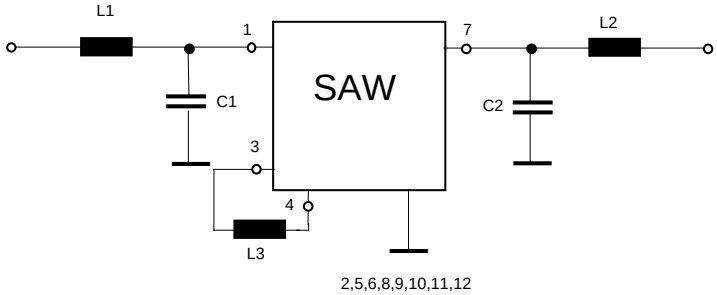
Application Note for the SAW Filter TFS246H1

The filter is symmetrical, i.e. input and output are exchangeable with each other. But the external coupling coil has to be connected between pin 3 and 4 in any case.
The filter has to be driven single ended.

The termination impedances are : **590 Ω || - 2.14 pF**
This impedance is equal at the input and the output. It has to be realized at the point were the filter is mounted. To match this impedance with the impedance of the system, a matching circuit is required.

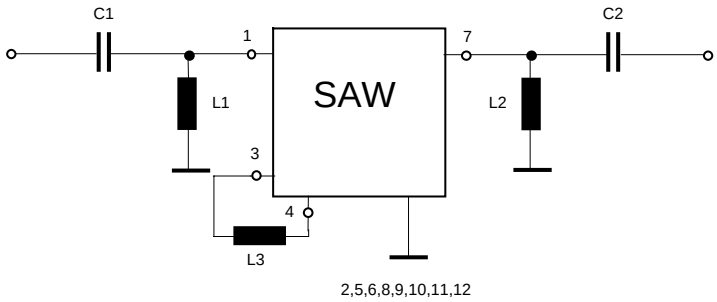
For the matching to 50 Ohm there can be used two different matching circuits:

50 Ohm Test circuit 1



The theoretical values of the stated elements are:
L1 = L2 = 106 nH, C1 = C2 = 1.4 pF, L3 = 200 nH

50 Ohm Test circuit 2



The theoretical values of the stated elements are:
C1 = C2 = C3 = C4 = 3.9 pF, L1 = L2 = 73 nH, L5 = 200 nH

The calculation was made without consideration of parasitics. The elements which have to be used on the PCB are slightly different from the stated.

For example: PCB with circuit 1
L1 = L2 = 100 nH, C1 and C2 can be left, L3 = 330 nH

If requested we can supply with such PCB and the measured S-parameters.

In case of questions please contact us to
VI TELEFILTER, Potsdamer Str. 18, 14513 Teltow, Germany
Tel +49 3328 4784 24, Fax +49 3328 4784 30, e-mail tft@telefilter.com