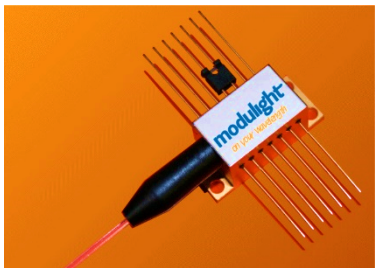
ML5631-1625

1625 nm DFB laser in butterfly package for pulsed applications

Overview

Modulight's ML5631-1625 is a high-performance single transverse mode 1625 nm distributed feedback laser in a 14-pin butterfly pigtailed package. The laser emits 80 mW pulsed peak power (10 µs PW, 1% DC) at 1625 nm wavelength. This fiber pigtailed laser is designed to be used as light source in fiber optic test and measurement equipment.



Applications

Defense	Industrial	Communications
Test & Measurement	Test & Measurement	Test & Measurement

Electro-optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Central Wavelength (I_{OP} = 750 mA)	λ	1621	1625	1629	nm
Optical Output Power (Peak Power)	P_{OPT}	50	80	-	mW
Operating Current ($P_{OPT, PEAK}$ = 50 mW)	I_{OP}	-	430	550	mA
Operating Voltage (CW, P_{OPT} = 30 mW)	V_{OP}	-	1.3	2	V
Threshold Current	I_{TH}	-	45	100	mA
Spectral Width	Δλ	-	0.2	0.51	nm

All above values are for operation @ 25°C. If not otherwise stated, the characteristics are for operation under pulse current (pulse width = 10 µs and duty cycle 1 %).

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
LD Forward Current	I_{FLD}	600	mA
Operating Temperature Range	T_{OP}	-20…65 [1]	°C
Storage Temperature Range	T_{ST}	-40…85	°C

[1] A non-condensing environment should be ensured over the useful temperature range.

Optical Fiber Specification

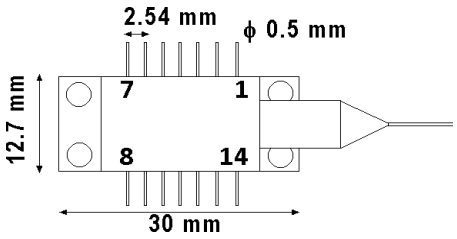
Parameter	Symbol	Value	Unit
Fiber Length	L	100	cm
Mode Field Diameter	$∅_{CORE}$	9.3 ± 0.5	µm

Cladding Diameter	$\varnothing_{CLAD}$	125 ± 2	µm
Outer Diameter	$\varnothing_{OUT}$	900	µm
Minimum Fiber Bending Radius	d	30	mm
Default Fiber Connector		FC-UPC [1]	

[1] Other connectors available on request.

Package Information

The butterfly module has a small footprint (30.0 × 12.7 mm) and many integrating options. The butterfly modules can be customized to accommodate special pin arrangements per request, and can be optionally equipped with simple output connector on a PCB. The butterfly laser module is offered as a thermoelectrically cooled version with an integrated photodiode and a thermistor.



Pin assignment

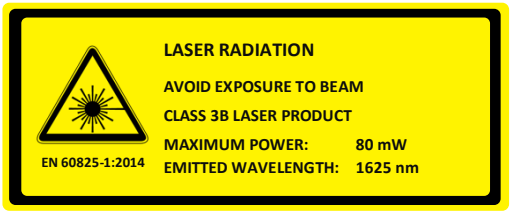
PIN #	Function	PIN #	Function
1	TEC+	8	N/A
2	Thermistor	9	N/A
3	PD+	10	LD+
4	PD-	11	LD-
5	Thermistor	12	N/A
6	N/A	13	Case
7	N/A	14	TEC-

Typical thermistor and TEC properties

Parameter	Symbol	Value	Unit
Thermistor resistance	R_T	10	kΩ
Thermistor temperature coeff.	β_T	3400 ±5%	-
TEC current, typical	$I_{TEC, typ}$	0.5…1.5	A
TEC current, maximum	$I_{TEC, max}$	2.2	A
TEC voltage, typical	$V_{TEC, typ}$	2.0…6.0	V
TEC voltage, maximum	$V_{TEC, max}$	8.7	V

Safety Information

- The laser light emitted from this laser device may be invisible. The laser light is harmful to the human eye. Avoid eye and skin exposure to the beam, both direct and reflected.
- Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload. Please ensure ESD protection prior to handling the products.
- These Modulight products are not intended for use in systems where product malfunction can reasonably be expected to result in personal injury.



Peak power and wavelength are for safety analysis only, not to present device performance.

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