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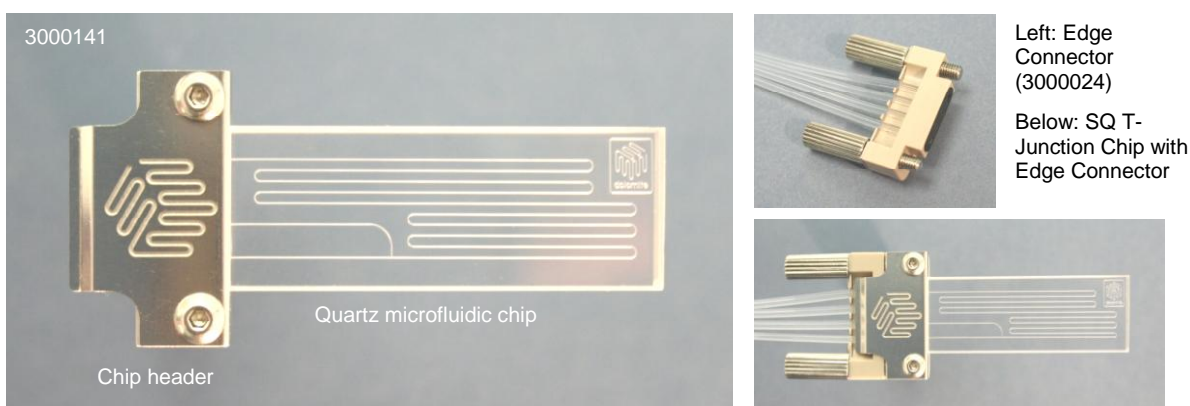
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INFORMATION SHEET

Part name	Mitos Quartz T-Junction Chip with Header	Part number	3000141
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Description

The Quartz T-Junction Chip is a synthetic quartz microfluidic device designed for a range of applications including mixing fluids, microreactions and droplet formation. The chip is supplied with a chip header (below). The header allows connection to the Dolomite Edge Connector (part number 3000024).



Benefits

- Compact
- Low dead volume
- Quick connect/disconnect
- High visibility (excellent access for optics)
- Excellent transmission down to 200 nm
- Extremely smooth channel surface
- Wide temperature and pressure range
- Excellent chemical compatibility

	Chip Specification	Value
1	Number of inputs	2
2	Number of outputs	1
3	Internal channel cross-section	100 μm x 110 μm (depth x width)
4	Channel length after T-junction	278 mm (feed channels = 20 mm and 22 mm)
5	Volume of channel after T-junction	2.5 μl
6	Back pressure with 100 $\mu\text{l}/\text{min}$ flow (water)	1.5 bar
7	Surface roughness of channels (R_a)	5 nm
8	Chip size	45.0 mm x 15.0 mm
9	Chip top layer thickness	2.0 mm
10	Chip base layer thickness	2.0 mm
11	Operating pressure	30 bar with edge connector
12	Operating temperature	250° C for edge connector (quartz can be locally heated to 500° C or above)
13	Material	Synthetic quartz (Viosil)
14	Fabrication process	HF etching and thermal bonding

Channel cross-sectional profile

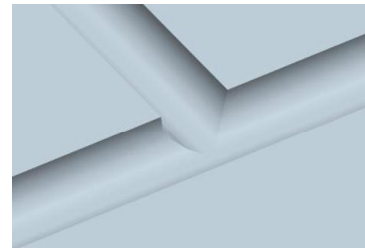
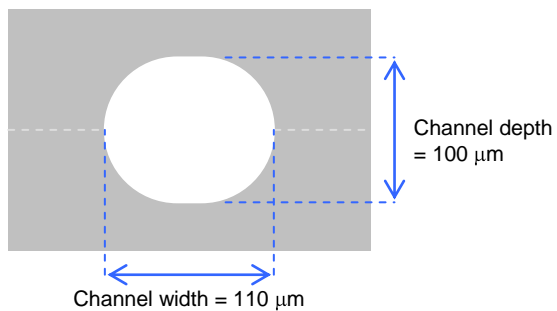


Image of T-junction (base layer only)

Custom options

The channel may be etched to different depths, for example from 20 μm x 30 μm up to 200 μm x 210 μm (depth x width). The top layer or base layer can also be left un-etched giving a semi-circular channel cross-section.

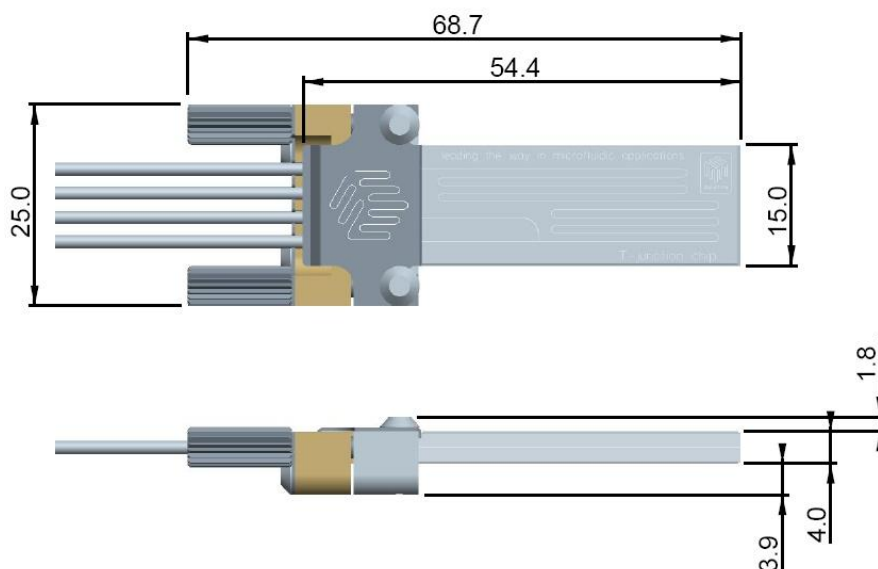
Custom channel layouts can also be specified.

Custom surface coatings

The channel surface is hydrophilic. The chip can also be supplied with:

- Hydrophobic coating on channel surfaces
- Platinum coating on channel surfaces

Edge connector geometry





Optical transmission of synthetic quartz (Viosil SQ)

