

# sparrow

OEM one-diode laser module series

## Datasheet

Sharp GH04580A2G

### Absolute Maximum Ratings

Item	Condition	Symbol	Rating	Unit
Optical Output Power	$T_{Case}=25^{\circ}C$	$P_{Optical}$	85	mW
Allowable Reverse Voltage	$T_{Case}=25^{\circ}C$	$V_r$	2	V
Raw Diode Operating Temperature*	-	$T_{Case}$	-10 to +70	$^{\circ}C$
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.**

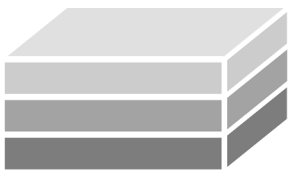
\* Temperature measured at diode backplate

### Optical and Electrical Characteristics

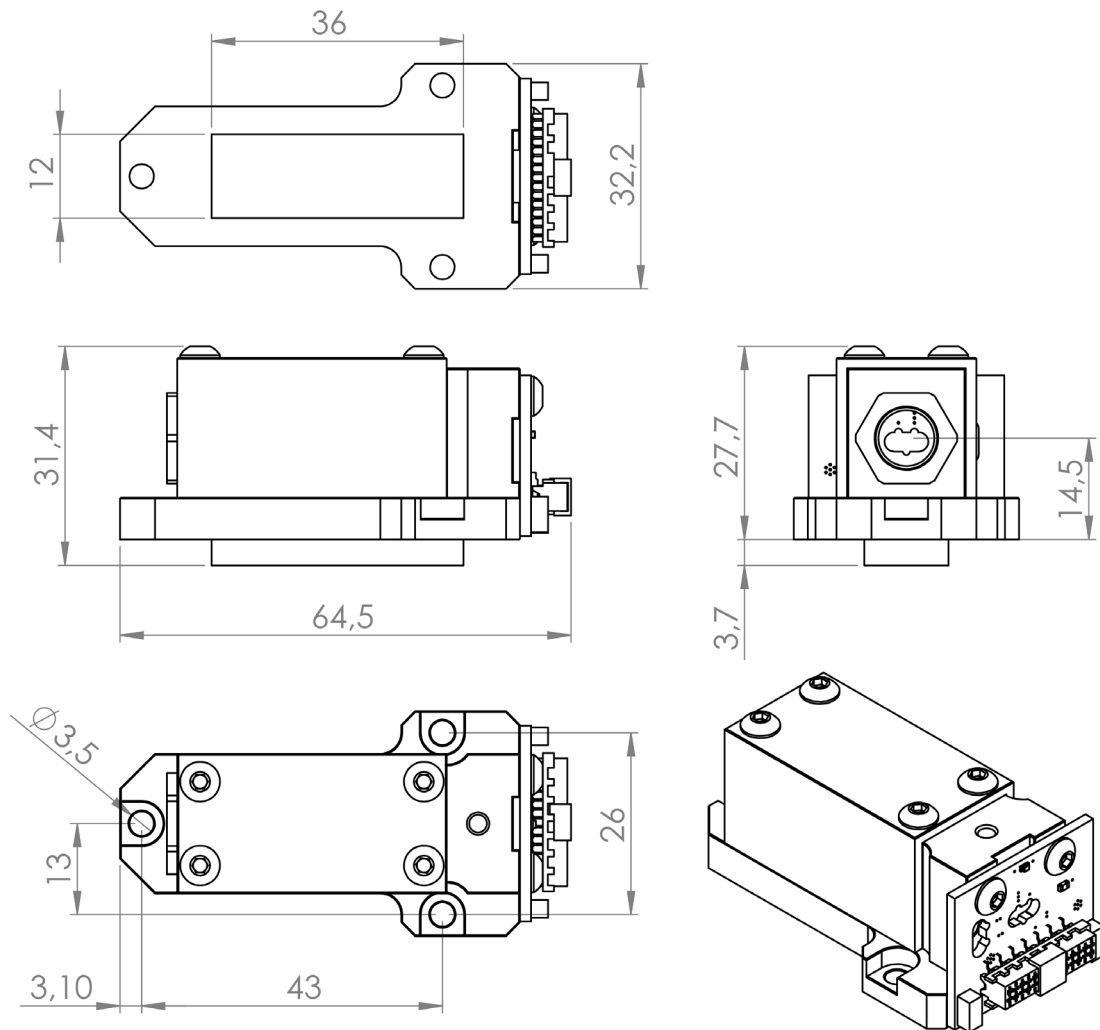
Item	Condition	Symbol	Min.	Typ.	Max.	Unit
Optical Output Power	n/a	$P_o$	-	80	-	mW
Optical Output Power	Pulsed * <sup>1</sup>	$P_o$	-	-	-	mW
Dominant Wavelength	n/a	$\lambda_d$	440	450	460	nm
Threshold Current	CW	$I_{th}$	-	22	40	mA
Operating Current	CW	$I_{op}$	-	84	120	mA
Operating Current	Pulsed * <sup>1</sup>	$I_p$	-	-	-	A
Operating Voltage	n/a	$U_{op}$	-	5.1	6.0	V
Slope Efficiency	CW	$\eta$	0.8	1.3	-	W/A
Raw Diode Beam Divergence (FWHM)	n/a	$\theta_{  }$	6	10	14	deg
	n/a	$\theta_{\perp}$	19	24	29	deg
Beam Size	Without Correction	-	-	1.0 x 2.9	-	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 * <sup>2</sup>	With TEC ( $T_c=25^{\circ}C$ )	T	-20	-	90	$^{\circ}C$
Power Consumption * <sup>2</sup>	Without TEC	$P_{el}$	-	1	-	W
Power Consumption * <sup>2</sup>	With TEC	$P_{el}$	-	42	-	W

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

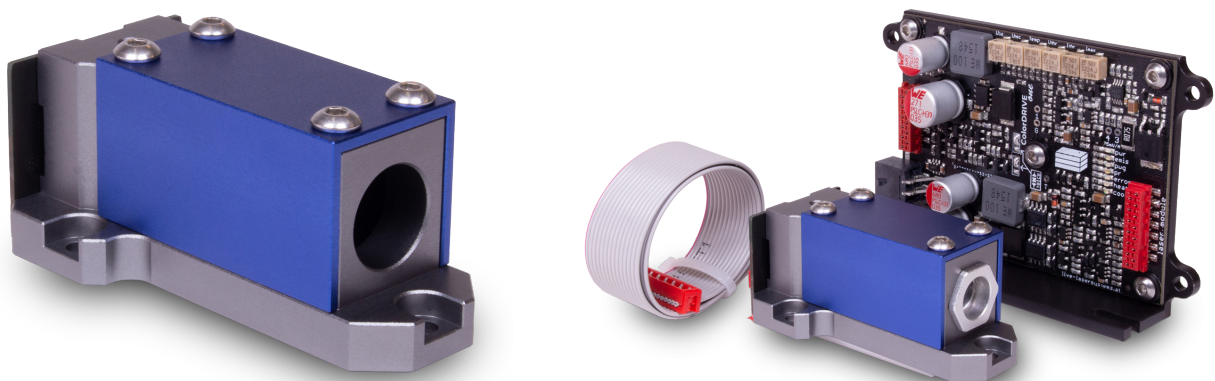
\*<sup>2</sup> with ColorDRIVE one,  $V_{in} = +10$  to  $24V_{DC}$



## Technical Drawings



## Images



## Contact

LIVE Lasersystems, Arnethgasse 80, 1160 Vienna, Austria +43 (0) 1 944 2883 [info@live-lasersystems.at](mailto:info@live-lasersystems.at)