



AB081C40W



TECHNICAL DATA

High Power Single Bar CW Infrared Laser Diode

Features

- Output Power: 40 W
- 780-830 nm Emission Wavelength
- Spectral Width: ≤ 3 nm
- High Reliability, High Efficiency

Applications

- Laser Pumping
- Medical Usage
- Printing

Specifications (25°C)

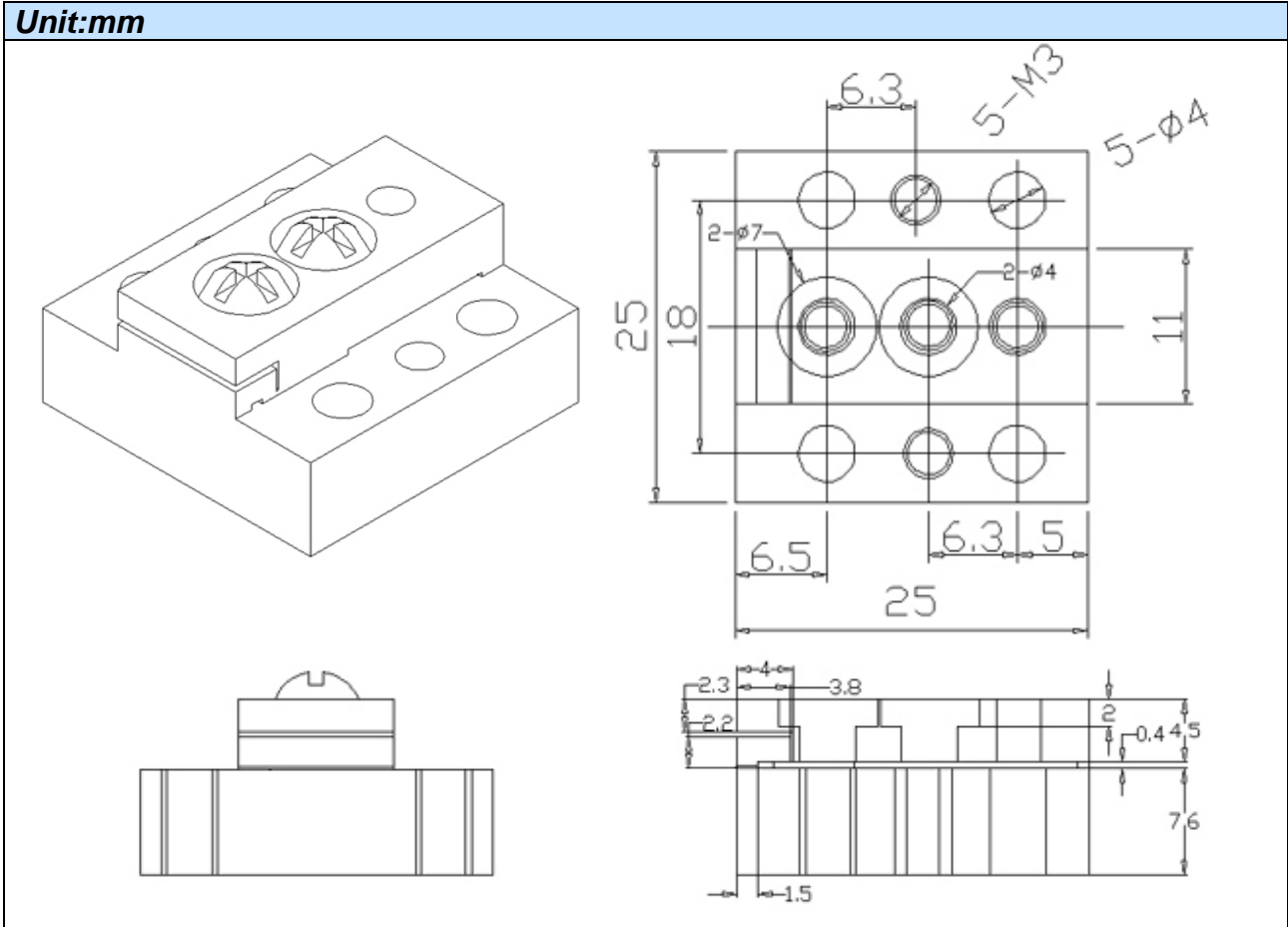
Item	Symbol	Value	Unit
Optical Specifications			
CW Output Power	P_O	40	W
Array Length	L	10	mm
Center Wavelength	λ_C	780-830	nm
Wavelength Tolerance		± 5	nm
Spectral Width	$\Delta\lambda$	≤ 3	nm
Emitting Area	W x H	150 x 1	μm
Emitter Pitch		500	μm
Number of Emitters		19	
Wavelength Temperature Coefficient		0.3	nm/°C
Beam Divergence	$\theta_{\perp} \times \theta_{\parallel}$	40x8	deg
Electrical Specifications			
Slope Efficiency	E_S	≥ 1	W/A
Conversion Efficiency	N_S	$\geq 40\%$	
Threshold Current	I_{TH}	≤ 12	A
Operating Current	I_F	≤ 50	A
Operating Voltage	U_F	≤ 2.2	V
Absolute Maximum Ratings			
Reverse Voltage	U_R	2.5	V
Operating Temperature	T_{OP}	+10 ... +40	°C
Storage Temperature	T_{STG}	-40 ... +85	°C



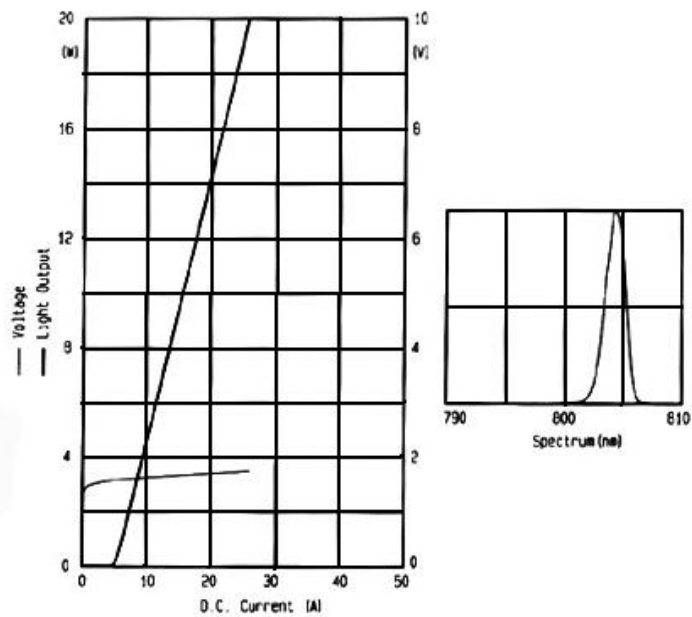


Package Dimensons

Unit:mm



Typical Performance Curves





Notes

1. High power laser diode arrays are high energy laser devices. It is harmful to human body and health. Never look directly into the laser output port!
2. The storage temperature is between -40 and 85 °C.
3. In generally, the lifetime can be shortened by high temperature. So the generated heat must be removed in time when the LD is working. The water cooling system, forced air cooling or TEC system are recommended to keeping the LD at a suitable temperature.
4. Constant-current power supply with voltage regulator should be used to avoid surge. To use a laser diode in following sequences: Turn on the power supply; connect to the laser diode; increase the current gradually, and then turn off the power. Please make sure that the power supply has no current overshoot at any time. The current overshoot can damage the laser diodes permanently.
5. The high power laser diode arrays are very sensitive to electrostatic. Please wear anti-static bracelet during operating with the laser diode arrays.
6. Be sure that the operating current does not exceed the specified operating current. Otherwise it will accelerate laser aging, shorten lifetime or even damage devices permanently.
7. A clean, dry and ventilated environment should be available when storing and operating laser diode arrays. Dust may degrade the laser diode arrays.