

NEW

High Performance Tunable Laser TSL-550

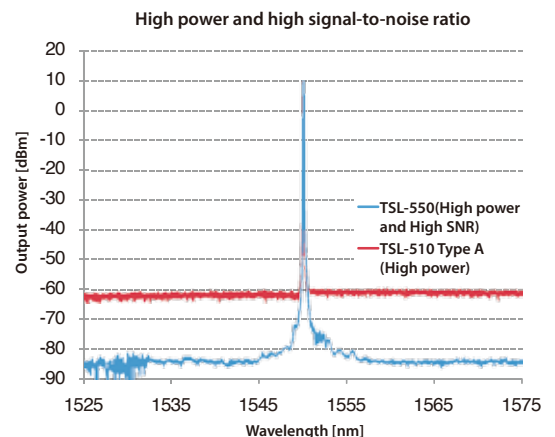
The TSL-550 is a high performance tunable laser with a wide tuning range and an output combining high power and high signal-to-noise ratio. The mod-hop-free tuning TSL-550 is equipped with features such as fine tuning and coherence control making it a must have tool for precision optical testing. Santec has used an innovative cavity design to lower the optical ASE noise, resulting in an extraordinarily high signal-to-noise ratio of over 90dB/0.1nm, while also maintaining a high output power of over +10dBm. GPIB and USB interfaces with the industry standard SCPI command set provide a convenient automated measurement solution.

The TSL-550 has two separate versions: Type A includes a wavelength meter with $\pm 30\text{pm}$ wavelength accuracy and Type C, the high accuracy version, with an absolute wavelength accuracy of less than 5pm .

The TSL-550 is ideal for next generation components testing driven by innovations in Dense Wavelength Division Multiplexing (DWDM), passives and Wavelength Selective Switches (WSS) that require characterization of multi-input, high extinction ratio devices. The TSL-550 is designed to improve production inspection throughput by doubling the scan repetition rate over conventional lasers. In addition, the TSL-550 is available for WDL and PDL measurement with the support of our power meter, MPM-200 and dedicated software.



Measurement Data



Features

- ▶ Wavelength range 1260-1360/1500-1630nm
- ▶ High output power +10dBm
- ▶ High signal-to-noise ratio 90dB/0.1nm
- ▶ High wavelength accuracy
(Type A: $\pm 30\text{pm}$, Type C: $\pm 5\text{pm}$)

Applications

- ▶ Optical component characterization
- ▶ Fiber optic transmission testing
- ▶ Photonic material characterization
- ▶ Interferometry
- ▶ Optical spectroscopy

SANTEC TUNABLE LASERS

Specifications

Category	Parameter	Unit	Performance	
			TypeA	TypeC
Wavelength characteristics	Wavelength tuning range	nm	1260-1360/1500-1630	
	Wavelength resolution	pm	5 (<1pm with fine tuning)	1 (<1pm with fine tuning)
	Absolute accuracy *1	Operating temperature	±30	±5
		25±1 degC (typ.)	±15	±2.5
	Repeatability *1	pm	±10	±2
	Stability (typ.) *2	pm	≤ ±5	≤ ±1
Optical power characteristics	Sweep speed	nm/sec	1 to 100	
	Output power	Peak (typ.)	≥ 13	
		Full tuning range	≥ 10	
	Power repeatability *1, *3	dB	±0.01	
	Power stability *2, *3	dB	±0.01	
	Power flatness vs. wavelength *1, *3	dB	±0.2	
Spectrum	Relative intensity noise (RIN) (typ.) *6		-145 (1MHz to 3GHz)	
	Linewidth (typ.)	Coherence ctrl. Off	500	200
		Coherence ctrl. On	40	
	SMSR (typ.)	dB	≥ 45	
	Signal to total source spontaneous emission ratio *4	dB	≥ 70	
	Signal to source spontaneous emission ratio *5	dB/nm	≥ 80 (≥ 90 dB/0.1nm)	
Interface	Optical output connector	-	FC or SC, SPC or APC	
	Optical fiber	-	SMF or PMF	
	Communication	-	GP-IB (IEEE 488.2), USB, RS-232C	
	Power monitor	V	0 to 3	
Modulation	LF modulation	kHz	DC to 400 (Input level -2 to 0V, Modulation depth >50%/V (typ.))	
	RF modulation (option)	MHz	2 to 100 (Input level 5Vp-p, Modulation depth >10% (typ.))	
Environmental conditions and others	Operating	Temperature	15 to 35	
		Humidity	< 80 (non-condensing)	
	Power supply	-	AC 100-240V±10%, 50/60Hz	
	Power consumption	VA	100	
	Dimensions (W) x (D) x (H)	mm	210x440x110	
	Weight	kg	6.5	

* All specifications are quoted after 1 hour warm-up period. Specifications apply for wavelengths not equal to any water absorption line.

*1: At static condition or "Step" sweep mode. *2: For period of 1 hour. Within ± 0.5 °C. *3: At "Auto" power mode.

*4: Ratio of signal power to total spontaneous emission power within ±15nm of the signal wavelength (typical value).

*5: Ratio of signal power to maximum spontaneous emission power in a 1nm band within a ±3nm band around the signal wavelength (typical value).

*6: At maximum output power.

Laser safety information



This product is classified class 1M laser product according to IEC 60825-1 (2007).

This product complies with FDA performance standards for laser products except for deviations pursuant to Laser Notice No. 50 dated June 24, 2007.

Ordering Code

TSL-550- - - - - - -

A

B

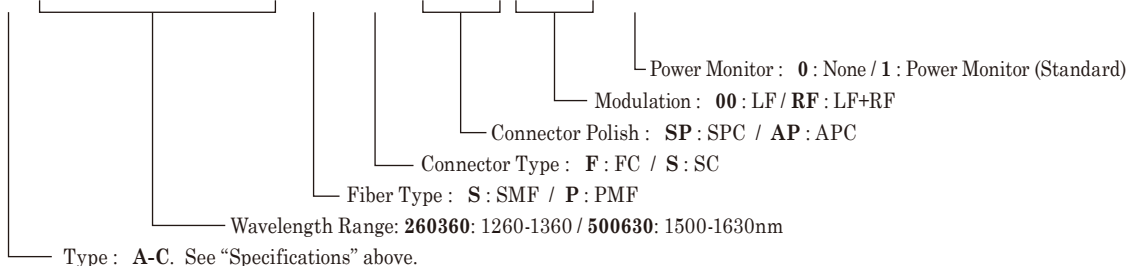
C

D

E

F

G



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