

## Temperature Stabilized Semiconductor Laser Module

### Key Features:

- ◆ Fiber Coupled or Free Space
- ◆ Low Power Consumption
- ◆ Constant Optical Power
- ◆ TTL Modulation Option
- ◆ Low Optical Noise
- ◆ ESD Protection
- ◆ Plug & Play



### Applications:

- ◆ Bio Technology
- ◆ Photo Finishing
- ◆ Semiconductor Instrument
- ◆ Medical Instrument
- ◆ Scientific Research



The FreeBeam™830 Infrared Laser Module is a highly integrated free space violet laser module with laser optics and electronics into a single package. It features very low optical noise and up to 100 KHz TTL modulation. Low temperature setting can improve laser operation lifetime. The unique designed electrical driver enable this Laser Module has the lowest power consumptions compare to the similar product in the industry.

The FreeBeam™830 Infrared Laser Module came with two different packages for you to choose from. Tub style part number start with FBT, box style start with FBB. FBB can allow you to remotely control Laser output power through electrical cable connect to the back panel of the package, while FBT can allow you to control optical power locally through a potential meter on the back panel of the laser tube.

The FreeBeam™830 Infrared Laser Module is available for single mode and multi mode fiber coupled configuration.

The FreeBeam™830 Infrared Laser Module is a Class III b laser product.

### Specifications:

<b>Part Number</b>	<b>FBX - 830 – 0XX</b>
<b>Wavelength</b>	<b>830nm ± 5nm</b>
<b>Output Power</b>	<b>150mW</b>
<b>Noise(RMS)</b>	<b>&lt;0.3%</b>
<b>Power stability</b>	<b>8hrs, &lt;2%</b>
<b>Beam pointing stability</b>	<b>&lt;10urad/°C</b>
<b>Polarization</b>	<b>100 : 1</b>
<b>Beam diameter</b>	<b>1.8 X 0.7mm</b>
<b>Beam divergence</b>	<b>0.3 X 0.6 mrad</b>
<b>Operation Voltage</b>	<b>9V+/- 0.5V DC</b>
<b>Operation Current</b>	<b>TEC Max 2.5 A, LD Max 140mA</b>
<b>Operation Temperature</b>	<b>10°C to 35°C</b>

This component does not comply with the Federal Regulations (21 CFR Sub chapter 1) as administered by the Center for Devices and Radiological health. Purchaser acknowledges that his/her products must comply with these regulations before they can be sold to a customer. The output light from this product is harmful to a human body even if it is invisible. Avoid looking at the output of this product directly, or through a lens during operation. Observance of operation should be through a TV camera or related equipment. Refer to IEC 825-1 and 21 CFR 1040.10-1040.11 as a radiation safety standard for laser products.

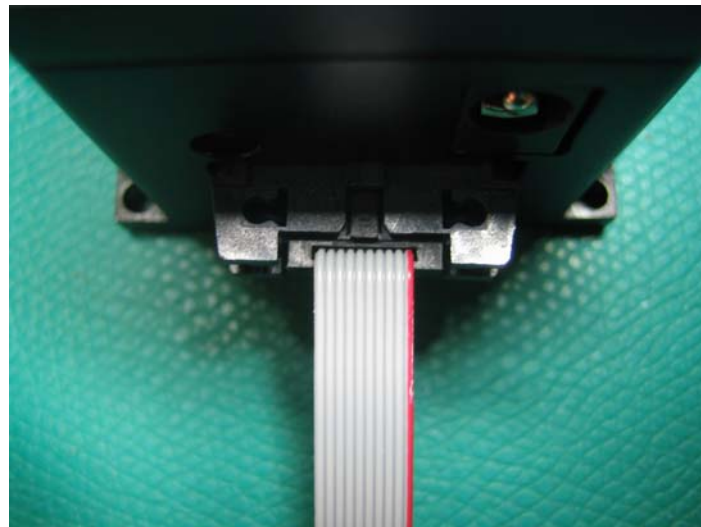
## Temperature Stabilized Semiconductor Laser Module

Mechanical Size(Box)	100mm(L)X44mm(W)X38.5mm(H)
Mechanical Size(Tube)	φ40mmX116.3mm
RF Input(for tube)	SMA Receptacle
RF Input(for box)	SAMTEC #: MMCX-J-P-X-RA-TH1*
Electrical Interface(for box)	SAMTEC #: EHF-105-01-L-D-RA*

\*You can find mating connector information at [www.samtec.com](http://www.samtec.com)

### Electrical Pin Assignment:

Part Number	Function
Pin 1	+9V DC
Pin 2	+9V DC
Pin 3	+9V DC
Pin 4	+9V DC
Pin 5	Power GND
Pin 6	Power GND
Pin 7	Power GND
Pin 8	Power GND
Pin 9	Power Setting, 0V Max power, 2.5V Min Power
Pin 10	Internal Testing Pin



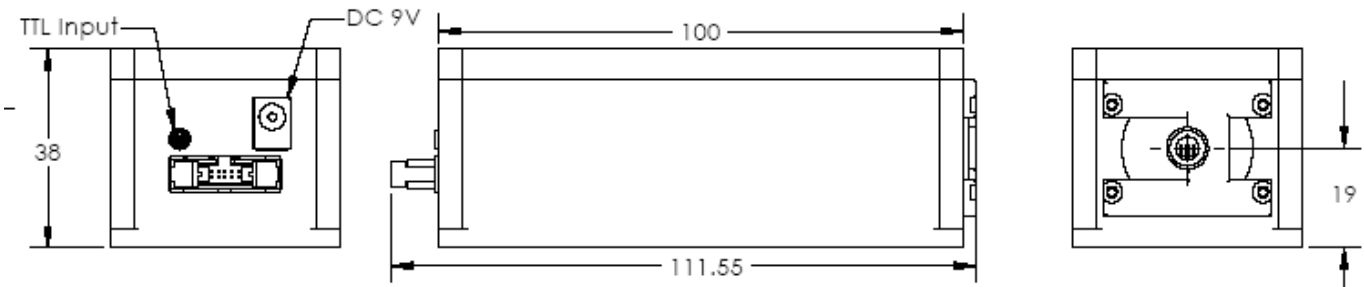
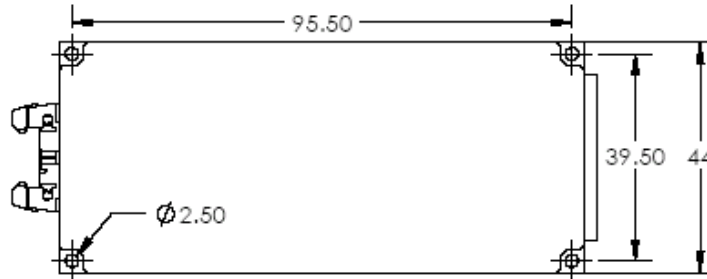
Pin 10 Pin1

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### Mechanical Dimension:



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