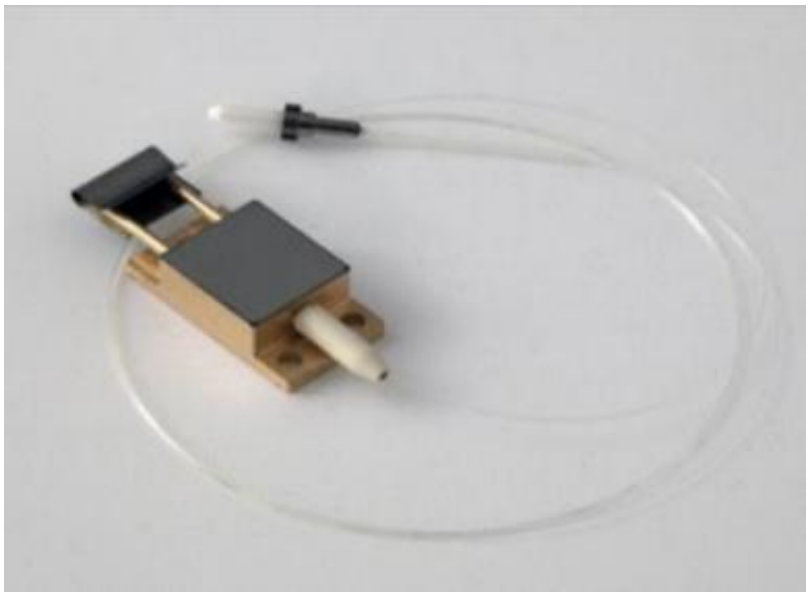
1030nm Fiber-Coupled Open Heat Sink High-Power Laser Diode (6W, 105 um Core)



Product Description

Broad-area laser diodes (also referred to as broad-emitter semiconductor lasers, broad-stripe or broad-emitter laser diodes, single-emitter laser diodes, and high-brightness diode lasers) are edge-emitting laser diodes in which the emission area on the front facet is shaped as a broad stripe.Since the emitter is asymmetric, the beam properties differ in the two orthogonal directions.

Product features

High power output; fiber-coupled design; open high-efficiency heat dissipation; wavelength optional; modular drive

Part Number

MP-FP-1030-6W-SMA

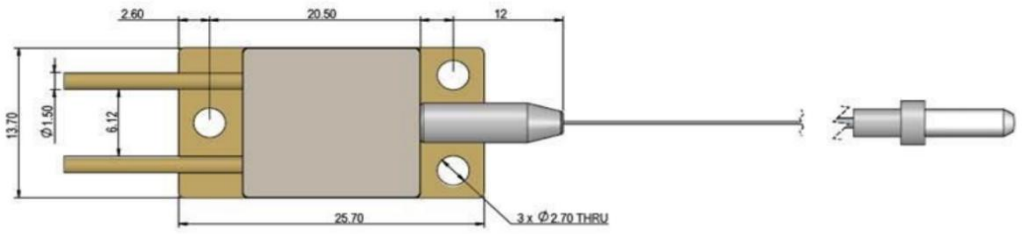
Application area

Industrial Material Processing | Fiber Laser Pumping | Medical Equipment | Scientific Research & Defense | Sensing & Illumination

Core parameters

Center Wavelength	Output Power
1030nm	>6W

Dimension Drawing



General Parameters

Specifications

Test Condition: Heat sink temperature 25 °C

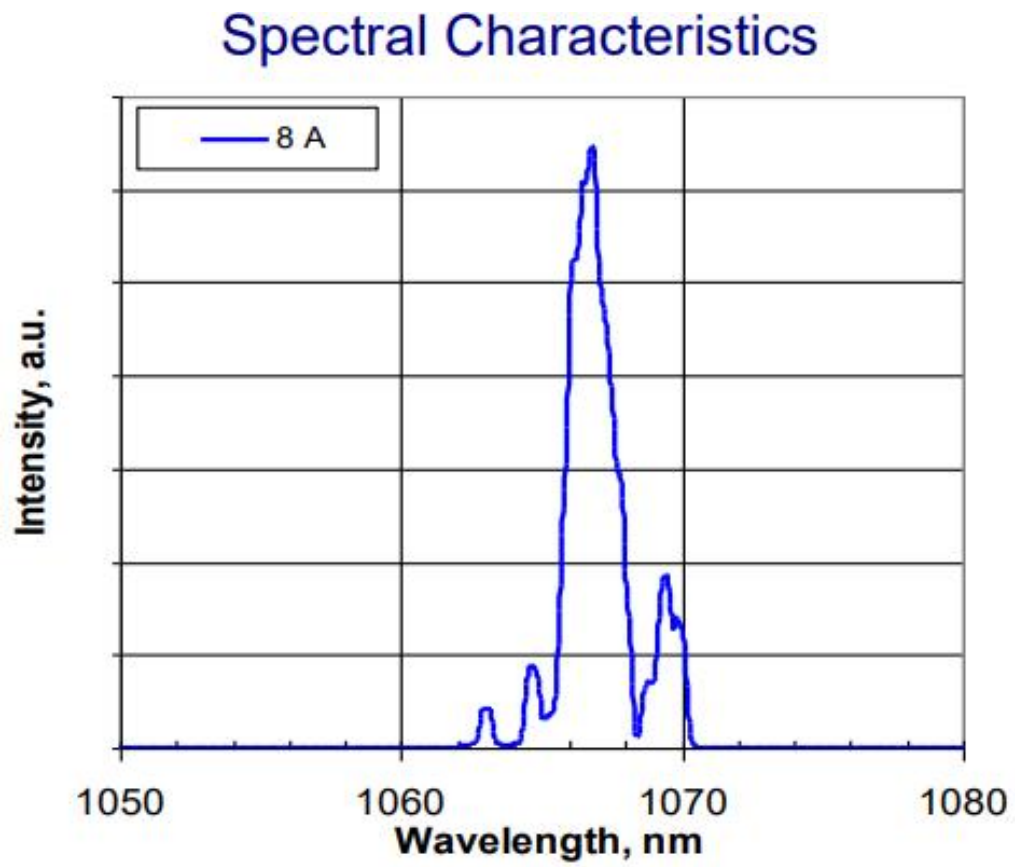
Parameter	Symb.	Min.	Typ.	Max.	Unit
Ex-fiber output power	Pout	6	—	—	W
Available wavelength range	λ	1010	—	1130	nm
Center wavelength tolerance	—	λ−10	—	λ+10	nm
Spectral width @ −3 dB level at Pout	Δλ	—	4	8	nm
Wavelength temperature tunability	Δλ/ΔT	0.3	0.35	0.4	nm/°C
Threshold current	Ith	—	0.45	0.75	A
Operating current	Iop	—	8.5	9.5	A
Forward voltage	Vf	—	1.65	1.8	V
Recommended operating heat sink temperature	Top	20	25	30	°C

Typical Performance

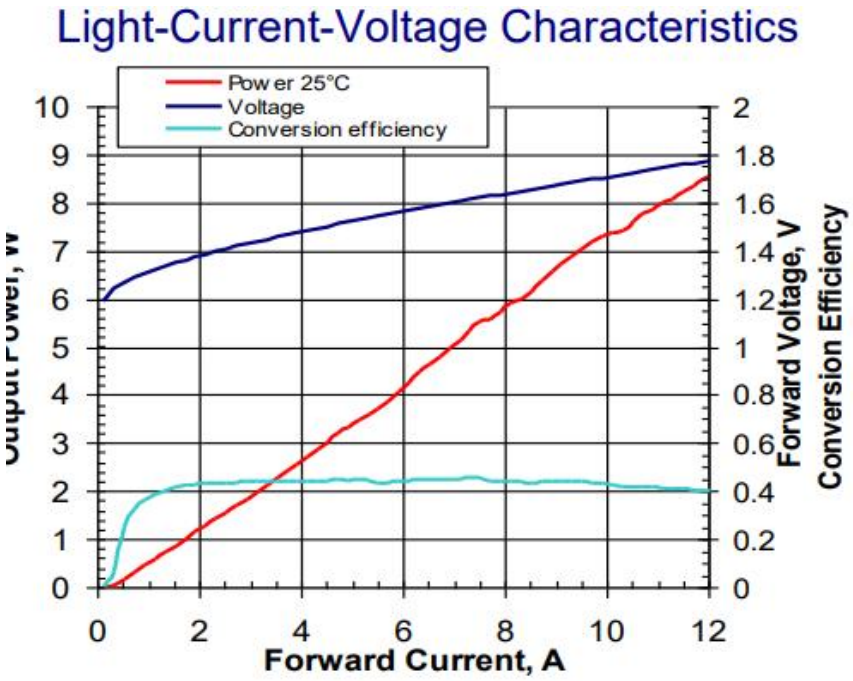
***For reference only**

Test Condition: CW operation, heatsink temperature 25 °C

Light Current Voltage Characteristics:



Spectral Characteristics:



***Performance shown is for a 1064 nm device. Similar performance is expected for other wavelengths within the 1010–1130 nm range.**

Absolute Maximum Ratings

Parameter	Min.	Max.	Unit
Laser Diode Reverse Voltage	—	1	V
Laser Diode CW Forward Current	—	10	mA
Storage Temperature Range	5	80	°C
Lead Soldering Temperature (max. 5 s)	—	200	°C

Fiber Bend Radius	3	—	cm
Operating Temperature Range	15	60	°C

Fiber Specifications

Parameters	Value	Unit
Type	Step index	—
Core diameter	105 ± 5	μm
Cladding diameter	125 ± 5	μm
Buffer diameter	Acrylate, 250 ± 5	μm
Numerical aperture	0.22	—
Length	1.0 ± 0.1	m
Connector	Bare cleaved end, 8° angled ferrule SNZ-3A or SMA905	—