

Premier

Features

- Stable output power
- True ON/OFF pulsed control
- Linear amplitude or time modulation
- Zero offset input
- Wide temperature range
- Low power consumption
- Excellent power supply rejection
- Emission indicator
- Electrically isolated case
- EMC/ESD shielded
- Flexible optical arrangements

Applications

- Graphics Displays
- Vision Systems
- Telemetry
- Dynamic Lighting
- Sensors
- Laboratory Testing

Premier diode lasers are a range of precision controllable laser light sources. This new design uses advanced circuits and components to eliminate unwanted variations in output.

A single input allows the light intensity to be set using a simple resistor or voltage source. The output can be modulated rapidly with any arbitrary waveform.

The output power can be optimized for any system configuration. One laser can suit variations in lighting and reflectance.

One product can meet different international standards, and satisfy several different applications.



The module contains an industrial quality laser diode with built-in monitoring photodiode. An efficient processor controlled driver circuit is fully protected and matched to the diode. The stable adjustable focus lens mounting and case is electrically isolated from the electronics. A 4 way connector provides supply, control and shielding inputs.

Premier Statistics

Power and Wavelength

The actual beam power is set during manufacture to the figures in the table for the wavelength specified. Any lower figure can be precisely achieved using the control input.

635nm	650nm	670nm	810nm
5mW	5mW	1mW	20mW
10mW	20mW	5mW	50mW

Electrical Characteristics

	Min	Max	Units	
Recommended supply voltage +Vs	3.3	5	V	Note 1
Supply current		4.0	mA	Note 2
Control voltage range	0	1.0	V	Note 3

Note 1. Operation outside these limits is permitted, with reduced specifications. See UG1294

Note 2. Supply current with laser OFF. Current when ON is diode dependent. See UG1294

Note 3. Control voltage up to +Vs will not increase the power more than 5%

Output Characteristics

	Typical	Max	Units	
Power calibration accuracy	0.5	2	%	Notes 4,5
Maximum control frequency - DC to ON/OFF rise and fall times	300		kHz	Note 6
Power supply rejection ratio	2		µs	Note 7
Power output temperature coefficient	0.01		%/%	
	0.05 * 0.25		%/°C	

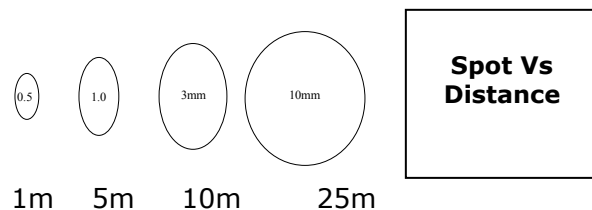
Note 4. Adjustment or substitution of the factory fitted optics will invalidate this figure.

Note 5. Measured against a traceable standard with an absolute accuracy of better than 6%

Note 6. Measured with 95% modulation depth to -3dB

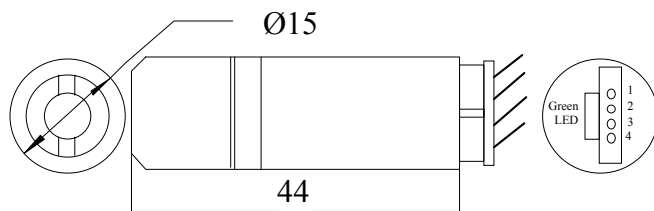
Beam characteristics

Typical focussed spot profile



	Typical	Units
Beam size	6 x 2	mm
Pointing accuracy	5	mrاد
Pointing stability	0.005	mrاد/°C
Focus Range		

Mechanical Outline



Operating Temp vs. Lifetime

Pin Connections

JST PHR4 500mm leads (supplied)	
1 Red	+Vs
2 Black	0V
3 Yellow	Vcontrol
4 Green/Yellow	Case

ESD protection Pins 2 and 4 are internally connected by 100kΩ

Custom Options

Our applications engineering department is always available to offer advice on the use of our standard products. If none is suitable, we can draw on our considerable experience of module design to provide an optimum solution for your problem.