

microCELL™ OTF Dual Lane

On-the-Fly Laser Processing System for Silicon Solar Cells, e.g. PERC

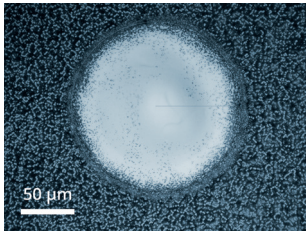
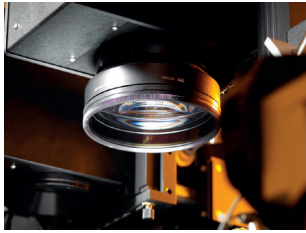
3D-Micromac's microCELL™ OTF is a highly productive laser system for processing of mono- and polycrystalline silicon solar cells. The microCELL™ OTF meets cell manufacturers' demands for increasing the efficiency, e.g. of PERC solar cells, by precise surface structuring, low operating costs, and highest availability. Laser processing on-the-fly and an innovative handling concept enable maximum throughput and yield in the mass production of crystalline solar cells.

microCELL™ OTF Dual Lane offers:

- On-the-fly laser processing with unbeaten cost-benefit ratio
- Highest throughput (> 8,000 wph)
- Low cost of ownership and CAPEX
- Upgrade for existing production lines or expansion
- Easy accessible for servicing



microCELL™ OTF Dual Lane - System Configuration



Configuration packages

Inline

- High on duty time of the laser > 98 %
- Inline system for complete integration into existing production lines, e.g. in front of printing machine

Options

- Breakage control / NIO discharge
- RFID reader
- Data matrix reader (DMC)
- Wafer buffer system
- MES system
- Loading- and unloading handling as on customer specification

Wafer size	<ul style="list-style-type: none"> • 156 x 156 mm² - 162 x 162 mm² (ready for M4 format) • Square and pseudosquare shapes, different sizes on request
Throughput	<ul style="list-style-type: none"> • 8,000 wph (depending on pattern) with dual lane processing
Uptime	<ul style="list-style-type: none"> • ≥ 97 %
Pattern for PERC cells	<ul style="list-style-type: none"> • Line pattern • Dot pattern • Dash pattern • Other pattern on request • Easy read-in by dxf-file • Beam diameters between 40 μm and 200 μm possible
Laser sources	<ul style="list-style-type: none"> • Standard setup: two ns laser sources, 1064 nm • On request: ps lasers or 532 nm wavelength available
Laser processing	<ul style="list-style-type: none"> • On-the-fly • Doping process on request
Beam delivery unit	<ul style="list-style-type: none"> • Beam delivery unit including scanner head
Handling/positioning system	<ul style="list-style-type: none"> • Continuously running
Loading/unloading	<ul style="list-style-type: none"> • Feeding of wafer via inline transport belt
Dimensions	<ul style="list-style-type: none"> • Approx. 2,550 x 1,300 x 2,500 mm³ (L x W x H) • Approx. 1.7 t
Exhaust system	<ul style="list-style-type: none"> • High particle extraction (three-stage-filter)
Standards	<ul style="list-style-type: none"> • Laser safety class 1 • CE compliant

Changes in accordance to technical progress are reserved.