ripple (p-p)</b> 346,0 .... 358,0 MHz	$\Delta\tau$	—	40	170	ns
346,5 .... 358,0 MHz		—	40	120	ns
<b>Pass bandwidth</b> $\alpha_{\text{rel}} \leq 3\text{dB}$	$B_{3\text{dB}}$	14,0	15,6	—	MHz
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
0,3 .... 333,0 MHz		45	54	—	dB
333,0 .... 341,0 MHz		11	34	—	dB
363,0 .... 366,0 MHz		11	19	—	dB
366,0 .... 371,0 MHz		22	25	—	dB
371,0 .... 374,0 MHz		25	35	—	dB
374,0 .... 392,0 MHz		34	36	—	dB
392,0 .... 400,0 MHz		45	54	—	dB
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 70	—	ppm/K



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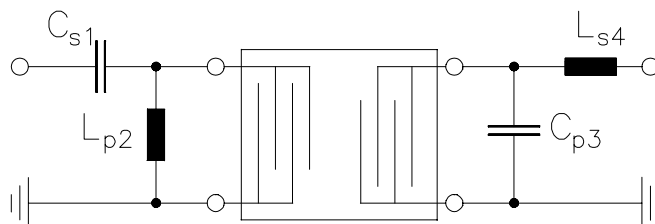
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matching network:



$$C_{s1} = 10 \text{ pF}$$

$$L_{p2} = 27 \text{ nH}$$

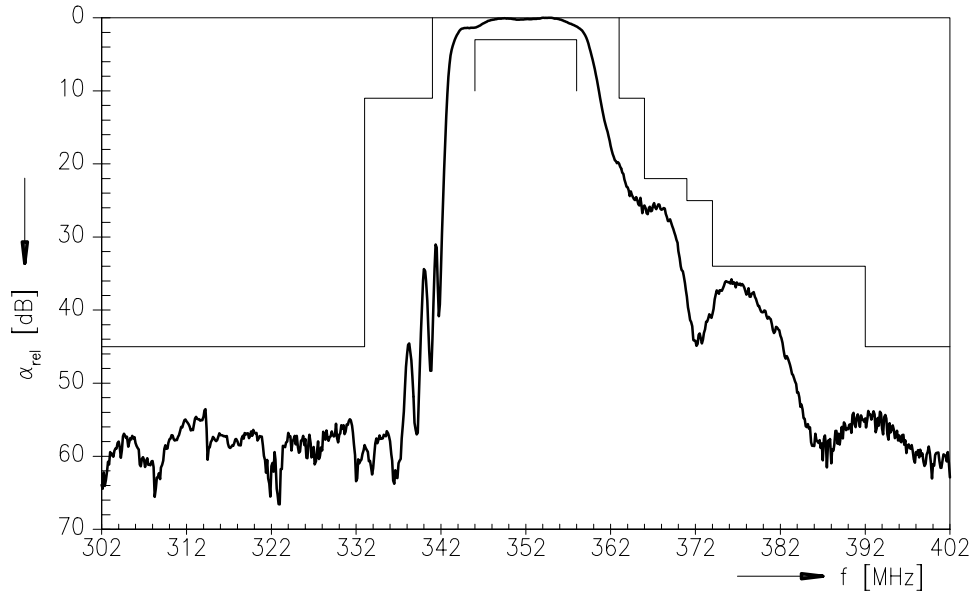
$$C_{p3} = 1,2 \text{ pF}$$

$$L_{s4} = 27 \text{ nH}$$

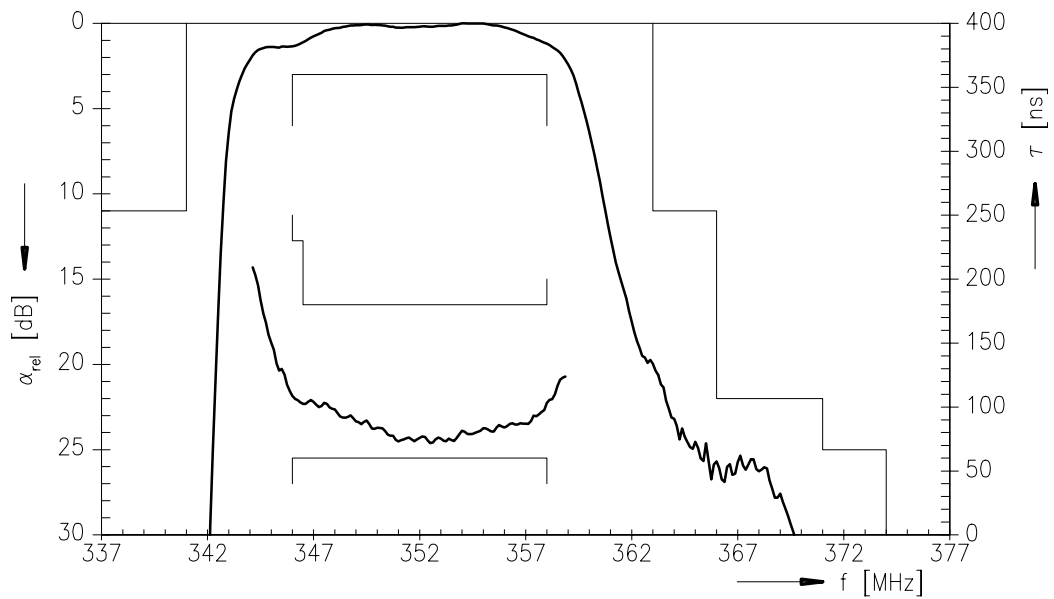


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Transfer function:



Transfer function (pass band):





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