

sparrow

OEM one-diode laser module series

Datasheet

Osram PL TB450B

Absolute Maximum Ratings

| Item | Condition | Symbol | Rating | Unit |
|----------------------------------|------------------------|---------------|------------|-------------|
| Optical Output Power | $T_{Case}=25^{\circ}C$ | $P_{Optical}$ | 1800 | mW |
| Allowable Reverse Voltage | $T_{Case}=25^{\circ}C$ | V_r | 2 | V |
| Raw Diode Operating Temperature* | - | T_{Case} | -40 to +85 | $^{\circ}C$ |
| Raw Diode Storage Temperature* | - | $T_{Storage}$ | -40 to +85 | $^{\circ}C$ |

Operation outside these conditions may damage the device. Operation at maximum ratings influence lifetime.

Attention: Use an appropriately sized heatsink and mount module with supplied thermal compound.

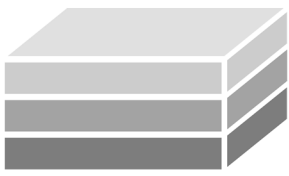
* Temperature measured at diode backplate

Optical and Electrical Characteristics

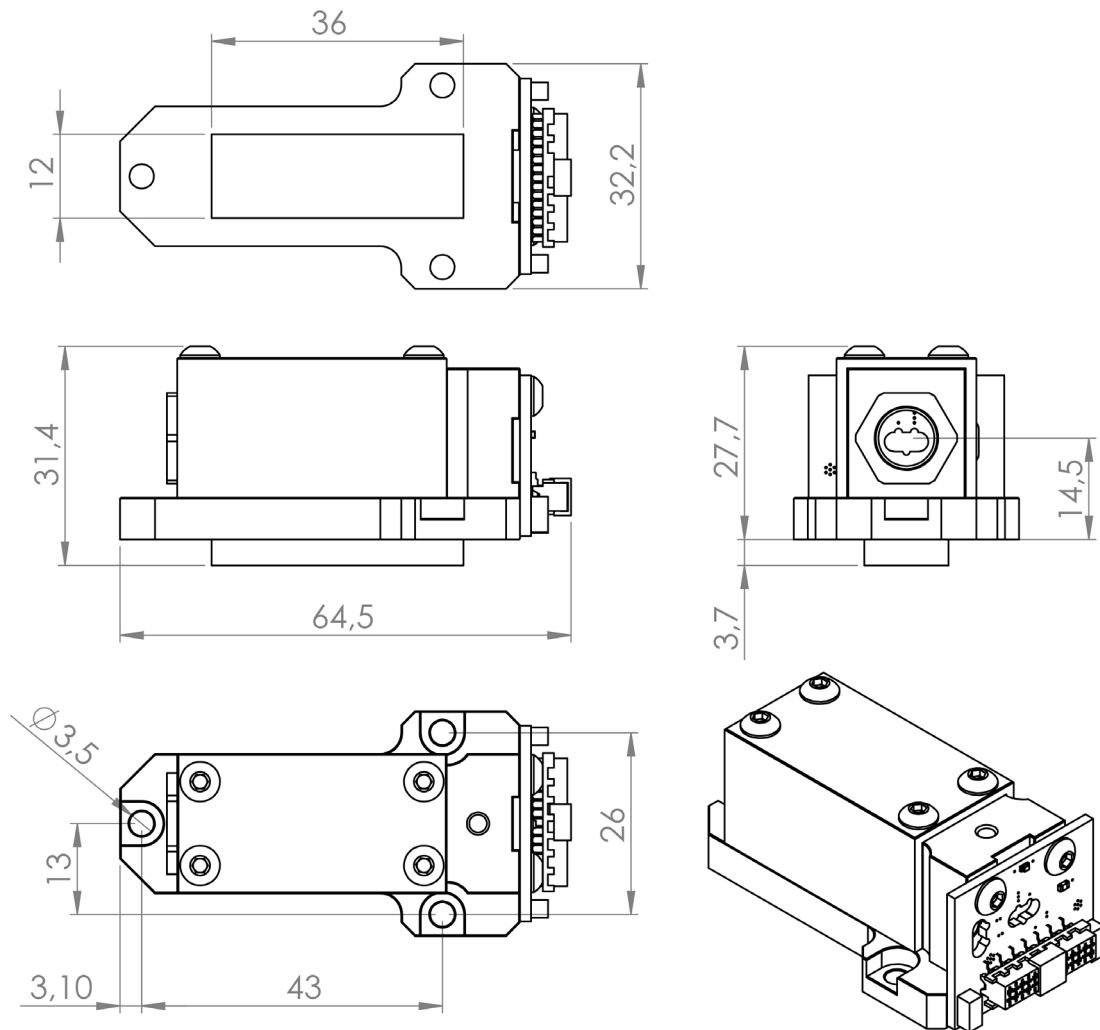
| Item | Condition | Symbol | Min. | Typ. | Max. | Unit |
|---|--------------------------------|------------------|------|-------------|------|-------------|
| Optical Output Power | $I_f=1.2A$ | P_o | 1300 | 1600 | - | mW |
| Optical Output Power | Pulsed * ¹ | P_o | - | - | - | mW |
| Dominant Wavelength | $I_f=1.2A$ | λ_d | 440 | 450 | 460 | nm |
| Threshold Current | CW | I_{th} | - | 200 | 300 | mA |
| Operating Current | CW | I_{op} | - | 1200 | 1500 | mA |
| Operating Current | Pulsed * ¹ | I_p | - | - | - | A |
| Operating Voltage | $I_f=1.2A$ | U_{op} | - | 4.8 | 6.0 | V |
| Slope Efficiency | CW | η | - | - | - | W/A |
| Raw Diode Beam Divergence (FWHM) | $I_f=1.2A$ | $\theta_{ }$ | - | 7 | - | deg |
| | $I_f=1.2A$ | θ_{\perp} | 19 | 23 | 27 | deg |
| Beam Size | Without Correction | - | - | 0.55 x 2.75 | - | mm |
| Beam Size | With Correction | - | - | 3.3 x 2.7 | - | mm |
| Beam Divergence (full angle) | Without Correction | - | - | 3.0 | - | mrad |
| Beam Divergence (full angle) | With Correction | - | - | 0.7 | - | mrad |
| Heatsink Temperature Range * ² | With TEC ($T_c=25^{\circ}C$) | T | -20 | - | 85 | $^{\circ}C$ |
| Power Consumption * ² | Without TEC | P_{el} | - | 5 | - | W |
| Power Consumption * ² | With TEC | P_{el} | - | 46 | - | W |

*¹ Pulse Condition: Pulse frequency $\geq 50Hz$, Duty $\leq 33\%$

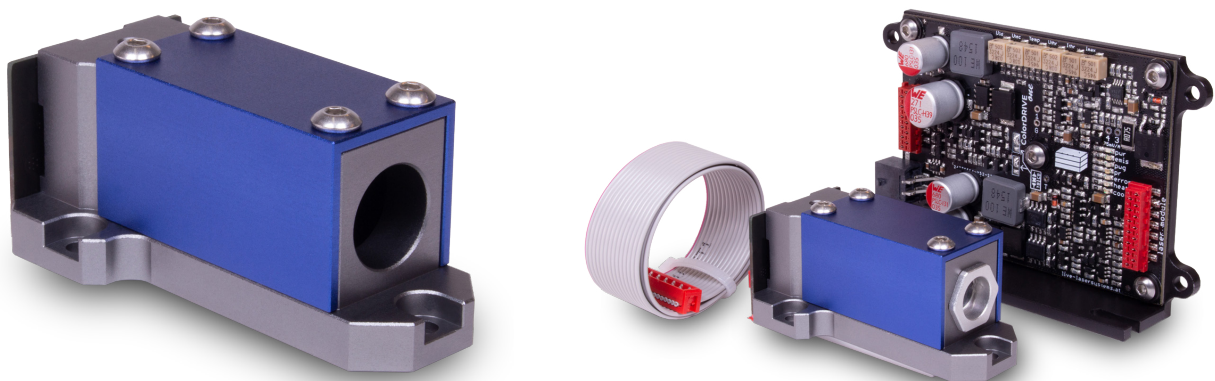
*² with ColorDRIVE one, $V_{in} = +10$ to $24V_{DC}$



Technical Drawings



Images



Contact

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Subject to change without prior notice.
Last change: August 2022