

# UT Series Modulated Red Laser Module

Part No: UT5-3.5G-650



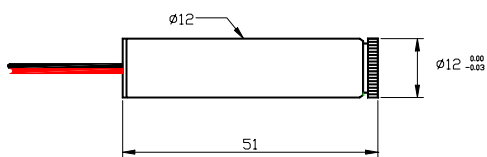
## Product Features

- TTL Modulation from CW up to 155 MHz
- Collimated or Adjustable focus beam
- Custom Options Available

## Application

- Measurement
- Bioanalytical
- Automation
- Alignment

## Mechanical Drawing



**Operational Hazard-Semiconductor Laser Diode Module:** This laser module emits radiation that is visible and harmful to human eye. When in use, do not look directly into the laser emitting aperture. Direct viewing of laser diode emission at close range may cause eye damage.

**Limited Warranty:** One year. No warranty coverage for disassembly, modifications or damage due to abuse or misapplication.

## Specification

### OPTICAL

|                               |   |
|-------------------------------|---|
| Wavelength                    | 650 nm                                  |
| Optical Output Power          | <3.5 mW                                 |
| Stability                     | <1%                                     |
| Wavelength Drift              | 0.2 nm/°C                               |
| Noise (20MHz Bandwidth)       | <0.5% RMS                               |
| Laser Class                   | Class IIIA                              |
| Laser Operation <sup>1</sup>  | Continuous                              |
| Laser Structure               | Single Mode Laser                       |
| Divergence at the collimation | <0.5 milliradian                        |
| Spot Size                     | Adjustable (default) or collimated(5mm) |
| Minimum Spot Size             | <60 μm at <10" distance                 |
| Pointing Stability            | <50 μrad                                |

### ELECTRICAL

|                        |                              |
|------------------------|------------------------------|
| Operating Voltage      | 3.5 to 5 VDC                 |
| Operating Current      | < 60 mA                      |
| Modulation             | 0 Hz to 155 MHz              |
| TTL Input              | Low (0~0.8 V), High (3~5 V)  |
| Electrical Connections | +(Red), -(Black), TTL(White) |

### MECHANICAL

|                                     |                              |
|-------------------------------------|------------------------------|
| Dimension                           | 12 mm(D)x 51mm (L)           |
| Cable                               | 200 mm                       |
| Operating Temperature               | -10°C to +50°C               |
| Storage Temperature                 | -40°C to +80°C               |
| Heat Sink Requirements <sup>2</sup> | Recommended for extended use |

### Notes

1. For CW Operation: Connect the white wire to the red wire.
2. Heat Sink: The UT Series Modulated Red Laser Module is designed to operate without heat sink. Do not restrict air circulation around the device; an additional heat sink can be used to maximize the performance and life time of the laser.

**Caution:** The case is internally connected to the circuit; damage to the anodized surface may result in failure of the laser module.



Complies with CDRH 21CFR 1040.10

## World Star Tech.

321 Lesmill Rd. Toronto, Ont. M3B 2V1 Canada  
 Tel: (416) 363-3332 Fax: (416) 363-3112 [www.worldstartech.com](http://www.worldstartech.com)  
 Rev. B Oct.2004



ISO9001:2000 Registered

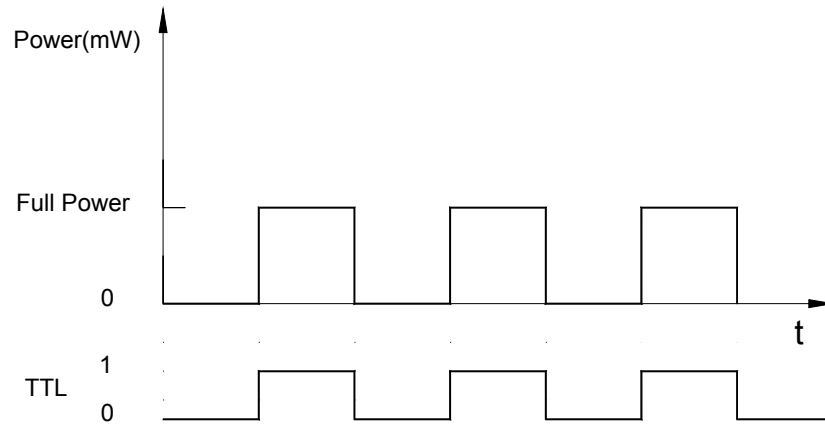


# UT Series Modulated Red Laser Module

*Part No: UT5-3.5G-650*

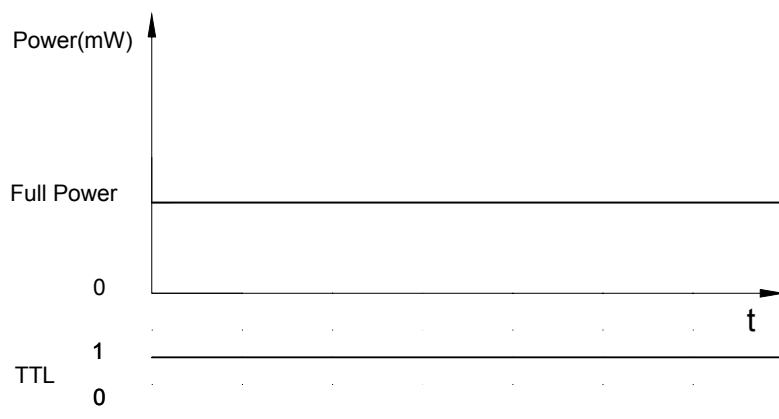
## TTL Modulation

The UT series red laser module is TTL modulatable between 0 and the full power by applying an external TTL input signal (e.g. from function generator) using third white wire. When the TTL input is Low the laser power is completely off. When the TTL input is high the laser output is at Full Power. The TTL signal can be any on-off time combination.



## Continuous Operation

The UT series laser module can be operated continuously by applying a high signal to the TTL input which can be done by connecting the white wire and red wire together.



### World Star Tech.

321 Lesmill Rd. Toronto, Ont. M3B 2V1 Canada  
 Tel: (416) 363-3332 Fax: (416) 363-3112 [www.worldstartech.com](http://www.worldstartech.com)  
 Rev. B Oct.2004



ISO9001:2000 Registered

