CLAIMS

1. A ~~P~~process for fabricating a thermo-optic component ~~(100)~~ comprising the following steps:

a) providing an SOI substrate ~~(10)~~ comprising:

- a surface layer ~~(4)~~ made of single-crystal silicon, extending in a main plane ~~(x, y)~~ and placed on a dielectric layer ~~(3)~~, itself placed on a carrier ~~(1)~~ made of silicon, and
- at least one buried cavity ~~(2)~~, which is formed in the carrier ~~(1)~~ and which opens under the dielectric layer ~~(3)~~, then,

b) forming an optical waveguide ~~(50)~~ extending in the main plane ~~(x, y)~~ and comprising a core ~~(52, 52')~~ formed in the surface layer ~~(4)~~ and encircled by an optical confinement layer ~~(53)~~ including the dielectric layer ~~(3)~~, then,

c) producing at least one heating element ~~(60)~~, on the optical waveguide ~~(50)~~, said heating element ~~(60)~~ being positioned, in the main plane ~~(x, y)~~, plumb with a segment ~~(52')~~ of the optical waveguide ~~(50)~~, or on either side of said segment ~~(52')~~, the heating element ~~(60)~~ and the segment ~~(52')~~ of the optical waveguide being located plumb with the -at least one- buried cavity ~~(2)~~.

2. The ~~P~~process for fabricating a thermo-optic component ~~(100)~~ according to the preceding claim, wherein, in step b), an aperture is produced through the optical waveguide ~~(50)~~, in order to place the -at least one- cavity ~~(2)~~ under an exterior pressure.

3. The ~~P~~process for fabricating a thermo-optic component ~~(100)~~ according to ~~the preceding~~ claim 2, wherein said aperture is plugged so as to hermetically seal the -at least one- cavity ~~(2)~~.

4. The ~~P~~process for fabricating a thermo-optic component ~~(100)~~ according to Claim 1, wherein the -at least one- cavity ~~(2)~~ remains hermetically sealed throughout steps a), b) and c).

5. The ~~P~~process for fabricating a thermo-optic component ~~(100)~~ according to one of the preceding claims, wherein the dielectric layer ~~(3)~~ is made of silicon oxide and has a thickness comprised between 100 nm and 3 microns.

6. The ~~P~~process for fabricating a thermo-optic component ~~(100)~~ according to one of the preceding claims, wherein the surface layer ~~(4)~~ has a thickness comprised between 100 nm and 500 nm.

7. The ~~P~~process for fabricating a thermo-optic component ~~(100)~~ according to one of the preceding claims, wherein the optical confinement layer ~~(53)~~ comprises an additional dielectric layer ~~(3')~~ having a thickness comprised between 0.5 and 1.5 microns.

8. The ~~P~~process for fabricating a thermo-optic component ~~(100)~~ according to one of the preceding claims, wherein the -at least one- cavity ~~(2)~~ has lateral dimensions, in the main plane ~~(x, y)~~, comprised between 10 microns and a few millimetres, and a depth, along an axis ~~(z)~~ normal to the main plane ~~(x, y)~~, comprised between a few microns and 100 microns, and advantageously between 5 and 10 microns.

9. A ~~T~~thermo-optic component ~~(100)~~ produced using the fabricating process according to one of the preceding claims, forming a switch, a phase-shifter, a modulator, a laser emitter, an amplifier, a directional coupler, a filter and/or a multiplexer.