

■ Features

- Single bar module
- Radiant power: 50 W (L8413-50-808),
60 W (L8413-60-940)
- High stability
- Long lifetime
- Compact

■ Applications

- Pumping of solid state laser
- Laser heating
- Infrared illumination
- Laser printing



■ Outline

This is a compact laser diode (LD) bar module that uses passive cooling with thermal conductivity. High performance, high radiant power, and high reliability have been achieved by our technologies regarding high power LD bars.

■ Absolute maximum rating

Parameter	Symbol	Value		Unit
		L8413-50-808	L8413-60-940	
Forward current	I_f	65	70	A
Radiant power	Φ_e	55	65	W
Reverse voltage	V_r	2		V
Operation and storage humidity *1	—	60		%

*1 No condensation (When operation at temperature below dew point, use under dry N₂ environment.)

* Indicating limits that must not be exceeded instantaneously and shall not exceed any one value.

* T_{op(c)}=25 °C

■ Specification

Parameter	Symbol	Condition	Value		Unit
			L8413-50-808 *1	L8413-60-940 *2	
Center emission wavelength	λ_c	Φ_e	808 ± 5	940 ± 5	nm
Spectral width	$\Delta\lambda$	FWHM	2	4	nm
Radiant power	Φ_e	I_f	50	60	W
Operating voltage	V_{op}	Φ_e	<2		V
Beam-divergence angle	Horizontal	Pulse measurement, FWHM	<10	<11	° (degrees)
	Vertical		θ_{\perp}	<30	
Threshold current	I_{th}	—	17	7	A

*1 Operating condition: $\Phi_e=50$ W, $I_f=60$ A, T_{op(c)}=25 °C

*2 Operating condition: $\Phi_e=60$ W, $I_f=61$ A, T_{op(c)}=25 °C

■ Cooling condition and cooling environment

Parameter	Description/Value	Unit
Cooling medium	Passive cooling	—
Operating heat sink temperature	+15 to +30	°C
Storage temperature	-20 to +55	°C

CW Laser Diode Bar Module L8413-50-808/-60-940

Figure 1: Radiant power - forward current (example)

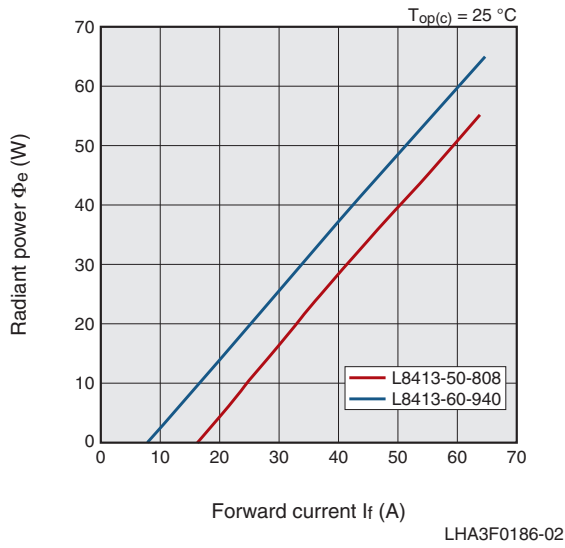
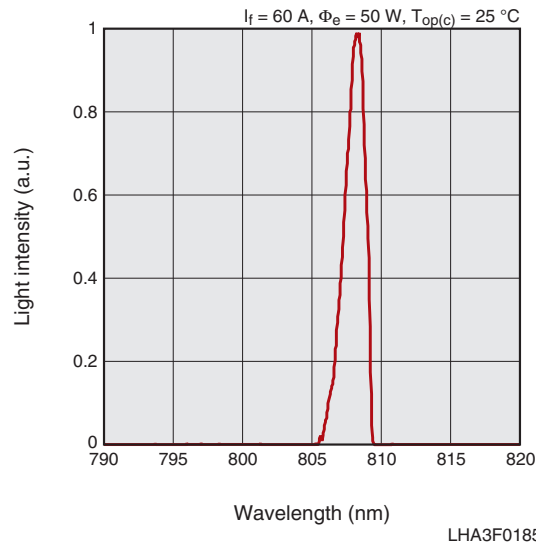


Figure 2: Emission spectrum (example)

●L8413-50-808



●L8413-60-940

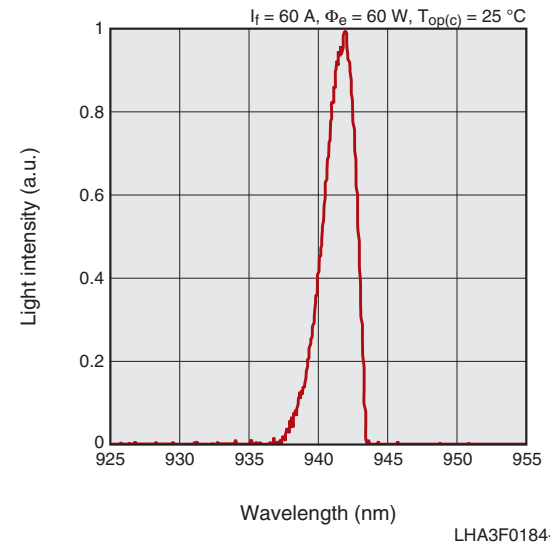
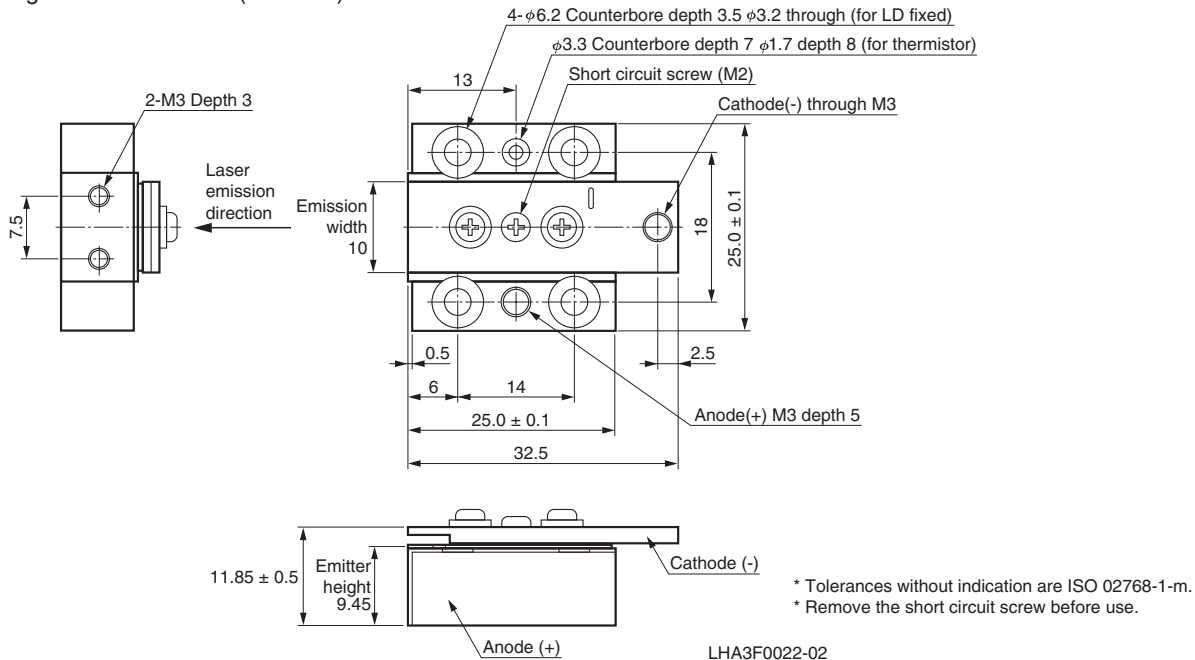


Figure 3: Dimensions (unit: mm)



CW Laser Diode Bar Module L8413-50-808/-60-940

Danger (Class 4 Laser)

Invisible laser radiation: Avoid eye or skin exposure to direct or scattered radiation

- Laser beam emitted from this product is an invisible laser beam that cannot be seen by the naked eye. This product is a IEC 60825-1 classification of laser products. It corresponds to "Class 4 Laser". To use this product safely, follow IEC 60825-1 regulations, etc.

Examples of labels



Warning label



Explanatory label

- Information described in this material current as of January 2021. Specifications are subject to change without notice.

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