

# NVG, INC.

## VISIBLE LASER DIODES

### Technical Data



#### MODEL # D650-5

#### VISIBLE DIODE LASER ABSOLUTE MAXIMUM RATINGS - (T<sub>c</sub>=25 °C)

| TECHNICAL DATA   |        |                        |
|--|--------|------------------------|
| <ul style="list-style-type: none"> <li>• Index Guided MQW Structure</li> <li>• Wavelength: 650nm (Typ.)</li> <li>• Optical Power: 5mW CW</li> <li>• Threshold Current: 20mA (Typ.)</li> <li>• Standard Package: 5.6mm</li> </ul> |        |                        |
| Visible light output   | 650nm  | <b>Pin Out Diagram</b> |
| Optical power output   | 5mW CW |                        |
| Package Type   | 5.6mm  |                        |
| Built-in photo diode for monitoring laser output   |        |                        |

| Items                       | Symbols          | Values    | Unit |
|-----------------------------|------------------|-----------|------|
| Optical output power        | P <sub>o</sub>   | 7         | mW   |
| Laser diode reverse voltage | VLDR             | 2         | V    |
| Photo diode reverse voltage | VPDR             | 30        | V    |
| Operating temperature       | T <sub>opr</sub> | -10 ~ +60 | °C   |
| Storage temperature         | T <sub>stg</sub> | -40 ~ +85 | °C   |

#### OPTICAL and ELECTRICAL CHARACTERISTICS - (T<sub>c</sub>=25 °C)

| Items                    | Symbols         | Min. | Typ.        | Max. | Unit | Test Condition                          |
|--------------------------|-----------------|------|-------------|------|------|---|
| Optical output power     | P <sub>o</sub>  | -    | 5           | -    | MW   | -                                       |
| Threshold current        | I <sub>th</sub> | -    | 20          | 70   | mA   | -                                       |
| Operating current        | I <sub>op</sub> | -    | 65          | 85   | mA   | P <sub>o</sub> =5mW                     |
| Operating voltage        | V <sub>op</sub> | -    | 2.7         | -    | V    | P <sub>o</sub> =5mW                     |
| Lasing wavelength        | λ               | 640  | 650         | 660  | nm   | P <sub>o</sub> =5mW                     |
| Beam divergence          | θ <sub>Φ</sub>  | -    | 5           | 11   | deg  | P <sub>o</sub> =5mW                     |
| Beam divergence          | θ <sub>ζ</sub>  | -    | 25          | 37   | deg  | P <sub>o</sub> =5mW                     |
| Slope Efficiency (mW/mA) | η               | 0.3  | 0.7         | 0.9  | -    | -                                       |
| Monitor current          | I <sub>m</sub>  | -    | 10          | 20   | μA   | P <sub>o</sub> =5mW, V <sub>R</sub> =5V |
| Astigmatism              | As              | -    | 11          | -    | μm   | P <sub>o</sub> =5mW                     |
| MTTF                     |                 |      | 10,000 hrs. |      |      | P <sub>o</sub> =5mW, NA=0.4             |

|                              |               |
|------------------------------|---------------|
| Emitter Distance to Cap Lens | 0.3mm         |
| Emitter Size                 | 1 x 4 Microns |
| Structure                    | Index Guided  |

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