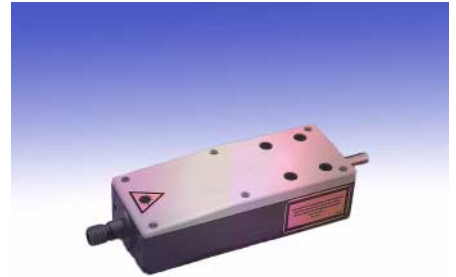


Passively Cooled Diode Laser Bar 30 W cw, Fiber Connector

SPL MAxx



Features

- SMA connector for efficient fiber coupling
Ø 0.4 mm, 0.22 NA
- Sealed housing, very compact
- No water required, passive cooling through copper mount
- Highly reliable MOVPE-grown quantum-well structure
- Standard wavelength selection is ± 3 nm, others on request

Applications

- Soldering, direct material processing
- Marking, surface processing
- Medical applications
- End pumping of rods and fibers

Safety Advices

Depending on the mode of operation, these devices emit highly concentrated non visible infrared light which can be hazardous to the human eye. Products which incorporate these devices have to follow the safety precautions given in IEC 60825-1 "Safety of laser products".

Type	Wavelength ¹⁾	Ordering Code
SPL MA81-F	808 nm	Q62702-P5272
SPL MA94-F	940 nm	on request
SPL MA98-F	975 nm	on request

¹⁾ Other wavelengths in the range of 780 nm ... 980 nm are available on request.

Maximum Ratings ($T_A = 20\text{ °C}$ mount temperature)

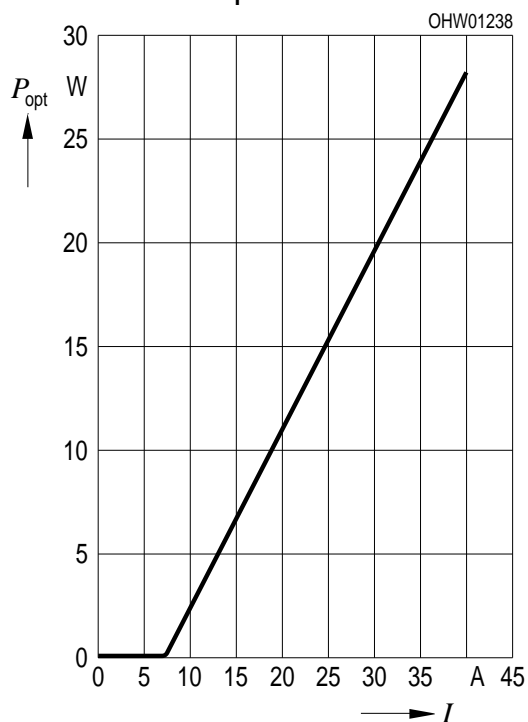
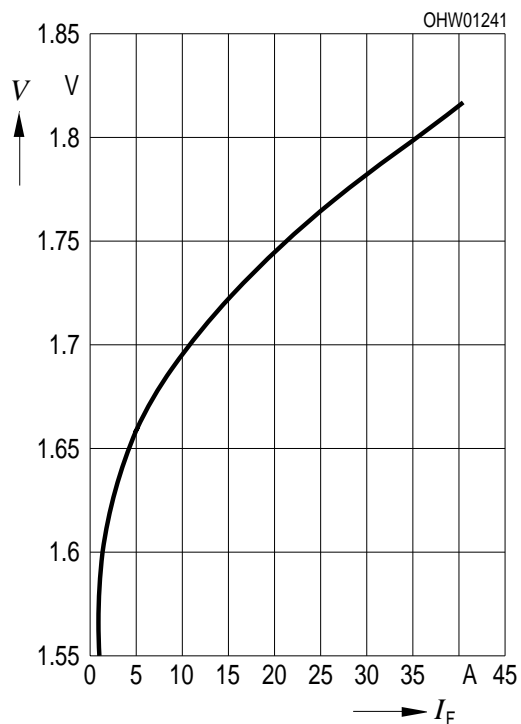
Parameter	Symbol	Values		Unit
		min.	max.	
Output power, continuous wave (cw)	P_{cw}	—	30	W
Operating temperature ¹⁾	T_{op}	+ 10	+ 40	°C
Storage temperature ¹⁾	T_{stg}	- 20	+ 70	°C

¹⁾ Condensation must be avoided.

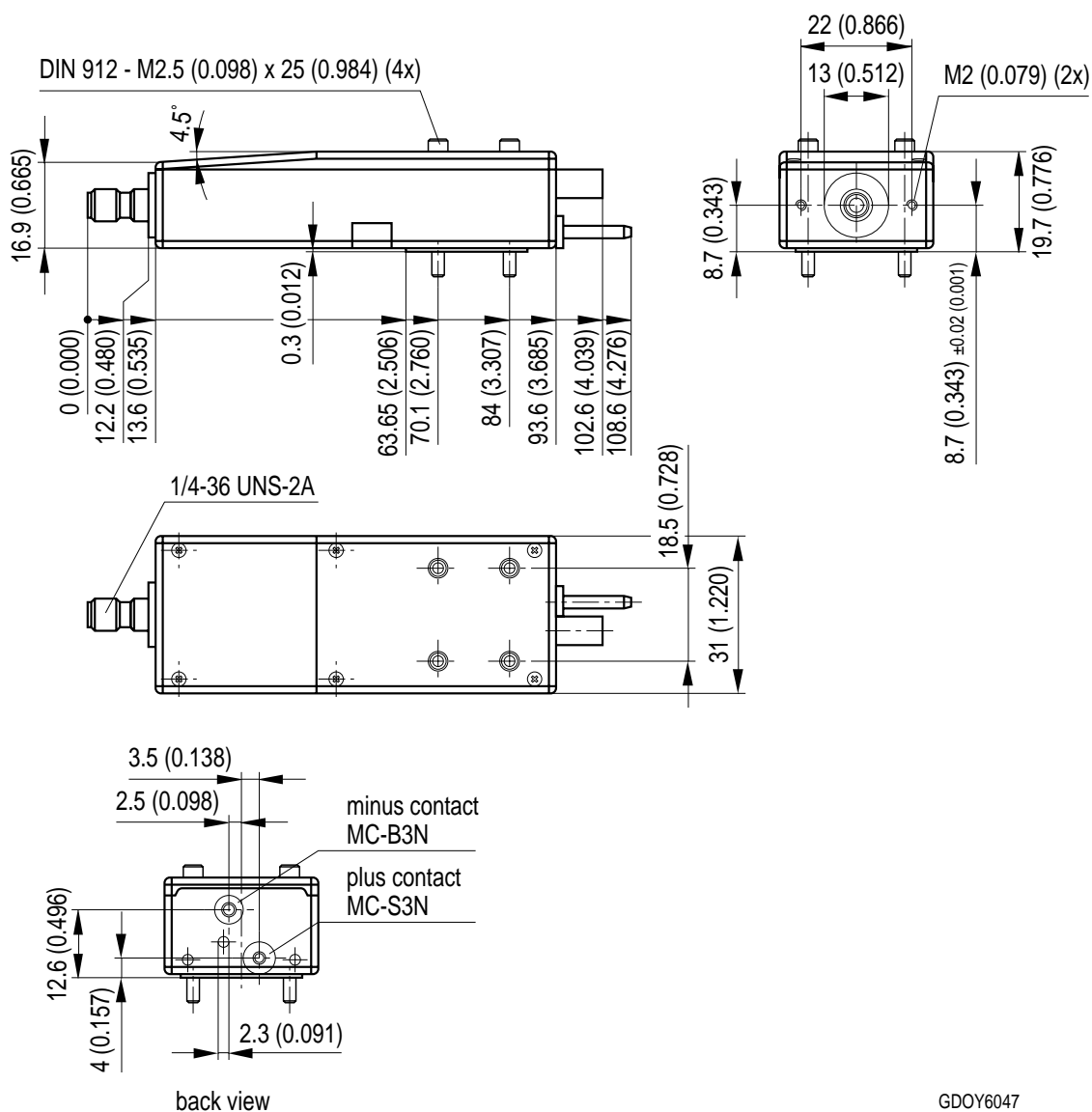
Characteristics ($T_A = 20\text{ °C}$ mount temperature)

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Output power cw ¹⁾	P_{op}	—	25	30	W
Wavelength ¹⁾	λ	—	808	—	nm
		—	940	—	nm
		—	975	—	nm
Spectral width (FWHM) ¹⁾	$\Delta\lambda$	—	4	—	nm
Threshold current	I_{th}	808 nm	10	12	A
		940 nm	8	10	
		975 nm	8	10	
Differential efficiency ¹⁾	η_d	—	0.7	0.75	W/A
Operating current ¹⁾	I_{op}	—	45	50	A
Operating voltage ¹⁾	V_{op}	—	1.75	2.0	V
Overall efficiency ¹⁾	η_c	25	30	35	%
Fiber diameter	D	—	0.4	1	mm
Numerical aperture	NA	—	0.22	—	—
Temperature coefficient of wavelength	$\Delta\lambda / \Delta T$	—	0.27	—	nm/K
Temperature coefficient of operating current ²⁾	$\Delta I_{op} / I_{op} \Delta T$	—	0.5	—	%/K
Mechanical dimensions	$w \times d \times h$	31 × 85.65 (97.5) × 19.7			mm

¹⁾ Standard operating conditions refer to 25 W optical output power at 20 °C, from a 400 μm fiber, NA = 0.22.

Optical Characteristics $(T_A = 20\text{ °C mount temperature})$ **Optical Output Power P_{opt} vs.
Forward Current I_F** **Diode Characteristics****Voltage V vs. Forward Current I_F** 

Package Outlines



Dimensions are specified as follows: mm (inch).

For safety, unpacking, handling, mounting and operating issues, please carefully read our “**Notes For Operation II**”.