# Leadlap

# 激光开槽解决方案

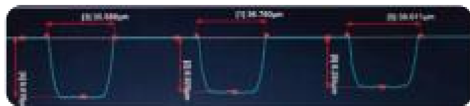
## 高性能Low-k晶圆激光开槽系统

- 可提供皮秒紫外、纳秒紫外设备
- 更高效的光路和激光控制系统
- 新型自动化上下料系统
- 稳定的激光和功率闭环控制系统
- 连续可变点和切割宽度

## 产品性能效果展示

**Nanosecond LG Profile**

**PicoSecond LG Profile**



**Bottom U shape**

| | Nano Laser | Pico Laser |
|---|---|---|
| Laser | Power:>11W<br>Frequency: 1-200KHz | Power:>20W<br>Frequency: 1-2000KHz |
| Cut axis | Up to 1000mm/s | |
| Accuracy | <±2um | |
| Optics | Dual wide laser<br>multi beam<br>Continuous variable beam 10-90um | |
| Profile | Wide U shape & Flat top shape | |
| Roughness | Flat<br>±3um on metal/non-metal | Super flat<br>±1um on metal/non-metal |
| Target depth | Typically8 ~ 18um | Typically 5~ 20um |
| In-situ monitoring | -Continuous variable width 10-90μm<br>-Laser power compensation<br>-Vision inspection Low/High<br>-Separate cleaning&coating<br>-Pneumatics & motion monitoring | |

## 设备细节配置信息

| | LEAD<br>Model：L1-7100/L1-7500 | DIXX | DIXX |
|---|---|---|---|
| Laser Head | PS/NS solid | PS Solid | NS Solid |
| Wavelength | 355nm | 355nm | 355nm |
| Laser Mode. | Pulse CW | Pulse CWV | Pulse CW |
| Pulse width | ns:80ns-150ns<br>ps:<15ps | <15ps | 80ns-150ns |
| Power Stability | <±3% over ghours | <±3% over ghours | <±3% over 8hours |
| Polarization Direction | Linear | Linear | Linear |
| Slot width Control | 10-90µm Continuing Adjust | Several Mask Control widths | Several Mask Control widths |
| Refrigeration Method | Water-Cooling | Water-Cooling | Water-Cooling |
| Ambient Temperature (°C) | 17-30 | 17-30 | 17-30 |
| Optical Path Design | Dual Optical Path Design | Dual Optical Path Design | Dual Optical Path Design |
| Maximum Speed | 1000mm/s | 1000mm/s | 1000mm/s |
| Positioning Accuracy | <±2µm | <±2µm | <±2µm |
| Repeatability | <±1µm | <±1µm | <±1µm |


Leadlap 江苏元夫半导体科技有限公司 电话：0510-80597220 | 邮箱：SalesAP@leadlap.com

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## 激光开槽解决方案

| Machine Supplier | Lead | D***** | Comparison |
|---|---|---|---|
| Machine Type | L1-7100/L1-7500 | XXLXX61 | NA |
| Grooving | Yes | Yes | Comparable |
| Delivery Time | ≤12 weeks | ≥24 weeks | Lead |
| Maintain | 7*24 Hrs | NA | Lead |
| Warranty | ≤12000Hrs | ≤8000Hrs | Lead |
| Service | Local Service | Local & Remote mode | Lead |
| Beam Type | 10-90μm | 40/50/60μm | Lead |

## 激光全切解决方案

| | Nano Grooving + Laser full cut | | Pico Grooving + Laser full cut | |
|---|---|---|---|---|
| Machine lifetime maintenance | Available | | Available | |
| Process | Dual Narrow<br>Dual wide | Dual Narrow<br>Multi Beam Clean Pass | Dual Narrow<br>Multi wide | Dual Narrow<br>Multi Beam Clean Pass |
| Product thickness(μm) | 40~1000 | 40~250 | 40~1000 | 40~100 |
| Street material | Low-k<br>PI<br>TEG(Cu Al etc) | Si, Low-k, PI<br>TEG(Cu Al etc)<br>SiC, GaAs, Ge<br>DAF tape | Low-k<br>PI<br>TEG(Cu Al etc) | Si, Low-k, PI<br>TEG(Cu Al etc)<br>DAF tape |

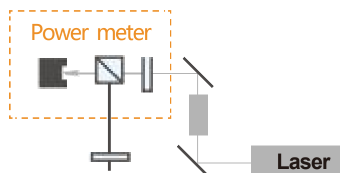
## 特殊功能

### 槽型测量

- 在生产过程中测量槽型
- 提前规避工艺风险

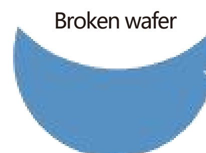
### 实时功率监控

防止功率突然变化引起的异常情况



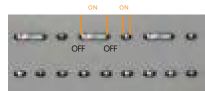

### 破片切割

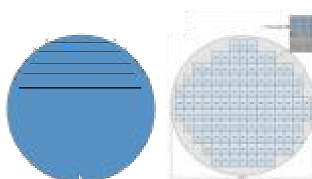
- 切割破碎的晶圆
- 开发特殊软件功能

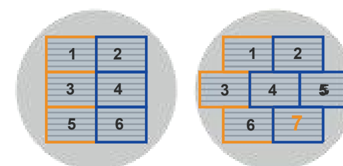



### MPW晶圆切割

- 边缘不切功能（高精度控制激光位置）
- 多尺寸芯片晶圆加工
- 通过偏置芯片增加芯片数量





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