Single-Frequency Laser Source

SFL1550S

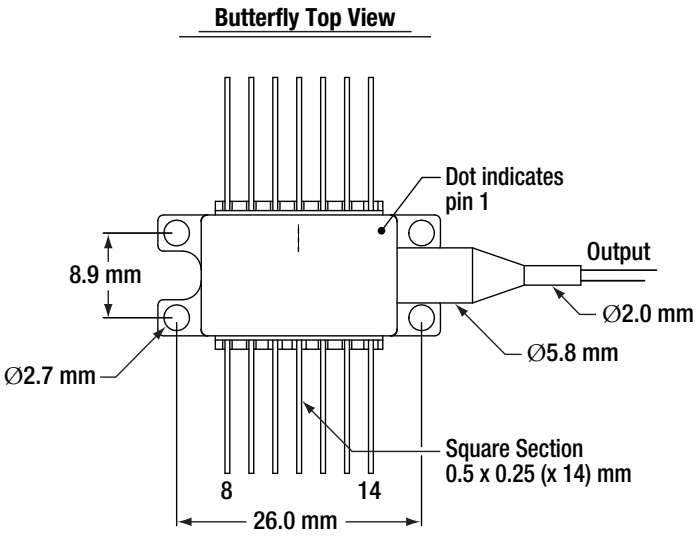
Description

The SFL1550S laser is a single-frequency laser source with spectral properties comparable to a DFB laser but with narrower linewidth and higher output power. Applying proprietary stabilization techniques, a single-frequency, external cavity semiconductor laser is provided in a compact, 14-pin butterfly package. The single-frequency laser contains an integrated thermoelectric cooler, thermistor, and optical isolator with a single mode output fiber tail.

Specifications

	SFL1550S			
	Symbol	**Min**	**Typical**	**Max**
Center Wavelength	λ_C	1549.5 nm	1550 nm	1550.5 nm
Operation Chip Temperature	T_{CHIP}	-	25 °C	-
Operation Case Temperature	T_{CASE}	10 °C	-	60 °C
Operating Current	I_{OP}	-	300 mA	-
Optical Power @ I_{OP}	P_{OUT}	25 mW	40 mW	-
Side Mode Suppression Ratio	SMSR	40 dB	45 dB	-
Linewidth (Lorentzian Line Shape)	Δv	-	50 kHz	100 kHz
Threshold Current	I_{TH}	-	50 mA	-
Slope Efficiency	ΔP/ΔI	-	0.2 mW/mA	-
Relative Intensity Noise	RIN	-	-150 dB/Hz	-
Forward Voltage @ I_{OP}	V_F	-	1.5 V	1.8 V
Single-Frequency Continuous Tuning Range (1 kHz rate)	Δf	-	3 GHz	-
TEC Operation @ T_{CASE} = 25 °C				
-TEC Current	I_{TEC}	-	0.3 A	-
-TEC Voltage	V_{TEC}	-	0.6 V	-
-Thermistor Resistance	R_{TH}	-	10 kΩ	-

Drawings



Pin	Function	Pin	Function
1	TEC+	14	TEC-
2	Thermistor	13	Case
3	NC	12	NC
4	NC	11	Dev Cathode
5	Thermistor	10	Dev Anode
6	NC	9	NC
7	NC	8	NC