

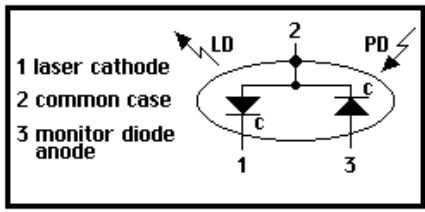
## US-Lasers: 780nm-10mW - Infrared Laser Diode and Infrared Diode Laser Module

[Back To Laser Modules](#)

| TECHNICAL DATA for LASER MODULE                                                                                                        |                                                                                                                                                   |                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Barrel Specs:</b> <ul style="list-style-type: none"> <li>3/8 - 56 Thread Size</li> <li>Dia: 10.4mm</li> <li>Length: 17mm</li> </ul> | <b>Collect Specs:</b> <ul style="list-style-type: none"> <li>3/8 - 56 Thread Size</li> <li>4.3mm Aperature</li> <li>Half Hard Brassbbb</li> </ul> | <b>Lens Housing Specs:</b> <ul style="list-style-type: none"> <li>3/8 - 56 Thread Size</li> <li>3.7mm Aperture</li> <li>7mm Plastic Lens</li> </ul> |

### INFRARED DIODE LASER DATA SHEETS

ABSOLUTE MAXIMUM RATINGS - (Tc=25 °C)

| TECHNICAL DATA for LASER DIODE                                                                                                                                                                                        |         |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Index Guided MQW Structure</li> <li>Wavelength: 780nm (Typ.)</li> <li>Optical Power: 10mW CW</li> <li>Threshold Current: 45mA (Typ.)</li> <li>Standard Package: 9mm</li> </ul> |         |                                                                                    |
| Infrared light output                                                                                                                                                                                                 | 780nm   | <b>Pin Out Diagram - Style A</b>                                                   |
| Optical power output                                                                                                                                                                                                  | 10mW CW |                                                                                    |
| Package Type                                                                                                                                                                                                          | 9mm     |                                                                                    |
| Built-in photo diode for monitoring laser output                                                                                                                                                                      |         |                                                                                    |

| Items                       | Symbols | Values    | Unit |
|-----------------------------|---------|-----------|------|
| Optical output power        | Po      | 10        | mW   |
| Laser diode reverse voltage | VLDR    | 2         | V    |
| Photo diode reverse voltage | VPDR    | 30        | V    |
| Operating temperature       | Topr    | -10 ~ +40 | °C   |
| Storage temperature         | Tstg    | -40 ~ +85 | °C   |

### OPTICAL and ELECTRICAL CHARACTERISTICS - (Tc=25 °C)

| Items                                  | Symbols               | Min. | Typ.            | Max. | Unit | Test Condition  |
|----------------------------------------|-----------------------|------|-----------------|------|------|-----------------|
| Optical output power                   | Po                    | -    | 10              | -    | mW   | -               |
| Threshold current                      | Ith                   | 15   | 25              | 40   | mA   | -               |
| Operating current                      | Iop                   | 30   | 40              | 60   | mA   | Po=10mW         |
| Operating voltage                      | Vop                   | 2.0  | 2.4             | 2.7  | V    | Po=10mW         |
| Lasing wavelength                      | λ D                   | 770  | 780             | 790  | nm   | Po=10mW         |
| Beam divergence                        | θ F                   | 8    | 10              | 11   | deg  | Po=10mW         |
| Beam divergence                        | θ z                   | 25   | 31              | 40   | deg  | Po=10mW         |
| Slope Efficiency (mW/mA)               | η                     | 0.4  | 0.5             | 0.7  | -    | -               |
| Monitor current                        | Im                    | 10   | 30              | 90   | μ A  | Po=10mW, Vr=5V  |
| Astigmatism                            | As                    | -    | 11              | -    | μ m  | Po=10mW         |
| MTTF                                   |                       |      | 3000-5,000 hrs. |      |      | Po=10mW, NA=0.4 |
| Emitter Size                           | 1 x 40 Microns        |      |                 |      |      |                 |
| Emitter Distance to Cap Lens Structure | 0.3mm<br>Index Guided |      |                 |      |      |                 |