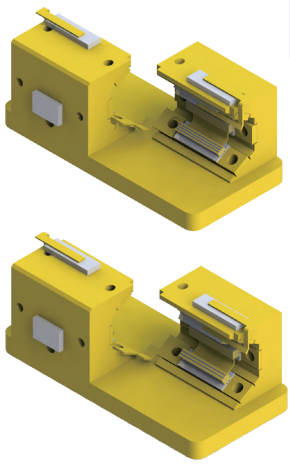


PA-1 Series Conduction Cooled Polygonal Diode Laser Array

The PA-1 series of conductive cooled polygonal diode laser array is a high peak power product developed by RealLight for use at high temperatures of 60°C. The PA-1 series is composed of six hexagonally arranged stacks, with 1 ~ 4 bars in each stack, and each bar has a power of 100W/200W. Other wavelengths and packaging forms can be customized.

Key Features

- AuSn solder for packaging
- High temperature application
- High peak power
- High reliability

Applications

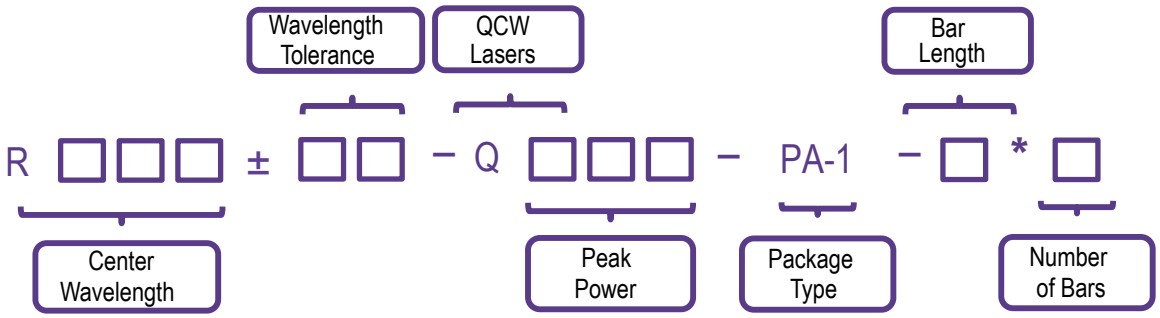
Pumping source
Illumination
Laser processing
Scientific research

Technical Specifications

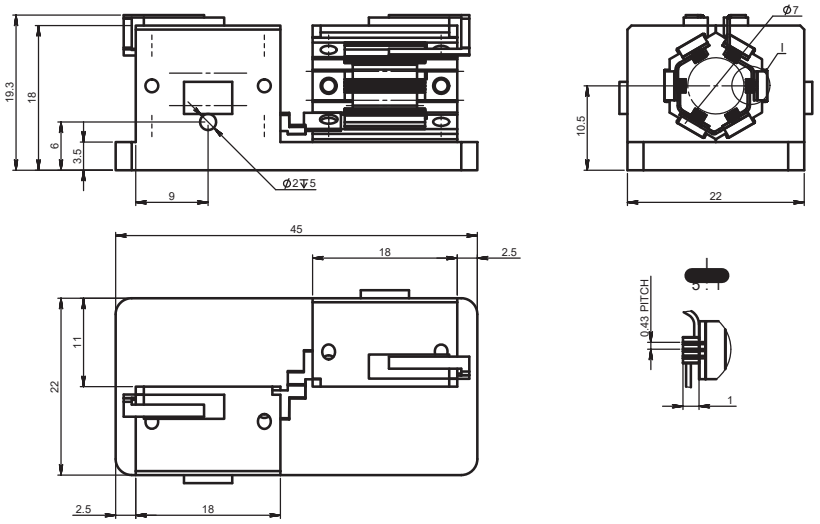
Optical Parameters		
Center Wavelength λ_c (nm)	790~812	
Wavelength Tolerance $\delta\lambda_c$ (nm)	±3	
Output Power per Bar (W)	100	200
Number of Bars per Stack	1~4	1~3
Bar-to-Bar Pitch (mm)	0.43	0.55
Spectral Width (FWHM) (nm)	≤6	
Fast Axis Divergence Angle (FWHM) (typ., °)	40	
Slow Axis Divergence Angle (FWHM) (typ.,°)	10	
Wavelength Temperature Coefficient (nm/℃)	~0.3	
Electrical Parameters		
EO Conversion Efficiency (%)	≥50	
Threshold Current I_{th} (A)	≤20	≤30
Operating Current I_{op} (A)	100	220
Operating Voltage V_{op} of each Bar (V)	≤2.1	
Duty Cycle (%)	≤0.8%@2400W	≤0.6%@3600W
Pulse Width (μs)	≤300	
Repetition Rate (Hz)	≤25	≤20
Environment Parameters		
Operating Temperature (℃)	-40~65	
Storage Temperature (℃)	-45~85	

1. Wavelengths from 940nm to 960nm available upon request.
2. Custom number of bars and bar-to-bar pitch are available upon request.
3. The installation and wiring can be customized to meet the customer's requirements.
4. 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.

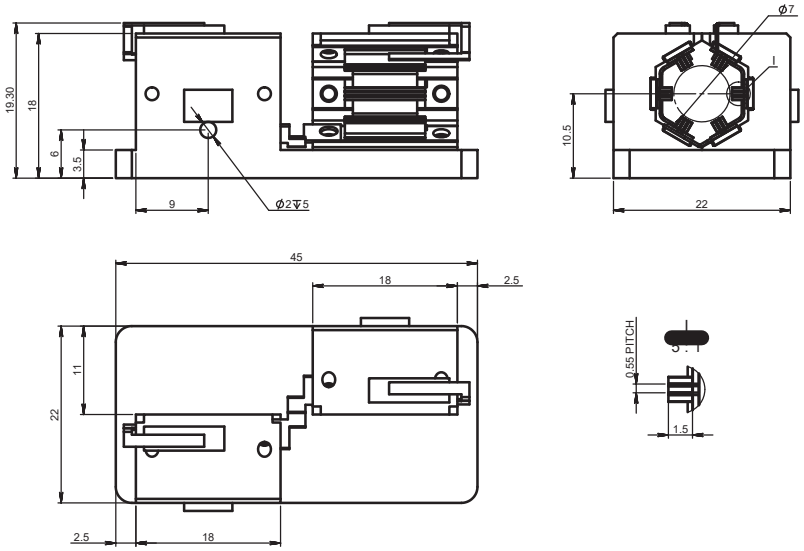
Part Numbering Schema



Mechanical Drawings (in mm)



PA-1_0.43_100W



PA-1_0.55_200W