

## 1. General

The filter is single ended driven. It is matched to 50  $\Omega$

The matching element values given below are valid on the test PCB. If the parasitics on the customer PCB and on this PCB are different, the matching elements have to be optimised regarding the circuit and PCB design.

The matching elements have been chosen from the E12- series (European standard series with fixed tolerances).

## 2. Theoretical matching

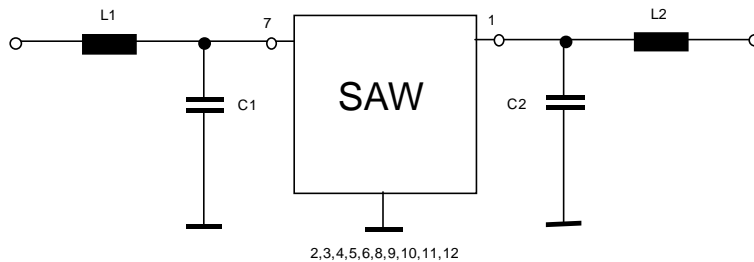
The termination impedances of the filter are:

source impedance:  $295 \Omega \parallel 1,15 \text{ pF}$

load impedance:  $295 \Omega \parallel 1,15 \text{ pF}$

The values of the matching elements which are given below are calculated from the source and load impedance. If the values of the matching elements are not equal to standard values the best standard values are given in brackets.

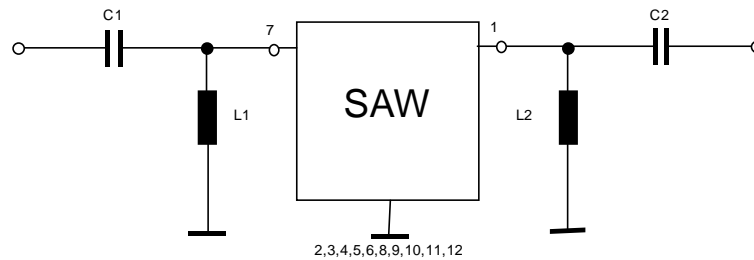
### **50 $\Omega$ test circuit 1**



L1 = 84 nH  
C1 = 6.8 pF

L2 = 84 nH  
C2 = 6.8 pF

### **50 $\Omega$ test circuit 2**



C1 = 6.8 pF  
L1 = 126 nH

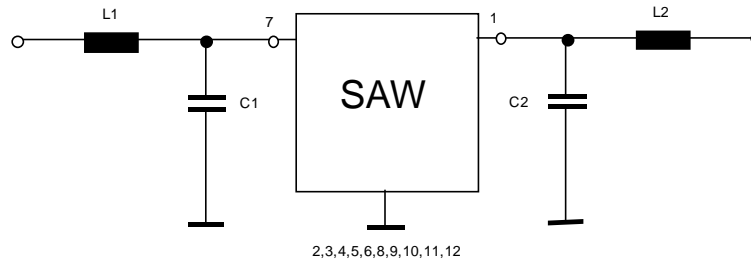
C2 = 6.8 pF  
L2 = 126 nH

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### **3. Matching on the PCB**

For example: PCB with 50  $\Omega$  test circuit 1



L1 = 68 nH  
C1 = 4.7 pF

L2 = 68 nH  
C2 = 4.7 pF

The matching on the PCB does slightly differ from the theoretical matching. The reason for that are parasitics of the PCB.

If the parasitics on the customer board (mentioned parasitics, additional parasitics of active parts) are different to this PCB the matching elements have to be slightly adjusted.

In case of questions please contact us to

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