



## Description

The ss3344 is a high coherence length, rapidly swept fiber laser designed for CMM metrology, 3D semiconductor inspections, and other industrial imaging and ranging applications.

The ss3344 boasts the longest coherence lengths of all rapidly swept wavelength lasers in the industry, as high as 90 mm for a rapid 10 kHz sweep rate. These features, when combined with a well designed optical probe, allows for dynamic and accurate interferometric measurements of surface, features and dimensions that enable next generation CMM and industrial imaging solutions.

The SOLARITY line of swept wavelength lasers outputs highly linear wavelength sweeps, as well as wavelength trigger and calibration pulse signals, that when combined with cost effective current generation digitizers enable high resolution imaging and ranging systems with only periodic need for sweep rate recalibration.

The flexibility of the SOLARITY platform easily allows for custom OEM applications in biomedical and industrial imaging, optical frequency domain ranging, high speed optical sensing, and spectroscopy.

SOLARITY lasers are built upon the core Micron Optics Fabry-Perot technology platform, using highly reliable piezoelectric actuators with MTBFs in excess of 3000 years over specified operating conditions. This proven laser platform, having demonstrated reliability with 1000s of units in the field representing > 100 million hours of field use, enables long-term, worry free operational life of inspection and metrology systems.

The industry's highest coherence lengths with scanning speeds up to 10 kHz for fast, accurate coordinate measurement

## Key Features

**Rapid scanning** of 1 to 10 kHz

**Long coherence lengths** up to 80 mm

**Wide sweep ranges** up to 180 nm

**Multiple operating ranges** 1060 and 1310, 1550 nm windows

**Proven reliability and longevity** over 100 million hours logged since 2000



## Key Applications

### Coordinate measurements machines (CMMs)

High speed optical frequency based measurements offering accuracies comparable to that of tradition tactile measurements without limitations of sensitive or deformable surfaces.

### Semiconductor 3D measurements

Wafer thickness, feature height, through silicon via (TSV) height, copper pillar bump dimensional measurements.



## Performance Properties

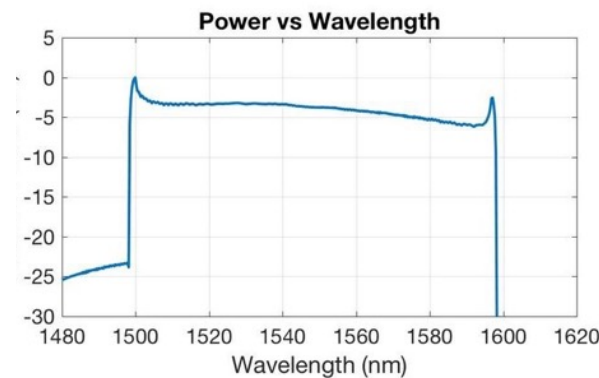
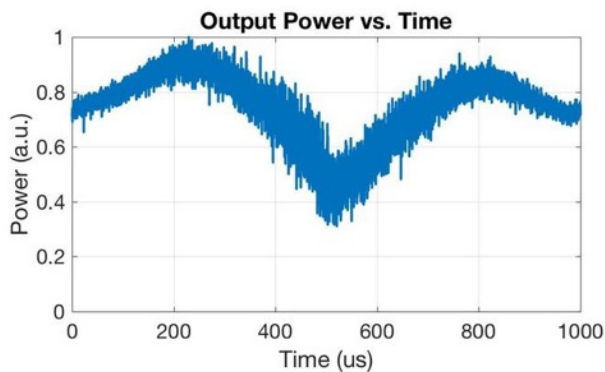
ss3344-001-1550-80

ss3344-010-1310-25

Center wavelength	1550 nm	1310 nm
Coherence length	55 mm	15 mm
Wavelength sweep range <sup>1</sup>	80 nm	80 nm
Sweep rate	1 kHz (bilateral)	10 kHz (unilateral) <sup>2</sup>
Average optical power, DC	8 mW	3 mW
Duty Cycle	100%	
Sweep linearity	< 1%	
Optical output isolation	30 dB	
Optical connectors	FC/APC, LC/APC, E2000	
Fiber type	SMF-28e	

## Physical Properties

Dimensions / weight	307 mm x 274 mm x 69 mm / 4.9 kg
Operating / storage conditions	0 to 50 C, < 80%RH non-condensing / -20 to 70 C, < 95%RH non-condensing
Electrical connector	LVTTL trigger signal for sweep and wvl markers, SMA connections
Input voltage	9 - 36 VDC, AC/DC converter included (100~240 VAC, 47~63 Hz)
Power consumption at 12 V	20 W typ, 30 max



Representative time domain scan of bilateral 1 kHz laser scan (left) and associated spectral domain trace (right).

## OEM Options

Contact Micron Optics for configuration details

**Center wavelength:** 1060, 1310, 1550 nm

**Coherence length:** up to 90mm

**Sweep Rate:** up to 10 kHz

**Average Optical Power:** up to 35 mW

## Notes

- Width at 3 dB drop of peak power
- Unilateral at 30% duty cycle
- Will comply with the WEEE Directive 2012/19/EU for the following European countries: UK, IT, DE, FR, NL, BE, ES, CH.
- Denotes Beta product

## Ordering Information

ss3344-sss-www-cc

<b>sss</b>	Sweep speed
001	1 kHz
005	5 kHz
010	10 kHz

<b>www</b>	Wavelength range
1060	1060 nm
1310	1310 nm
1550	1550 nm

<b>cc</b>	Coherence options
20	20 mm
55	55 mm
80	80 mm