8. The bolometer of claim 1,

wherein the ring resonator structure is configured to change its resonant wavelength upon a temperature change.

9. The bolometer of claim 1, further comprising:

at least one further ring resonator structure, wherein the ring resonator structure and the at least one further ring resonator structure have pairwise different resonant wavelengths.

10. The bolometer of claim 1,

wherein the ring resonator structure comprises a silicon layer.

11. The bolometer of claim 1,

wherein the ring resonator structure comprises a protection layer on the silicon layer.

12. The bolometer of claim 11,

wherein the protection layer comprises an Al_2O_3 layer.

13. A method for fabricating a bolometer, the method comprising:

providing a substrate;

providing a ring resonator structure over the substrate;

providing a silicon oxide layer in thermal contact with the ring resonator structure;

providing a first waveguide over the substrate and coupled to the ring resonator structure, to couple an infrared light to the ring resonator structure so that the infrared light is trapped in the ring resonator structure and generates a temperature increase in the silicon oxide layer; and

providing a second waveguide over the substrate and coupled to the ring resonator structure, to couple a probe light input to the ring resonator structure so that a probe light output is generated from the probe light input, the probe light output having a change in a characteristic from the probe light input based on the temperature increase.