

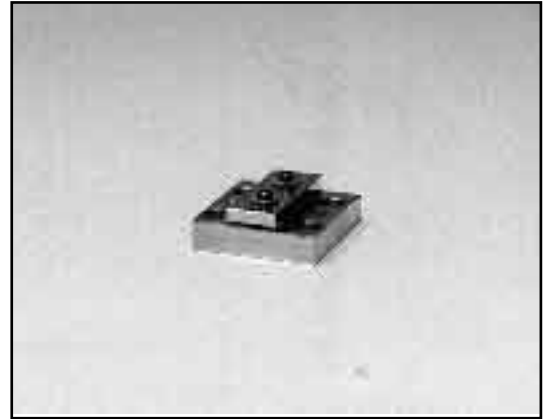
Compact Peltier-cooling type

■ FEATURES

- High optical power : 20 W/bar
- High stability
- Long life
- High cost performance
- Compact

■ APPLICATIONS

- Pumping source for solid state lasers
- Materials processing
- Welding
- Soldering
- Medical systems



High power laser diodes with a Peltier cooler feature several advantages such as high stability with long life and high cost performance with compact structure. Since they are designed to be small, they are easily applied as light source to pump solid state lasers, for material processing like welding or soldering, and for medical systems. The lasing areas consist of small laser emitters arranged in line and are thus called "Bar" structure. By stacking Bars as a module, a high power CW operation can be achieved. Water-cooling and Furryu-cooling (patent pending : Japan 8-139479, WO 00/11717) are also available. And focusing lens is available as an option.

■ ABSOLUTE MAXIMUM RATINGS (Each bar)

Parameter	Symbol	Value	Unit
Radiant Output Power / bar	Φ_e	22	W
Reverse Voltage	V_r	2	V
Operating Temperature	$T_{op(c)}$	+5 to +35	°C
Storage Temperature	T_{stg}	-20 to +40	°C

■ CHARACTERISTICS (Each bar, Top(c) = 20 °C)

Parameter	Symbol	Conditions	Value	Unit
Radiant Output Power / bar	Φ_e	$I_f = 25$ A	20	W
Peak Emission Wavelength	λ_p	$\Phi_e = 15$ W	808	nm
Spectral Radiation Half Bandwidth	$\Delta\lambda$	$\Phi_e = 15$ W	4.0	nm
Forward Voltage	V_f	$\Phi_e = 15$ W	1.8	V
Beam Spread Angle : Parallel	$\theta_{//}$	FWHM	10	° (degree)
: Vertical	θ_{\perp}		35	° (degree)
Lasing Threshold Current	I_{th}		10	A
Array Length	-		10	mm

*Contact sales staff for emitting wave-length and radiant output power (Φ_e) other than above.

HIGH POWER CW LASER DIODE with PELTIER-COOLING L8413

Figure 1: Radiant Output Power vs. Forward Current (Typ.)

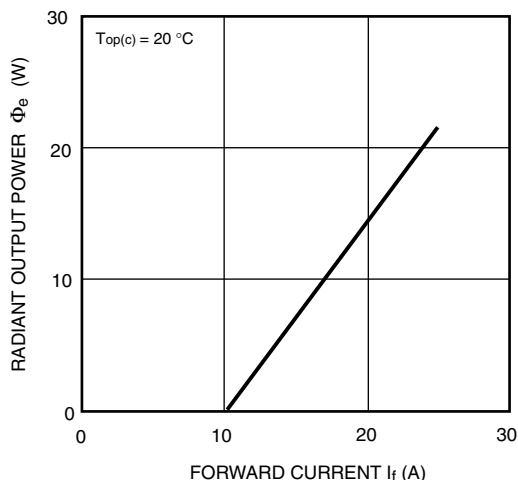


Figure 2: Typical Emission Spectrum

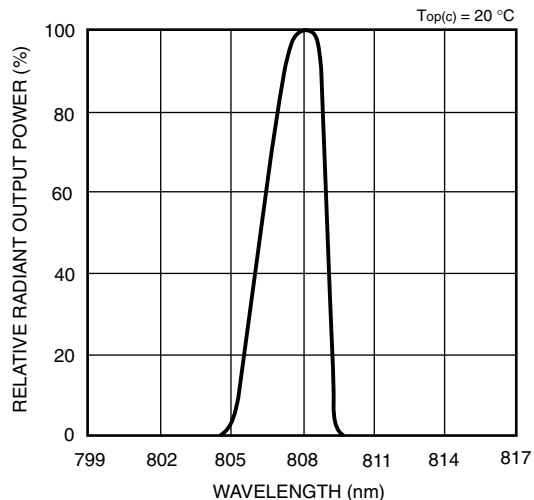
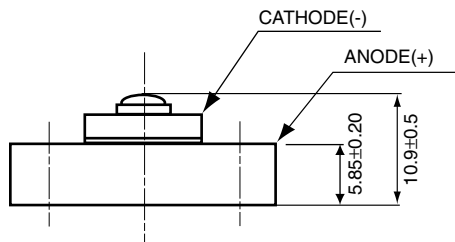
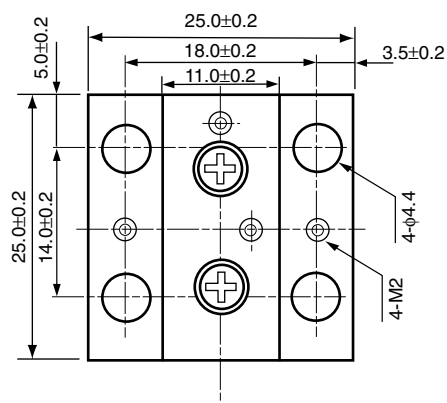


Figure 3: Dimensional Outline (Unit : mm)



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