

# sparrow

OEM one-diode laser module series

## Datasheet

Mitsubishi ML101U29

### Absolute Maximum Ratings

Item	Condition	Symbol	Rating	Unit
Optical Output Power	CW	$P_{\text{Optical}}$	150	mW
Optical Output Power	pulsed	$P_{\text{Optical}}$	400	mW
Raw Diode Operating Temperature*	-	$T_{\text{Case}}$	-10 to +75	°C
Raw Diode Storage Temperature*	-	$T_{\text{Storage}}$	-40 to +100	°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.**

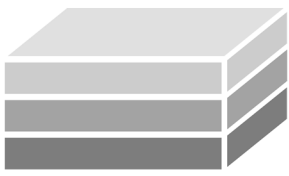
\* Temperature measured at diode backplate

### Optical and Electrical Characteristics

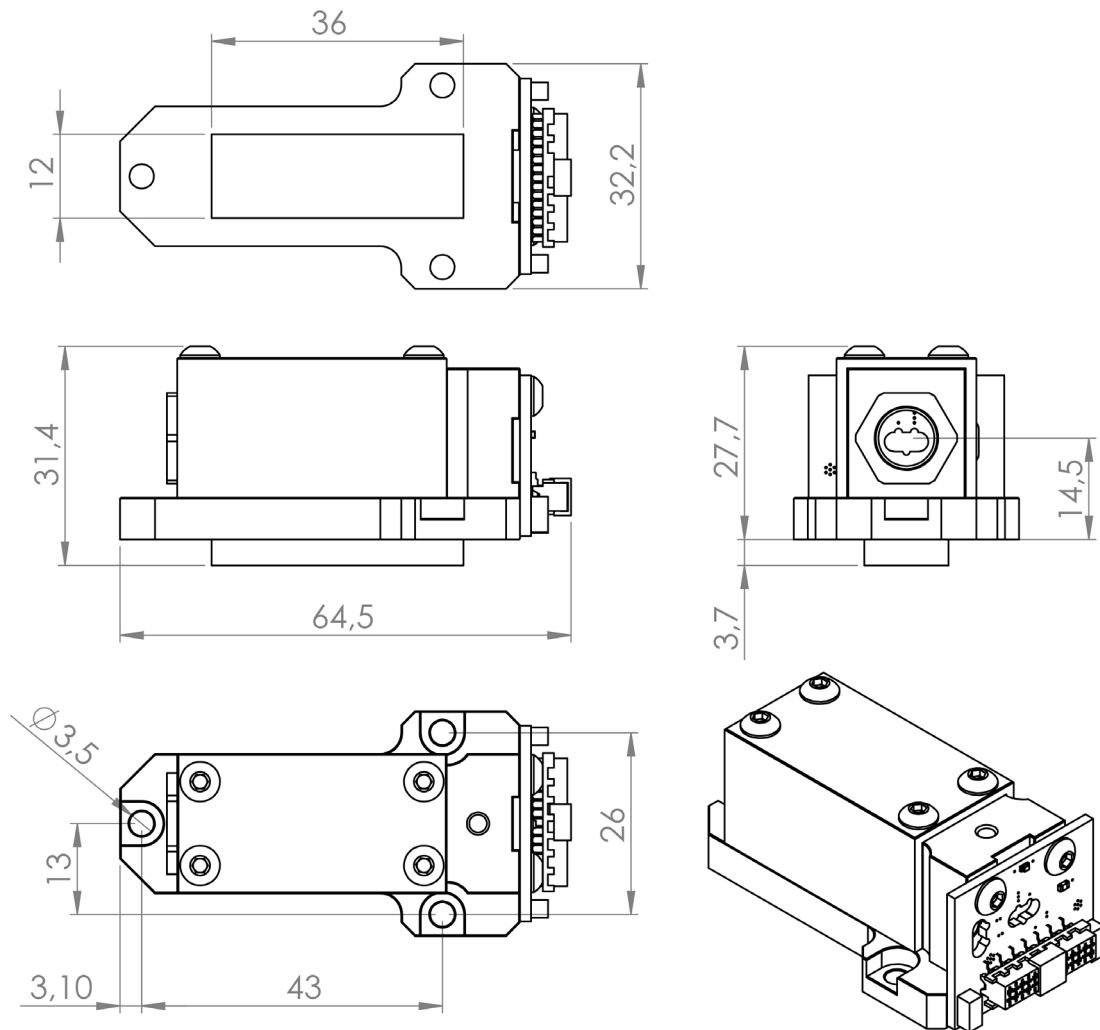
Item	Condition	Symbol	Min.	Typ.	Max.	Unit
Optical Output Power	$T_{\text{Case}}=25^{\circ}\text{C}$	$P_{\text{O}}$	-	135	-	mW
Optical Output Power	Pulsed * <sup>1</sup>	$P_{\text{O}}$	-	350	-	mW
Dominant Wavelength	$P_{\text{O}}=120\text{mW}$	$\lambda_{\text{d}}$	654	660	664	nm
Threshold Current	CW	$I_{\text{th}}$	-	85	-	mA
Operating Current	CW	$I_{\text{op}}$	-	205	-	mA
Operating Current	Pulsed * <sup>1</sup>	$I_{\text{p}}$	-	-	-	A
Operating Voltage	$P_{\text{O}}=120\text{mW}$	$U_{\text{op}}$	-	2.35	3.0	V
Slope Efficiency	CW	$\eta$	-	0.97	-	W/A
Raw Diode Beam Divergence (-)	$P_{\text{O}}=120\text{mW}$	$\theta_{\parallel}$	7	10.5	12	deg
	$P_{\text{O}}=120\text{mW}$	$\theta_{\perp}$	14	16	20	deg
Beam Size	Without Correction	-	-	1.2 x 2.7	-	mm
Beam Size	With Correction	-	-	4.9 x 3.0	-	mm
Beam Divergence (full angle)	Without Correction	-	-	0.6	-	mrad
Beam Divergence (full angle)	With Correction	-	-	0.2	-	mrad
Heatsink Temperature Range * <sup>2</sup>	With TEC ( $T_{\text{c}}=25^{\circ}\text{C}$ )	T	-20	-	90	°C
Power Consumption * <sup>2</sup>	Without TEC	$P_{\text{el}}$	-	1	-	W
Power Consumption * <sup>2</sup>	With TEC	$P_{\text{el}}$	-	42	-	W

\*<sup>1</sup> Pulse Condition: Pulse frequency  $\leq 30\text{ns}$ , Duty  $\leq 35\%$

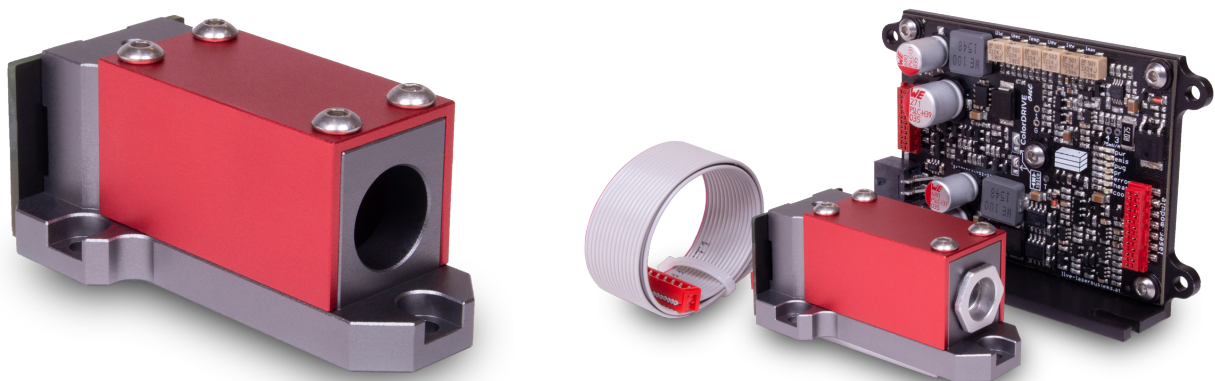
\*<sup>2</sup> with ColorDRIVE one,  $V_{\text{in}} = +10$  to  $24V_{\text{DC}}$



## Technical Drawings



## Images



## Contact

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