

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™445 Blue Laser Module is a highly integrated blue laser module with laser optics and electronics into a single package. It features very low optical noise and up to 100 KHz TTL modulation. Laser output power can be remotely controlled through electrical cable connected to the back panel of the package. 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™445 Blue 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™445 Blue Laser Module is available for single mode and multi mode fiber coupled configuration.

The FreeBeam™445 Blue Laser Module is a Class III b laser product.

Specifications:

Part Number	FB - 445 – XXX
Wavelength	440nm to 450nm
Output Power	45mW, 470mW
Noise(RMS)	<0.3%
Power stability	8hrs, <2%
Beam pointing stability	<10urad/°C
Polarization	100 : 1
Beam diameter	1.8 X 0.7mm
Beam divergence	0.4 X 0.6 mrad
Operation Voltage	9V+/- 0.5V DC
Operation Current	TEC Max 2.5 A, LD Max 140mA
Operation Temperature	10°C to 35°C

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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*

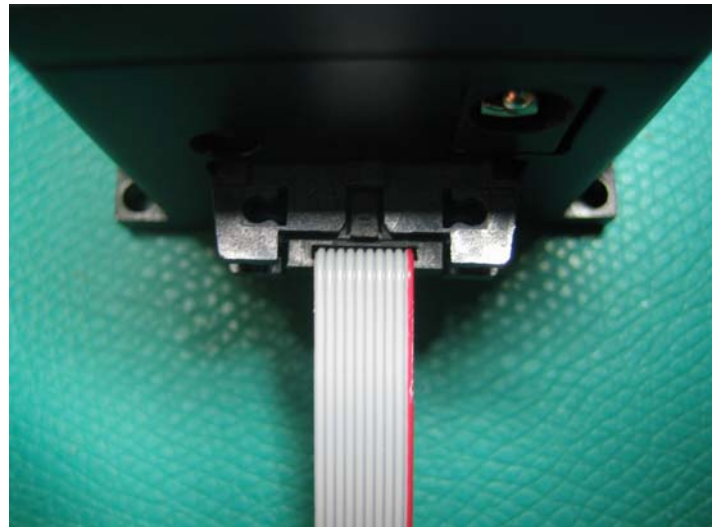
*You can find mating connector information at www.samtec.com

Available Laser Power:

Output Power Level(mW)	15	25	45	150	300	500	600	850	900
Free Space TEM00 Mode			√						
Free Space Multi Transverse Mode			√			√			√
Single Mode Fiber Coupling	√	*							
50um Multi Mode Fiber coupling		√		√	√				
100um Multi Mode Fiber coupling		√			√		√		
200um Multi Mode Fiber coupling			√			√		√	
400um Multi Mode Fiber coupling			√			√		√	

Electrical Pin Assignment:

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
Pin 10	Internal Testing Pin

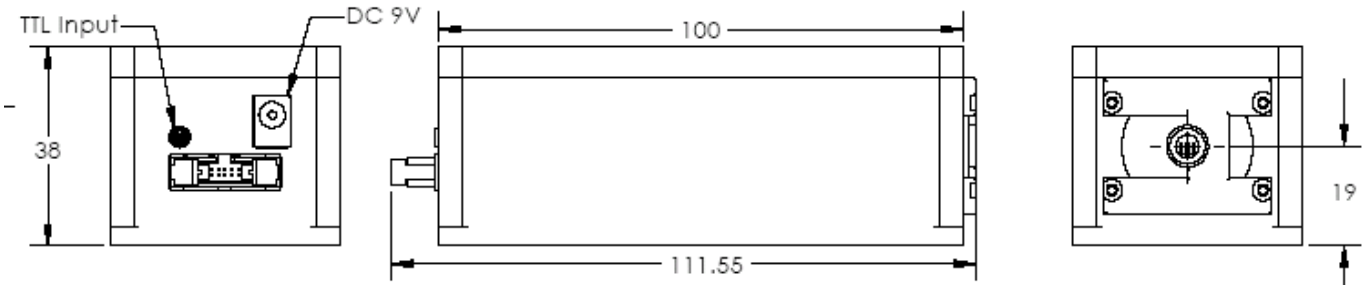
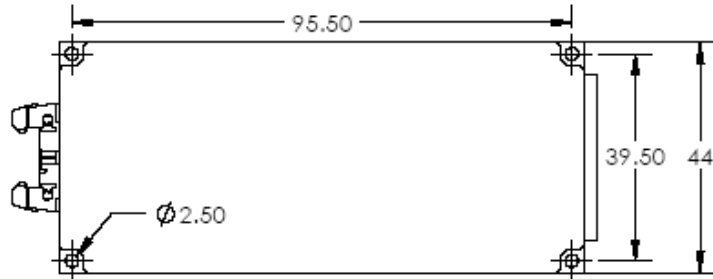


Pin 10

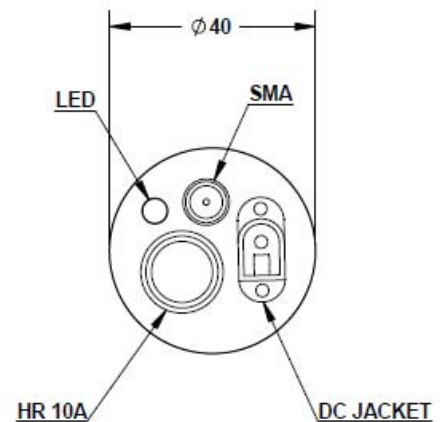
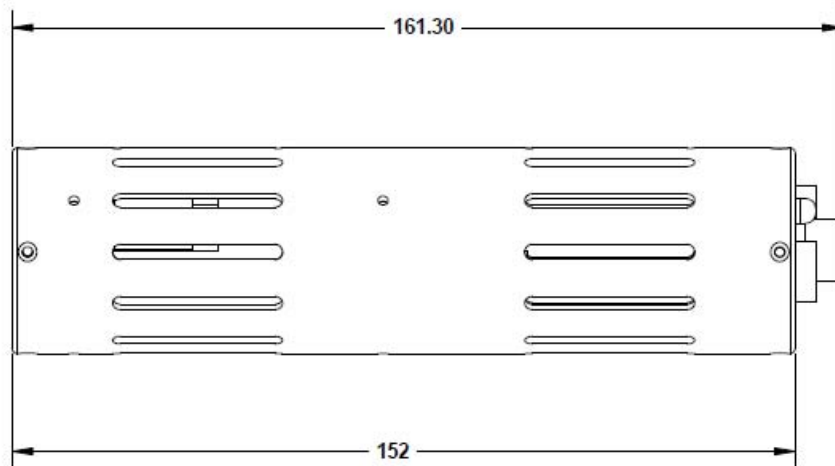
Pin1

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Free Space Mechanical Dimension (BOX):

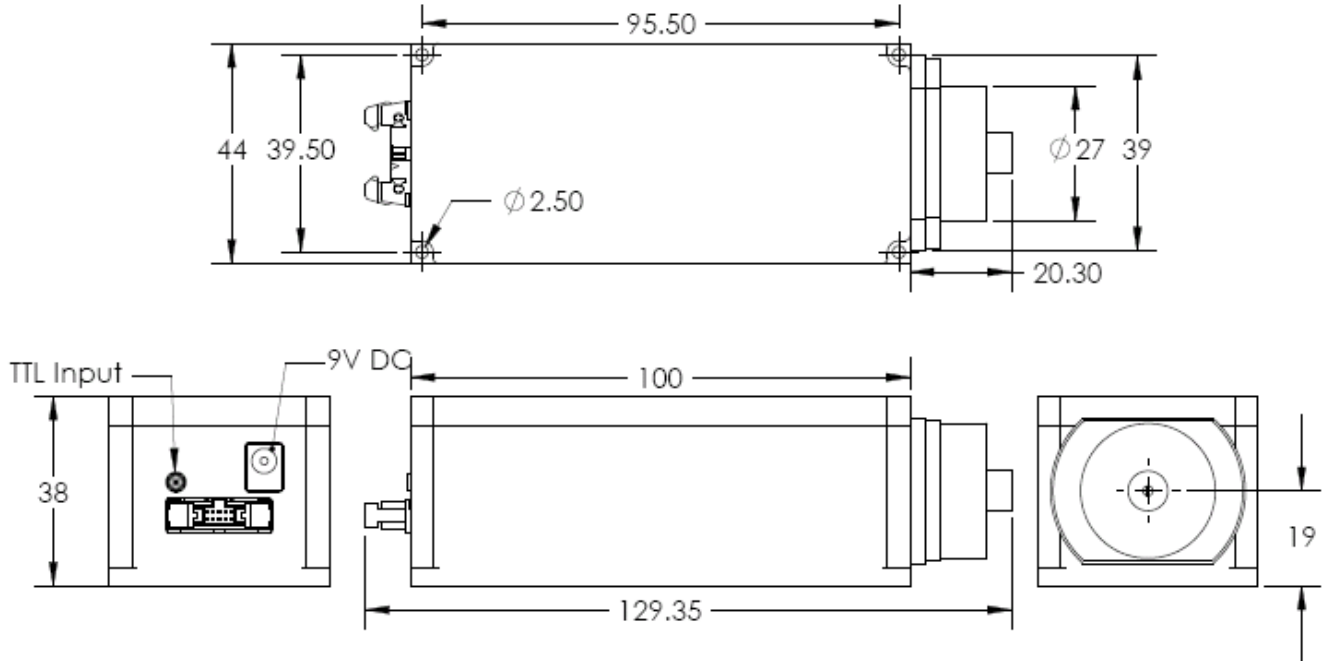


Free Space Mechanical Dimension (Tube):



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Fiber Coupled Mechanical Dimension :



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.

RgBLase LLC follows a policy of continuous product improvement. Specifications are subject to change without notice.