

ss3344

SOLARITY Laser Module

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.



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

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.

Properties

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 ¹	80 nm	80 nm
Sweep rate	1 kHz (bilateral)	10 kHz (unilateral) ²
Average optical power, DC	8 mW	3 mW
Duty Cycle	100%	
Sweep linearity	<1%	
Optical output isolation	30 dB	
Optical connectors	FC/ACP, LC/ACP, E2000	
Fiber Type	SMF-28e	
Physical Properties		
Dimensions	307 mm x 274 mm x 69 mm	
Weight	4.9 kg	
Operating/storage conditions	0 to 50 C, < 80%RH non-condensing / -20 to 70 C, < 95%RH non-condensing	
Electrical connector	LVTTTL 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	

Ordering Information

os3600-ggg-tttt/ssss-1xx-1yy

		Sweep Speed
sss	001	1 kHz
	005	5 kHz
	010	10 kHz
		Wavelength range
wwwww	1060	1060 nm
	1310	1310 nm
	1550	1550 nm
		Coherence options
cc	20	20 nm
	55	55 nm
	80	80 nm

OEM Options

Center Wavelength: 1060, 1310, 1550 nm

Coherence Length: up to 90 nm

Sweep rate: up to 10 kHz

Average Optical Power: up to 35 mW

Notes

1 Width at 3 dB drop of peak power

2 Unilateral at 30% duty cycle

3 Will comply with the WEEE Directive 2012/19/EU for the following European countries: UK, IT, DE, FR, NL, BE, ES, CH.

