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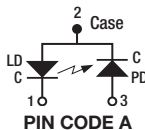
## $\lambda = 650 \text{ nm}$ , $P = 7 \text{ mW}$ , Single Mode Thorlabs L650P007

CAUTION: ELECTROSTATIC SENSITIVE



Pin Description

- 1 laser cathode
- 2 common case
- 3 monitor diode anode



NEW product

- $\varnothing 5.6 \text{ mm}$  Package
- 1 mW/mA (Typical) Slope Efficiency
- 15  $\mu\text{m}$  (Max) Astigmatism
- Single Transverse Mode
- MOCVD\*-Grown with Quantum Well Structures

\*Metal-Organic Chemical Vapor Deposition.

| ITEM #   | £*<br>1-5 PCS | €*<br>1-5 PCS | RMB*<br>1-5 PCS |
|----------|---------------|---------------|-----------------|
| L650P007 | £ 8.95        | € 10.81       | ¥ 98.99         |

\*For quantities over 5 pieces, please call our local office for pricing.

| ITEM #   | PRICE<br>1-5 PCS | PRICE<br>6-10 PCS | PRICE<br>11-20 PCS | DESCRIPTION           |
|----------|------------------|-------------------|--------------------|-----------------------|
| L650P007 | \$ 12.42         | \$ 12.17          | \$ 12.05           | Thorlabs 650 nm, 7 mW |

### Maximum Ratings ( $T_c = 25^\circ\text{C}$ )

| CHARACTERISTIC             | SYMBOL      | MAX RATING   |
|----------------------------|-------------|--------------|
| Optical Output Power (CW)  | $P_o$       | 10 mW*       |
| LD Reverse Voltage         | $V_{R(LD)}$ | 2 V          |
| PD Reverse Voltage         | $V_{R(PD)}$ | 30 V         |
| Operation Case Temperature | $T_{op}$    | -10 to 70 °C |
| Storage Temperature        | $T_{stg}$   | -40 to 85 °C |

\*7 mW Typical

### Characteristics ( $T_c = 25^\circ\text{C}$ , $P = 7 \text{ mW}$ )

| CHARACTERISTIC         | SYMBOL           | MIN       | TYP.    | MAX       |
|------------------------|------------------|-----------|---------|-----------|
| Lasing Wavelength      | $\lambda_p$      | 640 nm    | 650 nm  | 660 nm    |
| Threshold Current      | $I_{th}$         | –         | 20 mA   | 25 mA     |
| Operating Current      | $I_{op}$         | –         | 28 mA   | 35 mA     |
| Operating Voltage      | $V_{op}$         | –         | 2.2 V   | 2.6 V     |
| Beam Divergence (FWHM) | $\theta_{//}$    | 5°        | 9°      | 12°       |
|                        | $\theta_{\perp}$ | 24°       | 28°     | 32°       |
| Slope Efficiency       | $\eta_s$         | 0.6 mW/mA | 1 mW/mA | 1.3 mW/mA |
| Monitor Current        | $I_m$            | –         | 0.12 mA | 0.3 mA    |

Note: All data are presented as typical unless otherwise specified.

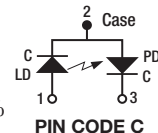
## $\lambda = 658 \text{ nm}$ , $P = 30 \text{ mW}$ , Single Mode Hitachi HL6501MG



CAUTION: ELECTROSTATIC SENSITIVE

Pin Description

- 1 laser anode
- 2 common case
- 3 monitor diode cathode



- $\varnothing 5.6 \text{ mm}$  Package
- AlGaInP Structure
- 1 x 5  $\mu\text{m}$  Emitter Size
- 6  $\mu\text{m}$  (Typical) Astigmatism
- Single Longitudinal Mode
- Pulsed Optical Power of 50 mW with a  $\leq 50\%$  Duty Cycle, Maximum Pulse Width of 100 ns

| ITEM #   | £*<br>1-5 PCS | €*<br>1-5 PCS | RMB*<br>1-5 PCS |
|----------|---------------|---------------|-----------------|
| HL6501MG | £ 29.31       | € 35.41       | ¥ 324.38        |

\*For quantities over 5 pieces, please call our local office for pricing.

| ITEM #   | PRICE<br>1-5 PCS | PRICE<br>6-10 PCS | PRICE<br>11-20 PCS | DESCRIPTION           |
|----------|------------------|-------------------|--------------------|-----------------------|
| HL6501MG | \$ 40.70         | \$ 39.48          | \$ 38.67           | Hitachi 658 nm, 35 mW |

### Maximum Ratings ( $T_c = 25^\circ\text{C}$ )

| CHARACTERISTIC             | SYMBOL        | MAX RATING   |
|----------------------------|---------------|--------------|
| Optical Output Power (CW)  | $P_o$         | 35 mW*       |
| Pulsed Optical Power       | $P_o$ (pulse) | 50 mW**      |
| LD Reverse Voltage         | $V_{R(LD)}$   | 2 V          |
| PD Reverse Voltage         | $V_{R(PD)}$   | 30 V         |
| Operation Case Temperature | $T_{op}$      | -10 to 60 °C |
| Storage Temperature        | $T_{stg}$     | -40 to 85 °C |

\*30 mW Typical \*\*Pulse Condition: Pulse Width = 100 ns, Duty = 50%

### Characteristics ( $T_c = 25^\circ\text{C}$ , $P = 30 \text{ mW}$ )

| CHARACTERISTIC         | SYMBOL           | MIN     | TYP.   | MAX    |
|------------------------|------------------|---------|--------|--------|
| Lasing Wavelength      | $\lambda_p$      | 645 nm  | 658 nm | 665 nm |
| Threshold Current      | $I_{th}$         | 30 mA   | 45 mA  | 70 mA  |
| Operating Current      | $I_{op}$         | –       | 65 mA  | 95 mA  |
| Operating Voltage      | $V_{op}$         | 2.1     | 2.6 V  | 3.0 V  |
| Beam Divergence (FWHM) | $\theta_{//}$    | 7°      | 8.5°   | 10.5°  |
|                        | $\theta_{\perp}$ | 18°     | 22°    | 26°    |
| Monitor Current        | $I_m$            | 0.05 mA | 0.2 mA | 1.5 mA |

Note: All data are presented as typical unless otherwise specified.

## $\lambda = 658 \text{ nm}$ , $P = 40 \text{ mW}$ , Single Mode Thorlabs L658P040

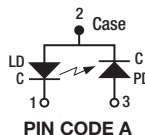
CAUTION: ELECTROSTATIC SENSITIVE



NEW product

Pin Description

- 1 laser cathode
- 2 common case
- 3 monitor diode anode



- $\varnothing 5.6 \text{ mm}$  Package
- 40 mW (Typ.) Optical Output Power (CW)
- 15  $\mu\text{m}$  (Max) Astigmatism
- Single Longitudinal Mode

| ITEM #   | £*<br>1-5 PCS | €*<br>1-5 PCS | RMB*<br>1-5 PCS |
|----------|---------------|---------------|-----------------|
| L658P040 | £ 38.49       | € 46.51       | ¥ 426.00        |

\*For quantities over 5 pieces, please call our local office for pricing.

| ITEM #   | PRICE<br>1-5 PCS | PRICE<br>6-10 PCS | PRICE<br>11-20 PCS | DESCRIPTION            |
|----------|------------------|-------------------|--------------------|------------------------|
| L658P040 | \$ 53.45         | \$ 52.38          | \$ 51.85           | Thorlabs 658 nm, 40 mW |

### Maximum Ratings ( $T_c = 25^\circ\text{C}$ )

| CHARACTERISTIC             | SYMBOL      | MAX RATING   |
|----------------------------|-------------|--------------|
| Optical Output Power (CW)  | $P_o$       | 42 mW*       |
| LD Reverse Voltage         | $V_{R(LD)}$ | 2 V          |
| PD Reverse Voltage         | $V_{R(PD)}$ | 30 V         |
| Operation Case Temperature | $T_{op}$    | -10 to 70 °C |
| Storage Temperature        | $T_{stg}$   | -40 to 85 °C |

\*40 mW Typical

### Characteristics ( $T_c = 25^\circ\text{C}$ , $P = 40 \text{ mW}$ )

| CHARACTERISTIC         | SYMBOL           | MIN       | TYP.      | MAX       |
|------------------------|------------------|-----------|-----------|-----------|
| Lasing Wavelength      | $\lambda_p$      | 648 nm    | 658 nm    | 668 nm    |
| Threshold Current      | $I_{th}$         | –         | 35 mA     | 55 mA     |
| Operating Current      | $I_{op}$         | –         | 75 mA     | 110 mA    |
| Operating Voltage      | $V_{op}$         | –         | 2.2 V     | 2.8 V     |
| Beam Divergence (FWHM) | $\theta_{//}$    | 5°        | 10°       | 12°       |
|                        | $\theta_{\perp}$ | 16°       | 20°       | 22°       |
| Slope Efficiency       | $\eta_s$         | 0.5 mW/mA | 0.8 mW/mA | 1.2 mW/mA |
| Monitor Current        | $I_m$            | –         | 0.3 mA    | 0.5 mA    |

Note: All data are presented as typical unless otherwise specified.