positioned on a second face of the microvalve, and the first and second faces of the microvalve are opposite one another.

15. The microvalve of claim **14** wherein the slider comprises a plate attached to a first end of a lever arm, wherein the actuator is attached to a second end of the lever arm, wherein the plate is positioned to enter the channel, and wherein the slider further comprises a fulcrum engaging the lever arm and attached to the body of the microvalve.

16. The microvalve of claim **15** wherein the first and second ends of each of said ribs are narrower than a midpoint section of each of said ribs.

17. The microvalve of claim **13** wherein said body comprises single crystal silicon.

18. The microvalve of claim **14** wherein the slider has cavity positioned on the slider so that fluid from the inlet is in contact with fluid in said pressure-equalizing equalizing contour through said cavity.

19. The microvalve of claim **15** wherein the plate of the slider has a cavity so that fluid from the inlet is in contact with fluid in said pressure-equalizing contour through said cavity.

20. A method of using the pressure of a fluid to provide a microvalve that is capable of operating at high pressure, the method comprising the steps of:

providing a housing having a first layer, a second layer, a third layer, an inlet and an outlet;

placing the inlet in fluid communication with the outlet via a passage between the inlet and outlet;

providing a slider in the second layer of the housing;

displacing the slider in a plane defined by the second layer to open and close the microvalve;

directing fluid at a lower face of the slider in a direction which has at least a component which is perpendicular to the lower face of the slider;

directing fluid at an upper face of the slider which is opposite of the lower face and in a direction which has at least a component which is perpendicular to the upper face, wherein fluid pressure on the upper and lower faces on the slider is substantially equalized.

21. The method of claim **20** further including the step of placing the fluid directed at the lower face of the slider in pressure communication with the fluid directed at the upper face of the slider through an orifice in the flow controller.

22. The method of claim **20** wherein the step of providing the slider includes etching single crystal silicon to form the slider.

23. The method of claim **20** wherein the step of providing the housing includes forming the inlet and the outlet on opposite sides of the microvalve.

24. A microvalve made by the method of claim **20**.

25. microvalve for controlling flow of a fluid and comprising:

a body having a first layer, a second layer overlaying the first layer, a third layer overlaying the second layer, an inlet, an outlet, and a channel interconnecting the inlet and outlet;

a flow controller at least partially positioned within the channel and having a first face that contacts fluid entering the channel from the inlet and a second face opposite the first face;

an actuator for moving the flow controller in the body in a plane defined by the second layer;

a first pressure-equalizing contour formed in the body and communicating with the first face of the flow controller; and

a second pressure-equalizing contour formed in the body and communicating with the second face of the flow controller, such that fluid filling the first and second pressure-equalizing contours provides pressure equalizing force on the first and second faces, respectively.

26. The microvalve of claim **25** wherein the first pressure-equalizing contour is formed in the first layer and the second pressure-equalizing contour is formed in the third layer.

27. The microvalve of claim **25** wherein the flow controller includes an aperture through which fluid in the first pressure-equalizing contour is in pressure communication with fluid in the second pressure-equalizing contour.

28. The microvalve of claim **25** further including a first tie rod extending from the actuator to the flow controller and a second tie rod extending from the second layer to the flow controller at a location offset from the first tie rod such that activation of the actuator causes the flow controller to pivot at least partially about second tie rod.

29. The microvalve of claim **28** wherein the actuator comprises a plurality of ribs each extending from the second layer to the first tie-rod, and further wherein an end of each rib is narrower than a respective midpoint of each rib.

30. The microvalve of claim **25** further including a shaft wherein the actuator comprises a plurality of ribs extending from the second layer to the shaft, and further wherein an end of each of the ribs is narrower than a respective midpoint of each of the ribs.

31. The microvalve of claim **25** wherein at least a portion of the fluid that flows between the first port and the second port flows into the second pressure-equalizing contour and past the flow controller as the fluid flows between the first port and the second port.

32. The microvalve of claim **25** wherein the flow controller obscures the second pressure-equalizing contour to prevent fluid from flowing out of the second pressure-equalizing contour when the fluid flows between the first port and the second port.

33. The microvalve of claim **25** wherein the flow controller and the third layer form an orifice to cool fluid that flows therethrough.

34. The microvalve of claim **25** wherein the second layer comprises single crystal silicon.

35. The microvalve of claim **25** wherein the first, second, and third layers comprise single crystal silicon.

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