

sparrow

OEM one-diode laser module series

Datasheet

Sharp GH04850B2G

Absolute Maximum Ratings

| Item | Condition | Symbol | Rating | Unit |
|----------------------------------|------------------------|---------------|------------|-------------|
| Optical Output Power | $T_{Case}=25^{\circ}C$ | P_o | 55 | mW |
| Allowable Reverse Voltage | $T_{Case}=25^{\circ}C$ | V_r | 2 | V |
| Raw Diode Operating Temperature* | - | T_{Case} | -10 to +60 | $^{\circ}C$ |
| 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.

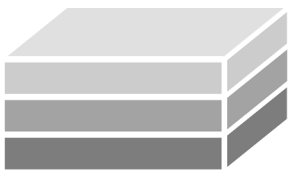
* Temperature measured at diode backplate

Optical and Electrical Characteristics

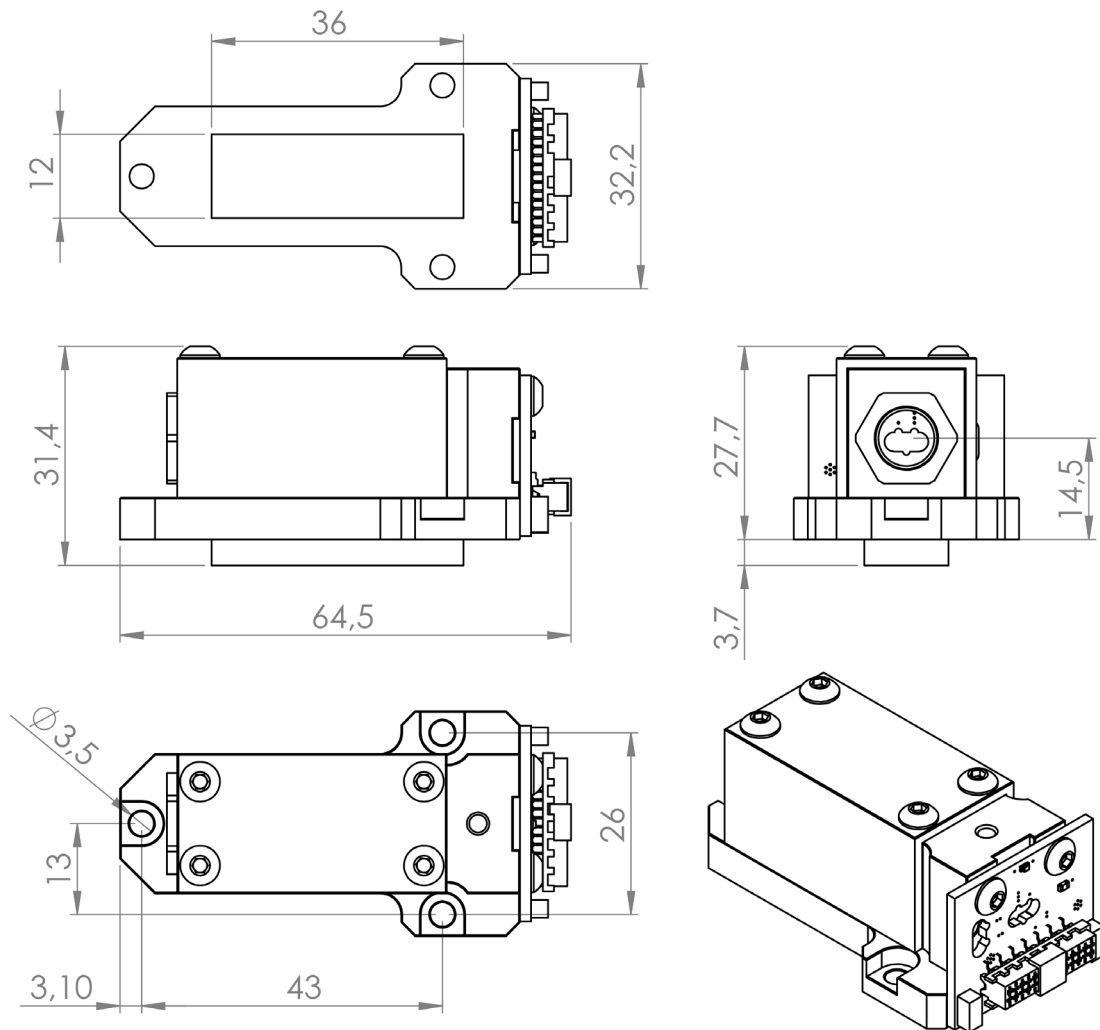
| Item | Condition | Symbol | Min. | Typ. | Max. | Unit |
|---|--------------------------------|------------------|------|-----------|------|-------------|
| Optical Output Power | n/a | P_o | - | 50 | - | mW |
| Optical Output Power | Pulsed * ¹ | P_o | - | - | - | mW |
| Dominant Wavelength | n/a | λ_d | 480 | 487 | 495 | nm |
| Threshold Current | CW | I_{th} | - | 40 | 60 | mA |
| Operating Current | CW | I_{op} | - | 105 | 135 | mA |
| Operating Current | Pulsed * ¹ | I_p | - | - | - | A |
| Operating Voltage | n/a | U_{op} | - | 6.0 | 7.5 | V |
| Slope Efficiency | CW | η | 0.5 | 0.8 | - | W/A |
| Raw Diode Beam Divergence (FWHM) | n/a | $\theta_{ }$ | 6 | 8 | 10 | deg |
| | n/a | θ_{\perp} | 20 | 23 | 26 | deg |
| Beam Size | Without Correction | - | - | 0.8 x 3.0 | - | mm |
| Beam Size | With Correction | - | - | 4.3 x 3.0 | - | mm |
| Beam Divergence (full angle) | Without Correction | - | - | 0.6 | - | mrad |
| Beam Divergence (full angle) | With Correction | - | - | 0.25 | - | mrad |
| Heatsink Temperature Range * ² | With TEC ($T_c=25^{\circ}C$) | T | -20 | - | 90 | $^{\circ}C$ |
| Power Consumption * ² | Without TEC | P_{el} | - | 1 | - | W |
| Power Consumption * ² | With TEC | P_{el} | - | 42 | - | W |

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

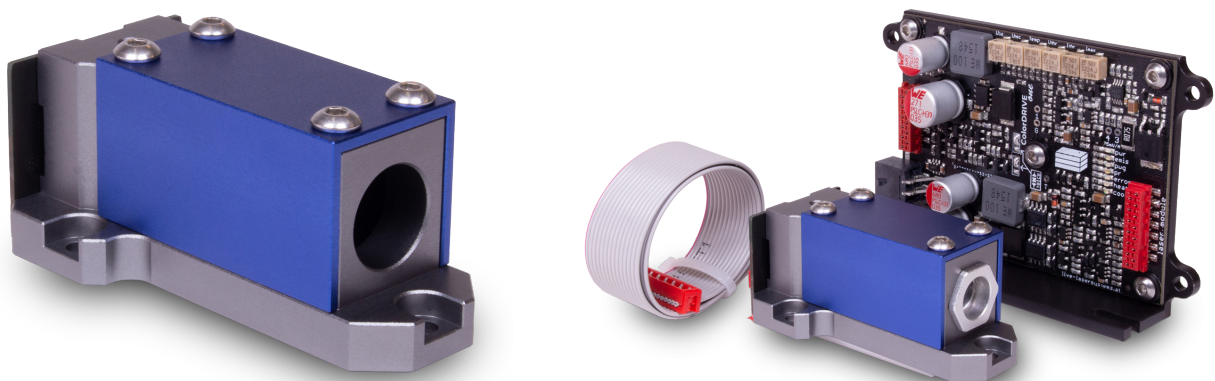
*² with ColorDRIVE one, $V_{in} = +10$ to $24V_{DC}$



Technical Drawings



Images



Contact

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