WV12 808nm-1800W Macro Channel Diode Laser Array

Key Features

- 808nm operating wavelength
- 100W single bar
- AuSn soldering
- Macro channel water cooling
- High power density
- High efficiency
- High reliability and stability
- Customizable multi-wavelength solutions

Applications

Hair removal

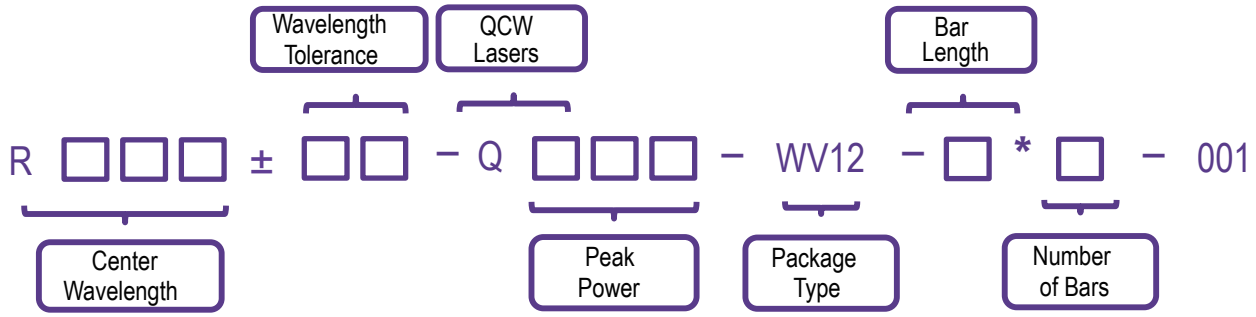
Skin rejuvenation

Technical Specifications

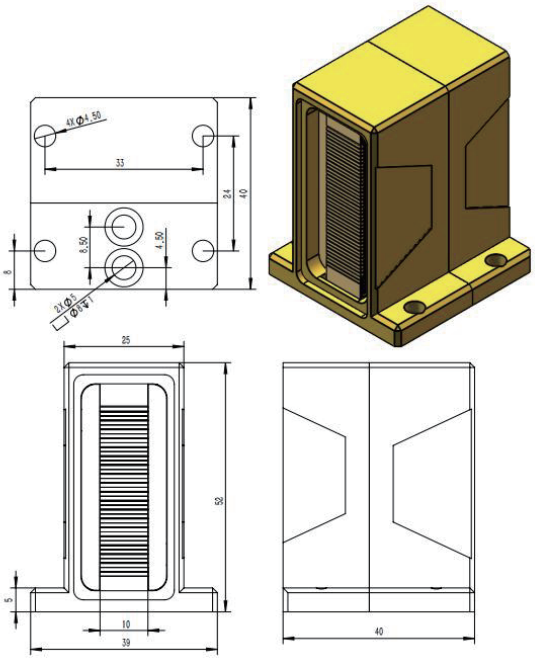
Optical Parameters	
Part Number	R808±15-Q1800-WV12-10x18-001
Center Wavelength λ_c（nm）	808
Wavelength Tolerance $\delta\lambda_c$（nm）	±15
Output Power（W）	1800
Number of Bars	18
Bar-to-Bar Pitch（mm）	1.86
Spot Size（mm）	10 X 31.62
Fast Axis Full Divergence Angle（FWHM）（°）	78
Slow Axis Full Divergence Angle（FWHM）（°）	20
Wavelength Temperature Coefficient（nm/℃）	~ 0.3
Electrical Parameters	
Operating Current I_{op}（A）	≤100
Threshold Current I_{th}（A）	≤20
Operating Voltage V_{op}（V）	≤36
Slope Efficiency per Bar（W/A）	≥1.1
Power Conversion Efficiency（%）	≥48
Duty Cycle（max., %）	20
Pulse Width（max., ms）[1]	200
Repetition Rate（Hz）	1 ~ 10
Cooling Parameters	
Cooling Water Requirements	Deionized Water or Distilled Water
Water Temperature（℃）[2]	20 ~ 30
Water Pressure（Mpa）	0.35 ~ 0.45
Water Flow Rate（L/min）[3]	3.5 ~ 4.5

1. Since the duty cycle of the module cannot exceed 20% during operation, when the maximum pulse width is 200ms, the repetition frequency can only be 1Hz; when the maximum repetition frequency is 10Hz, the maximum pulse width is 20ms only.
2. Avoid laser operation in condensing environments, ensure ambient temperature exceeds minimum safe operating limits.
3. The water flow rate refers to the flow of cooling water exiting the laser system.
4. Custom wavelengths available upon request.
5. All the data in the above table are the typical values obtained from the tests at room temperature of 25℃, and the final data is subject to the final test report.

Part Numbering Schema



Mechanical Drawings (in mm)



Notes:

The light-emitting area dimensions in the diagram are for illustrative purposes only. Refer to specs for actual measurements.

Laser Operating Conditions Reference

Operating Condition		Frequency (Hz)										Operating Current
		1	2	3	4	5	6	7	8	9	10	
Pulse Width (ms)	10	100A	100A	100A	100A	100A	100A	100A	100A	100A	100A	≤100A
	20	100A	100A	100A	100A	100A	100A	100A	100A			
	30	100A	100A	100A	100A	100A						
	40	95A	95A	95A	95A							
	80	90A	90A									
	100	90A										
	200	80A